It was a tribute from the heart, this saying of the ancient Hawaiians, and it was reserved for a person of outstanding achievements. Such a man as Dr. Fred Gilbert.

His list of accomplishments was staggering: professor of medicine, clinical researcher, medical director, community health pioneer for Hawaii's people, recipient of numerous fellowships and awards, teacher, healer and friend as well as physician to his patients. Not to mention loving husband and father of eight children, environmentalist, and in his spare time, coffee grower, tennis buff and fisherman.

Dr. Gilbert believed that each patient is an individual, and not the end product of a health delivery system. His patients sensed this caring, and in responding have given the most fitting accolade of all: if the true measure of a man is not how much he loved, but how much he was loved by others, Dr. Fred Gilbert stood very tall indeed.

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FOUNDING MEMBER • MEDICAL DIRECTOR

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HAWAII MEDICAL JOURNAL, VOL. 54, JUNE 1995
Festschrift for Dr Fred I. Gilbert, Jr

When Dr Bob Nordyke first called to suggest that the Hawaii Medical Journal publish a festschrift to honor Dr Fred Gilbert, I said, “Yes, Bob, let’s do it now—as soon as we can, depending on our publication schedule.”

Fred was then a patient in Straub Hospital, the clinic and hospital in which he spent so many years as a driving force, a major mover—in nuclear medicine, community medicine, internal medicine, and so many areas of research via the Pacific Health Research Institute.

Bob Nordyke did a yeoman’s job in putting together this festschrift—but Fred Gilbert left us before we could publish it. This special issue festschrift will remain a tribute to a very special man for his family, his friends, and associates to honor all he has done for medicine in Hawaii.

Highlights of the Exemplary Career of Fred I. Gilbert, Jr, MD, FACP

Research
As medical director since 1960 of the Pacific Health Research Institute (PHRI), he was responsible for more than 400 research projects totaling $16 million. He trained more than 300 students to do medical research and provided funds for dozens of scholars to work on projects throughout the community. Dr Gilbert authored or co-authored 75 articles published in major medical journals—all the while carrying on a busy practice of medicine, teaching at the University Schools of Medicine and Public Health, and being actively involved in many organizations.

His special interest focused on health services research looking for ways to improve how health care is practiced. To follow are projects that interested him most and in which he was the primary catalyst.

1963 to 1975.—An automated multiphasic health testing system (Health Appraisal Center) at Straub Clinic. The Hawaii Carrell system designed by Dr Gilbert for more efficient periodic examinations of apparently well people is now used in medical centers throughout the world, with 27 in Japan.

1967 to 1975.—Study of Drugs and Coronary Heart Disease. A large, federally funded study that demonstrated that certain drugs commonly used did more harm than good, forcing their discontinuation.

1971 to 1973.—Use of Allied Health Personnel in Management of Chronic Diseases. 12 nurse-managed, doctor-supervised clinics were started and funded by Dr Gilbert within Straub Clinic, including thyroid, diabetes, gout, family planning, hypertension and multiple diseases.

1974 to 1984.—Breast Cancer Detection Demonstration Project, a cooperative study of the National Cancer Institute. In Hawaii, Dr Gilbert’s group screened 10,000 asymptomatic women by palpation, x-ray mammography, and ultrasound annually for 10 years, finding 190 patients with early cancer in the more curable stages. He was able to bring the first mammography units to Hawaii to continue to provide mammography screening.

1989 to 1993.—Hawaii Quality and Cost Consortium. Funded by a grant from the Robert E. Black Memorial Trust for $240,000, the aim of this project was to establish quality standards relating to the outcome of health care. More than 80% of the state’s hospitals participated.

1992 to 2008.—Prostate, Lung, Colorectal and Ovarian Cancer (PLCO). Through Dr Gilbert’s efforts, PHRI became one of 10 centers throughout the U.S. funded by the National Cancer Institute’s Federal Agency for Health Care Policy and Research to determine cost-effectiveness of various health care delivery systems for Asian and Pacific minority populations in Hawaii. It combines research with training and technical assistance and dissemination.

1992 to 1995—Hawaii Asian Pacific Island MEDTEP Research Center. One of 11 centers in the U.S. funded by the National Cancer Institute.

Honors
For his work, concern, and innovations to improve the welfare of patients in Hawaii and beyond, Dr Fred Gilbert was honored in 1978 as one of only three physicians in Hawaii ever elected to the prestigious Institute of Medicine. In 1985, he was awarded the title Distinguished Practitioner in the National Academies of Practice; the 1987 Hawaii Medical Association’s Physician of the Year; the 1987 Annual Recognition Award of the Hawaii Chapter, American Society of Internal Medicine; the 1988 Straub Foundation’s Milnor Award for Professional Excellence; the 1989 Laureate Award of the Hawaii Chapter, American College of Physicians. Dr Gilbert also received many awards for excellence in publication and research from the Straub Clinic & Hospital.

Thanks to Dr Bob Nordyke’s suggestion and assistance, we have this festschrift honoring Dr Fred Ivan Gilbert, Jr (1920-1995).

HMA President’s Message

Frederick C. Holschuh MD

Dr Fred Gilbert had been a member of the Hawaii Medical Association since 1950, and we will miss him immensely. He was a strong and innovative leader who never hesitated to recommend ways that HMA could set goals and be active in the community and nationally. He was the 1987 HMA Physician of the Year, he supported the Hawaii Medical Journal and advocated it as a venue to promoting research and teaching medicine in our state, he was published often in the Journal, and he served on some 26 HMA committees.

I remember him well from my days as house staff at Queen’s Medical Center in the 1960s. Fred was constantly challenging himself and us. In time, many of Fred Gilbert’s early visions and ideas have become accepted practice.

We offer our condolences to Gayle and the Gilbert family. To a fine physician and an outstanding member of our community we sadly say aloha pumehana.
Our appreciation and admiration to

Fred I. Gilbert, Jr, MD, FACP
Laureate, American College of Physicians, Hawaii Chapter 1989

"I cannot rest from travel; I will drink
Life to the lees..."

"I am a part of all that I have met;
Yet all experience is an arch wherethrough
Gleams that untraveled world whose margin fades
Forever and forever when I move.
How dull it is to pause, to make an end,
To rust unburnished, not to shine in use!
As though to breath were life! Life piled on life
Were all too little, and of one to me
Little remains; but every hour is saved
From that eternal silence, something more,
A bringer of new things; and vile it were
For some three suns to store and hoard myself,
And this grey spirit yearning in desire
To follow knowledge like a sinking star,
Beyond the utmost bound of human thought...".

"Come, my friends,
'Tis not too late to seek a newer world.
Push off, and sitting well in order smite
The sounding furrows; for my purpose holds
To sail beyond the sunset, and the baths
Of all the western stars, until I die..."

"Though much is taken, much abides; and though
We are not now that strength which in old days
Moved earth and heaven, that which we are, we are—
One equal temper of heroic hearts,
Made weak by time and fate, but strong in will
To strive, to seek, to find, and not to yield."

Excerpted from Ulysses, by Alfred, Lord Tennyson.
Memorial Service

Remarks by Robert A. Nordyke MD

Vacationing at Lake Tahoe with Bob Nordyke, 1990

It is difficult to condense into a few moments a man of the depth, breadth, and range of Fred Gilbert. I met Fred for the first time in 1940 when we took a course in nuclear physics together at the University of California at Berkeley. For the last 35 years, I've had the privilege of working as a close friend and colleague of his in medical practice and research. During this time I have observed his prodigious energy, his broad-ranging mind, his bulldog tenacity, and his probing insights.

What were some of the elements of Dr Gilbert's character and mind that combined to make him so effective in improving the health and social landscape of Hawaii?

One was simple hard work. Everything he set out to do was accomplished with dogged persistence and self-assurance. He applied the same energy if he was caring for an individual patient, building a lava rock wall, farming coffee, tuning his motorcycle, crafting a koa table, or writing a million-dollar federal grant. If Fred took the responsibility for a job, it would always be completed, beyond expectations.

Another element of his character was fierce competitiveness, whether playing tennis despite a congenital hip, winning the Waikiki rough-water swim for his age group, racing three and a half days around Oahu on a surfboard, sliding the high surf at Makaha, or beating out Stanford and Mayo Clinic for a grant award. But I have never known his competitiveness to be self-serving. Always his goal was to bring the community together, to build consortiums, to accomplish collectively what couldn't be done by the parts alone. His purpose and accomplishment was to improve the system in the patient's favor.

Fred's generosity, too, was legend. One example—he placed his entire salary from the Pacific Health Research Institute into a trust fund to ensure staff continuance if outside research support didn't materialize. It provided reinsurance, and the staff responded with unbounded loyalty.

What were the elements of his philosophy that made him so lastingly effective?

First, long-term vision. He recognized deficiencies in health care, then initiated programs to improve them through the Pacific Health Research Institute that he helped found and for which he served as medical director for 32 years. One example is mammography. He screened 10,000 women over a five-year period, found 190 patients with early cancer in its most curable stages, and gave mammographic instruments to three hospitals with the agreement that they continue to provide low-cost mammograms.

Another example of long-term vision: In 1992 he set up a community screening program for prostate, lung, colorectal and ovarian cancers (PLCO) that will continue for 14 more years. He wished he had the longevity of his 100-year-old mother so he could carry the project through to its completion, but already many unsuspected early cancers have been found and treated.

Another element of Fred's philosophy was the need for major innovations. He believed we practice medicine almost the same as our grandfathers except for some technological improvements. To rectify this, he undertook his own new leaps of vision. In the 1960s he developed a new type of computerized health testing system now copied across the world and started a series of nurse-managed chronic disease clinics. More recently he designed an outpatient system that uses new mixes of personnel and technology, and gathered together a group of hospitals to analyze and improve their quality.

Fred felt a deep concern for the well-being of each of his patients. Many of you chose him as your physician because you knew his medical expertise and how sincerely interested he was in you. But many of you may not know how widely his concern extended beyond the individual patient into the community to those persons who were not under anybody's care, and to the root social causes of many health problems—poverty, crime, drugs, inadequate housing—that physicians often feel are beyond their responsibilities.

Despite being on the front line of social thought and technology, Dr Gilbert's most typical pose was as a craggily-headed, thoughtful physician at the bedside, chin in hand, often late to the next appointment, but with unlimited time and intense concern about whatever problem was directly in front of him.

He was proud of his century-old mother, his wife, his 9 children, his 10 grandchildren, and his brother who were all so much a part of his life. He loved life. There was so much to do! Another Scandinavian, Gunnar Myrdal, wrote:

Not merely to save the world, but primarily to save our souls there should be dreamers, planners, and fighters in our midst who take upon themselves the important social function of raising our sights...

These words describe Fred Gilbert—a dreamer and doer who has managed to raise our sights while enriching so many lives.

Remarks by Herb C. Cornuelle

What strikes me most about Fred Gilbert's life was its wide and ever-expanding diversity. His interests and causes covered an astonishing spectrum: Always at the base was his allegiance to his family and his profession. He saw his calling to be practicing medicine at Straub. As the years went by he became a pioneer in community medicine and research in Hawaii.

Along the way Fred Gilbert demonstrated an eclectic set of avocations. In the late 1930s he played trumpet with the "Kings of Rhythm." He built rock walls—endlessly. He became a
pro-active environmentalist to preserve his family land in Oroville. He owned and rode a not-politically-correct motorcycle. He played tennis without realizing he had a handicap. He grew and sold Kona coffee. He was a Forty-Niner fan. He was a relentless roughwater swimmer. He fished off the shores of Milolii.

I'm sure every reader of these words could add some surprises to this list.

To each of these causes, interests and hobbies, Fred brought a formidable set of traits and principles:

- He gave the whole of his attention to the people he was working with, or working for.
- To each activity he brought all of his commitment, skills and resources, along with his energy, and enthusiasm. With Fred it was always the whole nine yards.
- He was an honest-to-goodness leader, who had that rare but classy attribute of leadership: He was predictable to his colleagues. No one needed to guess where Fred was coming from.

Similarly, he was forthright, sometimes testing the limits of candor. He was unrestrained, particularly putting his point of view across.

- He was resolute, to put it mildly. He had an immutable determination and sense of purpose.

And, finally, Fred Gilbert clearly derived great joy from his profession, his avocations, his family, and his friends. His cheerfulness and joy in doing was contagious, which enabled him to get many of us to do things we really didn't want to do right then.

I, for one, will always be grateful to Fred Gilbert for his example and his friendship.

Remarks by Blake E. Waterhouse MD

I am deeply honored to respond on behalf of Straub Clinic & Hospital on the occasion of celebrating the life of Dr Fred I. Gilbert, Jr, who served here for a remarkable 44 years, providing a compass for our past, present, and future professional activities.

Dr Gilbert's father was in the military and the family moved frequently. Fred grew up in the Sierra foothills near Oroville, California, attended high school in Philadelphia, and completed high school in San Francisco. He attended the University of Hawaii for two years and earned his Bachelor of Science degree from the University of California, Berkeley, in 1942; his medical degree from Stanford University in 1945.

After serving in the military, Fred returned to San Francisco for a surgical internship and his medical residency. He then worked and taught at Stanford until 1951 when he left to join Straub. In addition to his career at Straub, Dr Gilbert also founded Pacific Health Research Institute (PHRI) in 1960 and served as its medical director for 32 years.

The honors, fellowships, and awards he received, the positions held, and the papers he published number in the hundreds. To mention just a few, he was selected for membership in the prestigious National Academy of Sciences Institute of Medicine, voted HMA Physician of the Year, received Straub Foundation and PHRI top research awards on many occasions, and was both a Fellow and Laureate of the American College of Physicians. Suffice it to say that Dr Gilbert received the highest honors and awards for every facet of his professional activity throughout his career.

Over the years of his practice, Dr Gilbert came to exemplify the highest and best of our profession. He was known as a compassionate and caring physician and as a person who loved his patients, his staff and colleagues, and this land of Hawaii and its people. He was enormously skilled as both a clinician and a clinical researcher, as demonstrated by his multiple awards and accolades. He provided outstanding leadership during every phase of his career, and his honors and the positions he held reflect the esteem in which his leadership was held. He was a mentor to all of us, both as a physician and as a person. He reflected the highest professionalism in terms of what it means to practice, teach and do research, all in the pursuit of excellence in patient care. In addition, he reflected to us what it means to be involved in the community, in professional societies and in legislative matters. And, characteristically, he continued to mentor us in how to face death.

About one month prior to his death, soon after his incurable malignancy had been diagnosed, Dr Gilbert left his fellow physicians a voice mail message. The essence of the message was a clinical summary of his problem, a description of the poor prognosis, and the short time he would have left with us. He concluded with an expression of his affection for Straub and his love for all his colleagues. It was riveting and moving to all of us.

At our subsequent monthly physician meeting, I referred to a passage from a book, The Earth is Not a Resting Place, the title of which I thought personified Fred. He was never known to be resting on his oars, but was always totally engaged, extensively involved, always in the fray and never on the sidelines as a spectator of life.

Each of us will have our own unique ways to describe Dr Gilbert. I would like to use three descriptors as I remember him.

Herb C. Cornuelle

Building lava rock walls with Blake Waterhouse
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• Boundary-spanner.—Dr Gilbert understood and appreciated the interconnectedness of so many disciplines and events—history, society, science, the arts and so many others—and integrated this knowledge in an uncanny fashion. He was one of those unusual people who was able both to create the vision and to move it to reality. He was both a dreamer and a doer.

• Irreverent.—Fred’s irreverent streak was directed primarily toward conventional wisdom, the establishment, and titles. He combined this irreverence with a keen intellectual curiosity and a challenging mind, all of which made him the outstanding clinician and researcher he was.

• Outrageous.—Fred used his outrageous nature in a most purposeful and effective fashion. Often, he would ask me to respond to something he had said, written or done. When I answered that it was not only pushing the envelope, it was beyond the pale, his usual response was that he was pleased to hear me say that because that’s exactly what he had intended! He elevated outrageousness to an art form. Fred’s family posted the poem “Perfection Wasted” by John Updike in his room during his final hospitalization. A portion of it read:

And another regrettable thing about death is the ceasing of your own brand of magic, which took a whole life to develop and market—the quips, the witticisms... The jokes over the phone. The memories packed in the rapid-access file. The whole act. Who will do it again? No one. Imitators and descendants are not the same.

I certainly concur that no imitators or pretenders will follow Fred Gilbert. On a personal note, I will think of Fred when I need an extra dose of wisdom or optimism or fortitude. I will think of Fred when (on those increasingly rare occasions) I turn a double play or hit a three-point jump shot, because Fred always understood the importance of (and encouraged) that kind of frivolous diversion. And I will think of Fred when the Hawaiian sun is warm, the surf is powerful, and the gentle trade winds blow. In conclusion, it has been a privilege to know Fred, a privilege to love Fred. And it is a very special privilege—one that all of us have shared—to have been loved by Fred. Thank God for the gift of Dr Fred Gilbert.

Remarks by Fred Ivan “Gil” Gilbert, III

• Camping out on Goat Island on the wind-swept coast of Laie. Traveling the eel-infested reef to shore in the dark, driving rain at five in the morning.

• Watching Kiluaea Iki erupt. Getting up at four in the morning and driving through the darkness, expecting at each turn to encounter a river of lava, and then thrilling at the awesome display of the final spectacle, an enormous fountain of fire so hot you could barely stand to look at it.

• Surfing Makaha on Monday mornings, but always back in time to put in a full day at the office.

• Spending weekends at George and Bobbi Mills. Getting up in the early morning chill at the crack of dawn and heading out to pull in the lobster and fish nets. Watching the Punalu’u coastline at sunrise from a small boat. Afterward sharing two days of Hawaiian music, fresh-cooked fish, volleyball, and a few beers.

• Taking Sunday drives in the old Chevy woody station wagon. Dad would pile the kids in and go holo holo, wandering aimlessly, driving around the back roads of Hawaii looking for a kapu sign to violate, with perhaps some unexplored surprises beyond it.

• Hiking in places like Kokee, Aiea, and Palehua. Dad with his pack of kids, usually carrying Lisa or Cara (the youngest) the whole five mile distance of the hike.

• Laughing hysterically over Phil Silvers, AKA “Sergeant Bilko” on Friday nights.

• Getting everyone together and heading up to Mort and Dorothy Berk’s on Tantalus to watch the New Year’s fireworks from their roof.

• Traveling on our first trip to Europe. With adventures through France, England, Spain, Portugal, and Switzerland. We who were used to sparse clothing, bare feet, see moi and boiled peanuts, now found ourselves abroad in proper boarding schools which required formal uniforms. Upon our return to Hawaii a year later, he stopped the car on the last turn just before our house and let us run the final distance home.

• Our dad refused to become a member of the Pacific Club or the Oahu Country Club because he disapproved of the selective admission requirements. He would often prefer the company of surfers Rabbit Kekai or Buffalo.

• Fred Ivan Gilbert Jr, our father, imparted to us his strange brand of independence, his love of Hawaii, his unique intelligence, his love of adventure, and his slightly askew sense of humor. He saw each day as a privilege not to be taken for granted.

Not only did we come to love Hawaii and its unique beauty and spirit, we developed a sense of responsibility and respect for the world in which we live.

I think I speak for all of us kids in saying that our father had a quality that seemed larger than life itself. For many of us, it’s hard to believe that he is gone.

My father loved to build rock walls. As long as I can remember, he was always finding a place to build a rock wall. It is something I could never understand. Shortly after he had married Gayle, her son John asked what the deal was with Dr Gilbert and his rock walls. I think anyone who got to know my father well would eventually get roped into building a rock wall with him. Perhaps he felt that if you could build a proper rock wall, everything else might just fall into place.

I also want to thank everyone for coming today. I think my father would think that it was completely unnecessary and a waste of time. It would make more sense to be out and doing some yard work or something.

I had a chance to talk to my father after he had been diagnosed with terminal cancer, and after his first operation. He told me at that time that he was ready to die, and that he was a happy man.

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In memory of

Fred I. Gilbert, Jr., MD

for his outstanding contributions
in the field of health services research
to enhance the health of Hawaii’s people.
Because of Fred, his caring and his time, I was mentally able to tap in, get my physical needs met, and today, more than two-and-a-half years later, I still live alone.

Another time, while I was again in the hospital, I asked a question and Fred sat down to explain acidosis to me, a negative diabetic condition. He sat there for what seemed like hours and talked to me in very scientific terms. But then he always did. It is something that amuses, pleases, and puzzles me. From my teens, Fred has explained things to me as though I were another doctor, and he seems to believe and expect that I understand what he is saying. I may not remember the details, and almost none of the words, but I almost always have an inner, nonintellectual understanding of the process and am able to apply this knowledge in my life.

A natural teacher, Fred is now lecturing at the local medical school. I have never been sure how he did it, but Fred taught me to think for myself. My understanding of my diabetic condition, what was going on, and what could be done to effectively correct certain situations used to anger other doctors. Fred is the only doctor I have ever gone to who has an ego that can handle not always being boss or the learned professional. He never gave me any orders or told me that I had to do or not do anything. He was and is always quiet and unassuming, nonjudgmental, and it seems, always smiling.

Except for one time that I can remember, and even then I’m not sure. During a very long hospitalization, my veins had been very badly overworked by blood testing. There were several doctors on the case, each one doing his own thing. One of them was on a real ego trip—insisting on being boss, very demanding, almost cruel. This doctor barged into my room one day while Fred was there and, interrupting the existing conversation, demanded to know when I would allow the IVs back into my veins. My mind went blank and all I could do was stare at him. IVs and blood tests had always been very traumatic for me, and for me now to give voluntary permission was something my emotional mental body could not deal with, especially after just completing a solid 18 days hooked up to little glass bottles. The doctor stomped out after I had explained all this. This doctor was also doing daily blood tests, sometimes twice a day, and Fred had been getting occasional blood sugars. Very inconspicuously Fred managed to let me know that he was canceling all blood work. I’m just not sure how he imparted this to me because he did not come right out and say anything about it. Anyway, when the lab technician entered my room the next morning I was quite unprepared. Later in the morning when the results should have been back, I pushed the intercom button and asked for the results. Simultaneously, through my open door, and being right next to the nurses’ station, I heard Fred’s voice as he greeted a nurse. He had to have heard my question. The nurse told me the results were not back yet. I could hear low but intense talking and knew that Fred was one of the participants. After what seemed like forever, I pushed the button, repeated my question, and was told that no blood sugar had been run that day. Shortly after that Fred left the floor. He did not come in that day. I think he was very angry. After that the blood tests did stop and the other doctor stopped bugging me about resuming IV therapy. In 27 years, that was the only time that I have ever known Fred to be angry, and I don’t actually know it now. It could be that I have been very unaware or it could be that he just doesn’t get angry unless really pushed, and Fred is not the kind of man who gets pushed very often.

He is very sure of himself. At least that is the image perceived by others. He has a quiet, self-assuredness about him. Today a
popular term for this is centered. Fred is centered. He appears
totally focused on what he is doing at a particular moment. When
he is with me, he is with me, not thinking about where else he
should or could be or what he is going to say at that medical
convention in Europe next week.

At this point, two doctors are urging me to change my life-
style, to stop living alone. I have not yet discussed this with Fred
but I know he understands my need to live alone, and my interest
in colors and writing as he has continued to keep himself active.
And he is active. He practices medicine, teaches at the Univer-
sity, attends several international conferences, usually as a
speaker, and he plays tennis—sometimes at 11 pm—surfs, and
gets away to ski whenever he can. Once in 1979 he told me that
the day before he had spotted a skateboard left by the side of the
driveway and he couldn’t resist the impulse to try it out. On he
jumped and did quite well until it was time to turn or dismount
or something like that. He went sprawling. I can picture him,
sitting there with a very amazed look on his face, a shake of the
head, and gingerly righting himself, moving off toward his
motorcycle. He had to get to work.

“It’s not quite like riding a surfboard,” he said, his voice
smiling the whole time. I’ll bet his eyes were twinkling too. He
tells me some very interesting things. Once he explained that southern Span-
iards spoke more slowly and with a Spanish drawl that was different from
the northern Spaniards, equating it to the speech variations in our own country
based on regionality. It has to do with climate. For an establishment medical
man, he knows some very interesting things. He added a fact I had not come
across in my garlic research, and he thinks foot massage is a positive activ-
ity, aiding in good health. I had a tape of a Hindu mantra going when he came into
my room one day. As I reached over to
turn it off, his comment was, “That’s
very good.”

During this last hospitalization, Fred
was not the physician of record. But he
was there. He showed up in an x-ray
room during an upper-GI series. The
room was cold, seemed horribly dark
and gloomy, and I felt awful. During a
film-changing break he was suddenly there with his, “Well hello, Bonnie, how’s
it going?” I was, to say the least, sur-
pried. He sounded as though it was a
perfectly natural place for him to be
under the circumstances, and after I got
over my surprise, it seemed perfectly
natural to me too. Fred has always been
there, no matter what the hour, the place,
or his other responsibilities. For me, he
has always been there, taking care of the
physical, supporting the emotional,
stimulating the intellectual, and very re-
cently I have realized, that somehow he
is also having an effect on the spiritual
part of me.

After all these years of emergencies,
trouble, and probably some exaspera-
tion that I have been to him, it is slowly
dawning on me that I am more than a
patient to him. I am a person. I think Fred
likes me.

Bonnie Williamson
cows, horses, and an ornery old hand named Al who drank whiskey and had a wooden leg. This thrilled and excited us to know that we were indeed part of that authentic cowboy way of life and not mere mortals living a suburban existence in Honolulu.

When I was nine or ten we visited Oroville. When I saw the ranch, I was disappointed to discover how Dad had overstated his ranch tales: The only livestock around was an old dog, the sole building Al’s run-down shack. The rest of the acreage was wild, weedy, rocky terrain and a swampy creek where we caught a few bluegills. One cowboy moment did happen, though. Just as we were pulling up the dirt road to Al’s, we spotted him outside blasting his shotgun at a rattlesnake.

Later, in my adult life, I came to understand that this piece of land meant a lot to Dad both as a source of recreation and as a place to be around people like Al. This fact of his love of the land was brought to a conclusion in 1994, when my father bought the ranch from his relatives who had recently inherited it, and he had it legally set up as a nature preserve to be enjoyed by family, friends, and all lovers of nature in future generations.

So it was this omission in mentioning much about what was probably a pretty tough childhood with respect to his father, a martinet U.S. Army colonel, plus a physical stoicism, and perhaps some denial about any limitations, that made me virtually unaware that my father indeed did walk with a limp. I never considered that he had a limp or flaw or irregularity—that was just how Dad moved when he walked, and having been so close to him, I came to know this jerking rhythm of walking as part of him and something immediately familiar. “That’s Dad walking, not some guy limping.”

He was otherwise a very fit, square-shouldered, muscular man just under six-feet tall with a handsome square face, intelligent, with a piercing stare that could be as reassuring in its ability to get to the heart of the matter as it was intimidating. His father was a career military man no less intense, also very smart, who was one of General Mark Clark’s assistants in the planning of D-Day. My father apparently planned to follow his dad’s footsteps by going to West Point, but his hip problem left him unacceptable for military standards.

More significantly, the experience of being stricken with a disease and having to rely on physicians to regain the ability to walk most likely had a profound effect on him and heavily influenced his decision to pursue a career in medicine.

My father’s practice of medicine was devoid of the considerations that secretly or overtly influence many, if not most, who choose it as a profession: Things like wealth, status, and fame. Being human, he wasn’t impervious to their sway, but probably because his decision to become a doctor was forged out of his experience as a patient, the love was deep. I think that his devotion to medicine, coupled with an incisive, intelligent mind (one definition of intelligence: “the preference for complexity”) led my dad to accomplish what he did as a doctor in Hawaii. But to me, these accomplishments are pretty remote, having moved from Hawaii more than 20 years ago. The Dr Gilbert I know best is the person I knew as a child growing up there.

I remember the feeling of pride and security I felt when I got into the car, and Dad and I drove early on Sunday morning on his rounds. We climbed into the Chevy, down Manoa hill over to Queen’s Hospital, where Dad would usually park near the emergency room in the back, grab his black leather medical bag, and saunter up and disappear into the hospital for a half-hour to an hour, all business. My brother and I would hang out in the

My dad walked with a pronounced limp, but I wasn’t aware of this fact until I was about 7 or 8 when one of the neighbor boys and I were arguing. He retorted, “Oh yeah? What about yer father—limping around like a lug!” I hastily responded, “Does not!” thinking he really didn’t have a limp. But later, after mulling it over, I realized, “Yes, he’s right!” How could I be with him so long and never once consciously be aware of this fact of his condition?

First, I never heard him mention it in his whole life, even though it may have played a role in his decision to become a doctor. He rarely mentioned anything about his boyhood (which would make him odd by my generation’s standard belief that a sense of one’s childhood is essential). When my brother and I were kids infused with the cowboy-myth of the 50s, at bedtime we would often ask Dad to “tell us about the ranch.” He would then make rare mention of his own boyhood and describe some rough acreage in California in the area where he grew up near Oroville (his 101-year-old mother still lives there today). There were rattlesnakes, creeks full of trout and bluegills, rocky bluffs,
parking lot or feel a rush of excitement if an ambulance pulled up, or sometimes we’d go in and buy an ice cream cone in the coffee shop. Sometimes my dad would come out with some of his colleagues, and they’d stand around in their suits talking, and I’d see how relaxed and smiling my dad would be.

Often we’d follow this by driving up to Maunalani Hospital or Kuakini and the drives were enjoyable, either heading up into the dense verdant area of Nuuanu or the wildly steep hills of Maunalani Heights. He loved to drive and sometimes he’d get into a real slow roll that could be cool or irritating if I was in a rush to do something after we completed the rounds. Often we would go from the top of Maunalani all the way down with the ignition off, coasting for the fun of it.

My dad felt strongly that people, like surgeons, were too highly paid while family practice physicians were too underpaid in comparison. This was presumably because surgery, while dramatic and requiring technical expertise, may be no more valuable than astute practicing of primary care, which requires an analytic ability.

If there’s one summing-up comment one could make about my father’s life as a physician, it may go something like this: Both in theory and practice, he felt that what medicine needs now are doctors committed as whole physicians. While you may have a specialty, those specialties are interrelated with the total care of the patient and must be kept in mind as such. Each doctor should manage to address the issues of his or her own practice, research, community health issues, as well as the historical, political, and economic issues of medicine, so that the medical practitioner will be effective and we will all be healthier.

As his son, however, these issues were not paramount to me. I would argue that just as he advocated and lived the notion of the whole doctor, I (and perhaps my generation) would tend to argue more for the whole person. By this I mean that if my dad in particular, and his generation in general, had been less fixated on the notion of career achievement and defining oneself so much by one’s career, then maybe he could and would have been able to pay more attention to his role and abilities as a parent. I am sure I am not the only member of a doctor’s family who has had to forfeit a professional parent’s time and attention. I realize my comments aren’t restricted to physicians, but could be applied to the general ethos of professionalism and careerism in general.

While dedicated to health and finding cures for people, my father enjoyed many other interests. I think his decision to move to Hawaii when he was just starting out came from the sheer physical pleasure he got from hiking up Manoa Falls or Tantalus, surfing at Poplars or skin-diving at Hanauma, or just loving the way it felt to be out in the backyard with his shirt off, wearing shorts and zoriz, doing some yard work. This was his release from the pressures of work and family, and it helped sustain him.

In my mind’s eye I can see him riding his big old Hobie surfboard, standing kind of awkwardly, rigid with his legs apart, one arm up and the other extended out, kind of intensely savoring the moment.

Kristen Gilbert

His healing hands built rock walls—endlessly. Soft, large, and gentle, those hands belied their physical prowess and the dexterity that came from their many uses. A Thanksgiving turkey, given to those capable hands, would never be sutured with such care. Those hands could just as easily pump out a catchy Big Band tune on his trusty old brass trumpet as till his beloved land.

My father was not a simple man, but he enjoyed and sought life’s simple pleasures. He seemed to envy the men and women who possessed little of material value, who lived simply and honestly, and who had a regard for others. He struggled through the myriad complexities that were part and parcel of his life to arrive at those simple truths. And though he was not a religious person, he would have readily embraced as worthy the great teachings of Jesus Christ or Buddha. For him, sacrifice and hard work were life’s sacred underpinnings. He never shied from taking on a challenge, no matter how large. His North Star, a well-honed intuition, guided him best in meeting life’s challenges and in distilling its truths.

Death abruptly brings all of this to an end. The playful humor, the wise advice, the struggles, and the quiet presence are now locked in time as they become a part of his legacy.

Dad, rest assured you will live on in each of us, giving us guidance even in your death. And while there is some solace to be found in capturing some enduring memories of the time we had together, the truth is, time with you was far too short. We will miss you.

Heidi Shiozaki and John Meyer
Gayle Gilbert’s children

We always called him Dr. Gilbert. We never really realized that friends and family alike found this rather odd. After all, Dr. Gilbert had been part of our lives for approximately 20 years. When he and our mother first began dating, she insisted on our addressing him as such. When they married, somehow it still did not seem appropriate to call him Dad. Our biological father died of Hodgkin’s disease about five years earlier. Our allegiance to our real father, and a child’s belief that to call Dr. Gilbert Dad might constitute betrayal, prohibited us from changing the way we addressed him.

He loved our mother enough to put up with her two sometimes-rebellious children who were approaching adolescence. A man of weaker heart would have been deterred. After all, it’s chal-
lenge enough to raise one's own children, and he had seven of them. The conflicts with him that we remember involved his consternation, disbelief, and eventual fury that we could possibly have planned to spend a whole day recreating on weekends with friends when he had planned to mow the lawn, trim the hedges, and cut other plants and bushes. In our teenage years, we never gave any thought to the preciousness of his time off, and we certainly could not understand his method of working. In all projects, he was the sculptor with a vision in his mind of what he wanted to create. We were his apprentices, clueless as to what was going on, because he did not tell us. The tireless and compulsive way he worked and played at everything remains fixed in our memories. We could never understand why we couldn’t hire somebody to perform some of the tasks around the house that he insisted we do ourselves. Whether it was painting the house, or all of us up on the roof of our two-story house holding onto a rope around our mother while she dangled down the sides to clean the gutters. We never thought we’d look back on those times with fondness, but we do.

There were rock walls—rows and rows of them. Not many could count themselves as a friend or relative of Dr Gilbert who did not, side by side, help him build one. He was a modern Sisyphus; he’d accepted his rock. Somehow the meaning of life was to be found in the building of a wall.

The most valuable things that we learned from him were taught by example. He taught us the importance of having a moral code and living by it. In a time of changing values, his word meant something. He was a disciplined and hard worker. Every undertaking, whether work related or not, was taken care of immediately, and vigorously. He looked forward to waking up and meeting the challenge of each day. He had no interest in accumulating material goods. He drove the same car for the 20 years we knew him, a 1961 Mercedes. It was not running when he purchased it for about $350 from a friend. He maintained it himself and drove it for the rest of his life. Old tools, interesting rocks and shells, a stick with the bark gnawed off by a beaver—these were his treasures. He counted as friends not only people of means, learning, and position, but also the people whose everyday toil made the lives of the former easier. Hard work, tenacity, and determination were the qualities he admired.

Our inheritance will not be monetary for he did not believe that passing wealth from one generation to the next produced a generation strengthened in character. Our inheritance will be greater, and we, in turn, will be able to pass it on to our own children. He has left us with a deep and reverent appreciation of the land, its peoples, and concern for its future. He taught us to think—to have an interest in the way the world works, and how society, economics, etc, are interwoven to create a tapestry of life. He passed on to us a desire to keep on learning, for that is what makes life rich and interesting. The satisfaction of creating and crafting something with our hands; the love of growing things; of working with and sculpting the land; these are his legacy.

Those projects that were endless have now come to an end. Dr Gilbert never asked us why we didn’t call him Dad, but he seemed to accept it and know that it wasn’t because of any...
shortcomings on his part. Somehow in those 20 years, without ever trying to replace our father, he became our father. Although in one lifetime we have lost two fathers, we have been truly blessed.

involved in, even though the attorney for the plaintiff was his close friend. His testimony eventually helped the State win the case.

His participation in protests resulted, he believes, in scrutiny of his activities by the IRS and the CIA. His actions also alienated some of his colleagues. He was against the widespread and indiscriminate use of the defoliant Agent Orange. He also gave little credence to the domino theory. He believed the unconventional Vietnam war was unwinnable without destroying the land and its people. History and current events have proven him right.

His younger brother Bob fought in three wars, including Vietnam, where he volunteered as a Green Beret.

Fred was persistent and stubborn. He loved to fish but only when the fish were biting. When there was no action, he preferred not to troll aimlessly when “there were so many other things” he could be doing. In 1987, we bought an acre of wooded land in Lani Kona above Milolii on the Big Island. Together we transformed this rocky wild acre into a garden lined with lava rock walls on three sides of its perimeter. Each rock had its own place in the wall. At one time, we toiled for more than two days just to align a huge boulder in the proper position in the wall under construction.

The acre today is literally a Garden of Eden where several neighborhood children love to play on its well-tended lawn. Fruit trees, avocados, bananas, coffee, cherimoyas, figs, lemons, mountain apples, Kona oranges, papayas, and white sapotes abound. Also flourishing are the various vegetable crops in an elevated, walled area affectionately known as Fred’s heiau, his last stone wall project on earth.

Although his accomplishments were impressive, I feel that he was especially proud of what stands as a monument to him in Lani Kona. Gayle, Betty, and I vow to keep this acre of land as beautiful as the day when he left us to build that great rock wall in the sky.

Vernon Chang

During the last 20 years of Fred Gilbert’s life, I was privileged to have spent a great deal of time with him and Gayle, both as a friend and brother-in-law. Over the years we traveled to New Zealand where we flogged every stream, river and lake, visited Spain, France, Switzerland, and Germany, went fishing at the various lodges in Alaska where at one time he caught a 44-pound King salmon. Our Milolii project was the ultimate experience in togetherness.

Besides the numerous family gatherings celebrating birthdays, anniversaries and holidays, I cherished most the Sunday morning outings. We swam from Magic Island to Kewalo Basin and back. Then we’d go up to his house for brunch and, for the next few hours, would discuss any and everything—politics, philosophy, economics, fishing, crime and punishment, sports, travel, farming, and even medical problems. His knowledge was immense and deep but he always gave you the feeling that he was as interested in the subject or problem under discussion as you were.

Fred Gilbert was a man of great principles and his reaction to any problem or request was almost always predictable. They were, it seemed, always based on strong moral or ethical grounds. He had the capacity to base his decision on what would be for the greater good. I often told him that he would not have made a good politician.

If you were not really sick, you could not get a doctor’s slip from him. Years ago, when I first knew him, he, on his own volition, chose to appear as the expert witness in litigation I was
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Friends of Dr Fred Gilbert who would like to make a monetary contribution in his memory to continue the work of the Hawaii Medical Journal are encouraged to do so. Fred and his associate at Straub Clinic & Hospital for many years, Dr Harry L. Arnold, Jr, were driving forces in keeping our Journal published. Contributions may be sent to the Hawaii Medical Journal, 1360 South Beretania Street, Honolulu, Hawaii 96814, and will be acknowledged in a future issue of the Journal.

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Robert Evans, Honolulu

Fred Gilbert's life was indeed full—a mixed plate of notable accomplishments.

His medical and research successes are now legend.

Then there was the adventurous, witty, often outrageous rascal that seven of us knew well here in Hawaii from 1938 to 1941. We were University of Hawaii undergraduates at that time. Our closely knit group of friends included Fred, Jim Lambert, Buzz Willett, Charlie Judd (premed), Dave Pietsch (business), Alfred Hagen and Tom Wood (engineering), and me, Bobby Evans (botany).

Those years spawned lifelong friendships, and many treasured memories.

Our college bank accounts were strained, but that didn’t limit the scope of activities. We took advantage of everything Hawaii had to offer. All the beaches, hiking and, of course, lots of social activities.

There were two autos among the eight of us. We pooled our funds, ten cents a week each for gas.

We even strung our own flower leis for our dates. After all, leis on Maunakea Street cost 25 cents to a dollar.

During an Easter break in 1939, the group took a memorable Haleakala safari. We left Honolulu aboard the steamer Haleakala.

We decided we didn’t need anything more than steerage class—$5 each round-trip.

The rough Kaiwi channel flattened all except Fred and Buzz who immediately took advantage of their well-being by scaling the wire gate, over the railing, into empty first class cabins.

We began our adventure in Lahaina at Buzz Willett’s family plantation home. After one night’s rest we set out in the family 1936 Packard sedan and headed for Haleakala Crater.

We hiked into the crater, past giant cinder cones, rare silversword plants, to the bottomless pit.

Fred volunteered to be the stuntman: a photo of him being swung into the pit. Thirsty, sunburned, and exhausted we hiked back up the slopes of the crater and headed for home at 2 pm. To make matters worse, we had four flat tires. We arrived in Lahaina at 6:30 pm.

In 1938 the Kings of Rhythm came into being. This was a 12-piece dance orchestra. Included from our group: Fred and Dave, trumpets; Al Hagen, trombone; me, Bobby Evans, guitar and vocals. Also in our orchestra: Alfred Apaka on bass viol and vocals. Tom Wood was our stage manager. Modestly I report, we did enjoy success. We played at all the private clubs, at other local school dances, and at many of the big hotels.

Our most rewarding and steady booking was at stately old Haleiwa Hotel every Saturday night. We loaded our instruments into our ancient vehicles and, dressed formally in black tie and white jackets, we traveled the long winding highway from downtown Honolulu to Haleiwa.

KGU broadcasted a portion of the evening’s music every weekend—from 10 to 11 pm.

Al Apaka opened the program singing “Hano Hano No Haleiwa” and closed with “To You Sweetheart Aloha.”

Fred’s regular solo on trumpet was “Sugar Blues.”

Our Haleiwa Hotel booking was an all-summer-long event. Dillingham Corporation owned the hotel and the OR & L Railroad which followed a picturesque route along the North Shore around Kaena Point. A most important station was at Haleiwa Bay.

Local folks would pack their formal clothes and come to the hotel for a get-away weekend that included an evening of dancing to the “Kings of Rhythm.”

Our last engagement was Saturday, December 6, 1941 at the old House in the Garden in Nuuanu. Our lives were changed the next morning—December 7.

All of us served in the military in both European and Pacific theaters of operation. In 1946 friendships were renewed both here in Hawaii and in New York and New Jersey, Tom Wood’s business and residence areas.

No chronicle would be complete without telling one of Fred’s more outrageous beach escapades.

It was kapu (closed) season for lobsters. Fred was at Malaekahana in the
water doing a little diving. He came upon one of the succulent creatures and could not resist. Coming out of his dive, he spotted the game warden. Well, Fred wasn’t about to release the lobster. He simply and quickly tucked the live creature into his swim-shorts and headed for shore.

He greeted the warden and told him he was just catching summer crabs for pupu.

Robert Dennis MD, Ob-Gyn
Berkeley, California

I first met Fred Gilbert at the beginning of the 1938 fall semester at the University of Hawaii. We were both freshmen and premed students, and all of our classes were the same. We soon became good friends. We had our undergraduate work together at both the University of Hawaii and the University of California, Berkeley. He went to Stanford Medical School and I went to the University of California Medical School, but since both were in San Francisco, we continued to see each other. He was best man at my wedding; later, our wives pushed baby buggies together in Golden Gate Park.

Thus, I knew Fred well during his youth. He was self-confident, idealistic and romantic, yet practical, cheerful, serious, and always a true friend.

For several years during premed and medical school, Fred had an old Model-A Ford. He named it Pilikia, and he had the mechanical ability to somehow keep it running. I remember going to a banquet at the Palace Hotel in San Francisco, our wives in evening dresses and Fred and I in tuxedos. We drove up to the door in Pilikia, got out, and Fred handed the keys to an attendant for valet parking.

Aside from his obvious intellectual abilities, physical competence was also important to Fred. While at Cal, he competed for our fraternity in various intramural athletic events, such as swimming. He also ended up as the intramural badminton champion, though I am not aware that he played badminton at any other time, when I knew him.

After he moved back to Hawaii, I only saw Fred when he stopped over in Berkeley on his frequent visits to see his daughter, who lives in Berkeley, his mother, brother and other relatives, who live in Oroville, California, or in transit to other parts of the country on business. In our talks, it was apparent that he continued to develop new interests and ideas that his great determination would bring to fruition. But even near the end of his life, though he was older and much wiser, he still sounded like the young Fred Gilbert I knew in college.

When I talked with Fred on the telephone shortly before his death, he knew that he had only a short time to live. He seemed to have two concerns. One was the Research Institute, which was so important to him. The other was a tract of land near Oroville that he had acquired, which consisted of typical foothill woodland, an ecological habitat fast disappearing in California. He was trying to get it turned over to the Nature Conservancy, or in some way arrange to have it preserved for the future.

Fred may have accomplished a lot during his professional life. But if he had accomplished nothing, he would still have been a great human being. I feel very fortunate to have had him as a friend.

Martin Griffin MD, MPH
Healdsburg, California

During our last two years at Stanford Medical School during WWII, Dr Fred Gilbert and I had the opportunity to work in the research laboratory of a noted renal disease pioneer, Dr Thomas Addis.

Addis was a tall, kindly Scottish scholar and humanist. His wit and reasoning power were matched by Fred’s. Addis called on Fred to publish a paper that would outline for clinicians Addis’ discoveries. I helped Fred in this project, and we were able to correlate microscopic photos of the pathologic stages of glomerular nephritis with photos we took of diagnostic urine elements.

Fred interned in surgery at the old Stanford Hospital on Clay Street, and I in internal medicine. Fred, who was an exceptional
Fred was ever on the track of one or another idea or activity, sometimes one that seemed improbable and difficult, if not downright strange, but always creative and often successful. The word *polyath* comes to mind.

Fred was a polymath in action, not only a thinker and innovator, but an activist and originator of things that worked, things that mattered. The more challenging the cause, the more he liked it.

He was a fierce competitor in tennis, just as in any activity he undertook. Perhaps most of all he was a generous and caring man with an abiding love of humankind and concern for the human condition. Would that there were more physicians, more men like him.

Robert G. Dimler MD
Pediatrician, Honolulu

Fred Gilbert was a highly spiritual man. He had that rare ability of putting people at ease, no matter the trade or rank.

He was dedicated to quality care at the edge of the future; to research projects oriented to quality/preventive medicine. He was one of the islands of propriety and purpose in the common waters of mediocrity and indifference. When he crossed the river, other islands saluted the sunset.

He and I talked about some of these things not too long ago. Telling him that he had the gift of giving people a lift, he said, “I never even knew I was doing that!” Indeed—for it was as much a part of him as breathing. His life cast the long shadow of one man.

In 1960 Fred went to London and Paris for further study. A few weeks before he left we talked “of many things and what to do before the fat lady sings.” I wrote a letter for $300 and he matched it. That was the beginning of the Pacific Health Research Institute. He was a man who lived his dreams and carried his own lamp.

That slow easy smile was subtle humor, always close to the surface and never ill-used.

Somehow he found time for family, friends, and the joy of living: Scuba diving in the Pacific where ships battered and broken 50 years ago formed an artificial reef for myriad fish; visiting his widely dispersed children and grandchildren; with Gayle, clad in nor’easters, fishing Alaskan waters; yearly rough-water swims and pleased that his 1994 time bettered that of 1993.

Here was a man who exemplified the thoughts of Thomas Jefferson: “It is wonderful how much can be done if we are always doing.”

C.F. Damon, Jr
E. Chipman Higgins
Siegfried Ramler

Since 1978, Fred was a loyal member of a book group made up of 12 to 14 Honolulu men: Physicians, lawyers, teachers, other professionals, and businessmen. We would meet about eight times a year at each other’s homes to discuss the book of the presenter for that night. Occasionally, the book group would travel to a location off island to explore the environment and to discuss a given book in the evening. Fred was always an enthusiastic participant in these outings. In the spring of 1993, he and his wife Gayle joined other members of the book group...
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for a week’s trip to Tahiti. On the islands of Huahine and Moorea, he trekked with us enthusiastically to archaeological sites, and on the island of Tahiti we were briefed on contemporary issues facing French Polynesia. We were impressed by Fred’s energy and keen curiosity throughout this trip.

There follows a list of the books chosen by Fred. In each instance, Fred would make a 10 to 15-minute presentation and then conduct a discussion for the rest of the evening. His comments were invariably insightful and reflected his wide range of interests and experiences. Fred’s eclectic choices of readings are illustrated by the titles listed below. With respect to the last three, Fred invited the author to join us for the evening.

_The Limits of Altruism: An Ecologist’s View of Survival_ by Garrett Hardin
_The Woman Warrior_ by Maxine Hong Kingston
_New Guinea Tapeworms and Jewish Grandmothers: Tales of Parasites and People_ by Robert J. Desowitz
_Cities and the Wealth of Nations: Principles of Economic Life_ by Anne Jacobs
_The Man Who Mistook His Wife for a Hat and other Clinical Tales_ by Oliver W. Sacks
_An Accurate Watch_ by David W. Doyle
_Our House Divided: Seven Japanese American Families in World War II_ by Tomi Kaizawa Knaefler
_The Gifts of Civilization: Germs and Genocide in Hawaii_ by O.A. Bushnell

Fred always knew when to back off and let the other person across the room make a point. His lack of pomposity and matter-of-fact candor set the standard for us all. We will sorely miss his keen insights, his wit as a raconteur, his love of life, and his depth of knowledge: ever present, ever friendly, ever kind.

---

**John Rosenthal**
Papeete, Tahiti

Although Dr Fred Gilbert and I attended Stanford University at about the same time, and despite both of us living in Honolulu for many years, we did not meet until late 1963 or early 1964, when I accompanied my young Tahitian family to Honolulu and to the Straub Clinic for medical checkups. His swift diagnostic abilities, his efficacy and intelligence, plus his directness and a built-in charm were indeed impressive from the beginning. After several medical meetings, we were privileged to be invited to his home, to meet his family over a drink and to become acquainted during dinner. It was there that we began to explore each other’s world, to exchange ideas, and to expose our personalities. Before returning to Tahiti, I gave him my old and very sick, oil-guzzling, Ford station-wagon to use as a beach car. One day, years later, he told me he had left it, bleeding to death, somewhere in Aiea.

Frequently, I sent persons requiring medical help to see him at the Straub Clinic, and when visiting in Honolulu, he always had a cheerful room ready for me in the house on Mott-Smith Drive where he and Gayle lived. We talked long hours and relished our long swims together in the sea. I met and enjoyed his friends; I visited his several places of work and listened fascinated while he discussed his projects for research, as well as for computerized and nuclear medicine. He was intensely devoted to his profession and to serving the community where he lived. It was difficult to realize that Fred had been born with one leg shorter than the other, that the idea of a physical handicap never entered his head; he ran, he surfed, he played tennis, dived and swam, certainly better than most.

Last year he and Gayle, along with the members of a literary club, came for his first visit to Tahiti. Of course he had aged a bit, as do we all, but he was still young and vigorous, full of life and enthusiasm. We spoke of his family, living in different parts of Europe, his retirement, his working ranch in California, and of his research foundation in Honolulu. I introduced Fred and Gayle to our close friends and family. The time literally flew and suddenly they were on their way back to Honolulu. It never even crossed my mind that he could one day be stricken with a terrible illness or that he could even be mildly sick. His integrity, his intellectual honesty, his forceful character and tremendous ability were omnipresent. I shall never forget my real
friend, Fred Gilbert. He was first class, a no-nonsense man in every sense of the word. I can still see him as he put on his old brown hat and walked out of our lives. We never saw him again. Goodbye, Fred! Adieu. Aloha oe.

Stephanie Dang
Oakland, California

I heard last month about the passing of Dr Gilbert. I enjoyed spending time with the Gilbert family. The conversations around the dinner table were always enlightening and so refreshing for me, since my family rarely sat down for a meal together and was never big on communication. I am thankful for the things that your family introduced me to, as they were things that I probably wouldn't have encountered otherwise. I have your family to thank for exposing me to life at a deeper level.

To say simply that Dr Gilbert was a great man seems like such an understatement. All the things he did, and the manner in which he did them, somehow made him seem larger than life. To know someone like Dr Gilbert was an honor, and he is one of the only people I have ever known about whom I feel this way. I don't think I realized until recently what an influence knowing him had on me, however. What I've realized is that just knowing someone like him, someone who accomplished so much with his intelligence and will, enables me to glimpse the possibilities within myself. Before knowing him, I think I was destined for mediocrity merely because I was surrounded by it. Dr Gilbert was truly extraordinary and I think he had a way of pushing those around him to excel. Dr Gilbert was the type of person I used to think I'd only read about. Yet, at the same time, he remained the humble and hardworking man he was. I occasionally look back at the projects you all seemed to perpetually have going on, keeping yourselves busy all the time. I was even the beneficiary of some of your character-building missions. And, those were indeed character-building experiences that, again, I probably would have never been exposed to without your family.

With the accelerating dynamics of computers and insurance billing, it made good business sense to work with Praxis. I did not want to worry about costly program upgrades, outdated technology, and the increasing flood of paperwork. Moreover, I was better able to manage our staff and focus them on patient outreach and education.

“Praxis gives me the peace of mind and freedom to focus on patient care.”

A Praxis account manager is accountable to me and provides me with the information and control I need to run our clinic efficiently. The collective expertise of the organization and their vested interest in my success has been invaluable.

– Keith Katano,
Group Administrator,
Medical Arts Clinic
Daniel K. Inouye
United States Senator

Dr Fred Gilbert, Jr, was a true pioneer in our nation’s health care system. He was a man of unsurpassed compassion, vision, and grace. As one of three physicians from Hawaii ever elected to the prestigious Institute of Medicine, he was indeed one of our nation’s outstanding health care policy authorities, playing an instrumental role over the years in shaping our health delivery system as we know it.

Fred had that unique ability to simultaneously focus on the little person who desperately needed medical services and the bigger picture. Long an advocate for ensuring quality health care, he worked tirelessly to increase access for our state’s native Hawaiians and other traditionally underserved people. His work at the Pacific Health Research Institute truly helped define for all of us what could be accomplished if we would take the time to remember “the most important things” and never forget the individual patient.

Until recently, Fred was instrumental in bringing to the national forum the many, many accomplishments of Hawaii’s physicians. His articulate voice was heard and his gentle but constant prodding resulted in a qualitative difference in how most of us in the Congress and the Administration came to understand the complexities of health care and, at the same time, its exciting opportunities. Without question, for years, Fred had been in the forefront of evolving new approaches and new scientific discoveries.

We will truly miss him. He was a giant in the field of medicine.

Raymond Chung MD

It is with a great sense of loss that I send my sincerest condolences to you and your family on the occasion of Dr Gilbert’s passing. In many ways, I am where I am now, practicing and doing research in medicine in Boston, because of the guidance and mentoring I received from him as a Punahou senior working at PHRI back in 1978. He emanated warmth and sincere joy at that time that could not help but influence an impressionable young man. Equally admirable was the vigor he put into living his life to the fullest.

In many ways, perhaps not even consciously, I have tried to model my life since then after his; if I can do a tenth of what he accomplished in life, I will have had a full life indeed.

Please accept my condolences and take heart in knowing that his dreams live on in those who were touched by him.

George Chaplin

On March 6, 1981, the then editor-in-chief of the Honolulu Advertiser—now editor-at-large and chair of the PHRI Board—spoke at the 61st birthday party for Dr Fred I. Gilbert, Jr, at the Natsunoya Teahouse. Here, with minor editing, is what he had to say.

The other day, when I was approached about making some remarks here tonight, I got the wrong impression. I thought this was to be a geisha party for a famous samurai named Gilbertsan—a shogun who in the Japanese tradition of Kanreki would be experiencing at age 61 a rebirth, a restoration, a shedding of all the old burdens, and the beginning of a new 12-year cycle of good fortune.
HMSA Pays Tribute to

Dr. Fred I. Gilbert Jr.

His innovative thinking and years of hard work have paved the way for tomorrow's medical breakthroughs.

With Fond Memory and Appreciation from HMSA.
I thought there would be an abundance of sake and dancing girls, so I started reading up on the Tokugawa dynasty and the Meiji Restoration, and going around the house muttering "Hi, dozo" and "Meena-san-kon-ban-wa."

Well, I get here and instead of geisha and dancing girls, what do we have? Terry Rogers, Bob Nordyke, George Mills, Mort Berk, and Charlie Judd—all esteemed gentlemen to be sure, but not exactly Ginza types. At any rate, during the meal I hastily altered my alleged commentary to adjust to my scaled-down expectations.

My problem is that I could give a two-hour talk about Fred Gilbert, but it’s hard to give a 10-minute talk. He simply covers too much territory. He’s been called a man for all seasons. Which is true, except that while the rest of us have four seasons Fred has 10 or 12 or 15. And he keeps adding.

Not long ago I sent an investigative reporter over to Straub to check out Fred. He went up to the second floor and peeked around. He learned that Fred is the father of that computerized health appraisal center with heavy use of para-professionals—and that in earlier days some of his colleagues, lacking his vision, didn’t fully appreciate what he had developed, but they do now.

Fred has lectured on this multiphasic screening at international conferences from Canada to Australia, in addition to Washington, Atlanta, San Francisco, and Las Vegas. Fred loves to lecture in Las Vegas.

The reporter asked to see Fred, but a nurse said his office wasn’t on that floor any more and perhaps he should try the Pacific Health Research Institute. So over to the Alexander Young Hotel he went, and while browsing around there, he found that PHRI came into being 20 years ago when two clinicians—Fred and Dr Robert Dimler each wrote a check for $300. And he ran into some information about major projects such as chronic disease clinics and breast cancer detection and heart studies and even "25-HHC for the Prophylaxis of Post-Menopausal Osteoporosis."

A former PHRI staffer there told him that Fred Gilbert is a great stimulator of people’s talents. The comments went like this: "He gives you the feeling he needs you desperately. He conveys that he’s not that comfortable in your field, although he really is. You want him to be proud of you, so you ultimately give him everything he needs. He gets the job done and he gives credit where due. I guess body chemistry has a lot to do with it. I’m still trying to figure out his formula."

But my reporter couldn’t ask Fred about his formula because he wasn’t at PHRI. All this time the journalist had been looking for an internist but he was told that Dr Gilbert—a resident in nuclear medicine (at least until June) while at the same time president of the Hawaii Chapter, Society of Nuclear Medicine—might be found in the bowels of Straub Clinic & Hospital.

So the journalist hied himself back to the corner of Ward and King. On the way he bumped into somebody who told him that when Fred went into the Army from Stanford Medical School as a PFC, later becoming a captain, he dallied with the idea of turning psychiatrist. And later he put in a year as a surgical intern. That was back in 1945 when you could take a straight surgical internship.

Before Honolulu, Fred worked for awhile in Hilo—and one weekend someone came in with a broken hip. There was no specialist around to handle it and no one could come from Honolulu at that time of the night, so Fred just went ahead and nailed it, and the patient did fine.

Well, my reporter finally found Fred’s new office, but the doctor wasn’t there. Somebody said he might be up at the University of Hawaii Med School. So the search continued.

At the Med School, Fred was lecturing on preventive medicine and public health. So the reporter, while waiting, chatted with another professor who observed that the students are not all that interested in the subject.

He said that before Fred came, the lectures left about one-third of the students angry, one-third sleeping, and one-third listening. It was decided that some outstanding physician from the real world, who had high credibility, was needed to say the same things. So they signed on Fred. But the odds shifted only slightly. Now one-half is mildly interested.

What causes the anger is the expressed view that being a doctor is not the most important thing in having a healthy community—that jobs, clean air, clean water, good food, social support systems are even more fundamental.

That’s pretty rough, of course, on a student who suffered emotionally to get into school and is suffering emotionally to stay in. But Fred is never one to duck the hard problems.

He occasionally persuades a patient who has special characteristics that med students should know about, to sit down in front of a class of first-year students and tell his story. That lets the patient come across as a whole person and not as an unusual set of kidneys or lungs.

The patient is there because of trust in Fred, who always sees the whole person. That’s reflected when subspecialists run into trouble and systems start going sour and a call goes out for Fred to come up to intensive care and put it together in terms of the whole patient. Fred is a compassionate man who once told the Kansas Medical Society that a doctor who functions as a machine deserves to be replaced by one.

Meanwhile, back to med school. Fred finishes his lecture and the reporter tries to chat with him. Fred is cordial, but apologetic—he has to rush to the airport to get a plane to Las Vegas, where he’s checking out some new computer equipment. Great medical center, Las Vegas.

So the reporter is reduced to calling a few people and asking what they can tell him about the elusive Dr Fred Ivan Gilbert, Jr. One calls Fred a biomedical entrepreneur, successfully operating to establish new programs that interest him. He describes him as highly perceptive with a fantastic memory, always on his toes, putting everything he deals with in perspective with the 20 or more medical disciplines. Fred, he says, has a cosmic view—
Oh behalf of the Friends of the Cancer Research Center of Hawaii, we would like to bid *aloha pumehana* to Dr. Fred Gilbert, our fellow boardmember, friend and colleague...

Fred, we thank you for sharing your knowledge, your dedication, and your unwavering support in the fight against cancer. Hawaii’s medical community is richer for it, as are Hawaii’s people. We will miss your energy, your enthusiasm, your vision for what could be, and the optimism and tenacity you showed to realize it.

To Fred’s wife, Gayle, and to the members of his *'Ohana*, we share your pride in Fred’s accomplishments and your pain in his passing.

**Aloha ia ‘oukou apau...**

The Boardmembers of the Friends:

Dan Bent
Monsignor Charles Kekumano
Tom Kappock
Vi Dolman
Elisabeth Anderson, M.D.
Shay Auerbach
Neil Bellinger
Charlie Bocken
Gladys Brandt
Donne Dawson
Frank Haines
Lila Johnson
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Barbara Mills
Ambrose Rosehill
Donna Wiecking
Loretta Yajima
Brian Issell, M.D.

*Photo by John Eddy*

The Friends of the Cancer Research Center of Hawaii work to reduce and prevent cancer-related death and suffering by promoting community support for cancer research and education focused on research opportunities and challenges unique to Hawaii. For more information on how you can help our mission, call 586-3010, or write the Friends at 1236 Lauhala Street, Honolulu, Hawaii 96813.
adding that he wouldn’t be surprised to see him establish a nuclear-powered space platform with a fully computerized screening facility for denizens of outer space.

A colleague at Straub calls Fred a superb physician, with a keen mind that goes beyond insightful diagnosis of patients to long-range innovation.

“Fred looks down that line farther than most, and he stays in the forefront of what’s ahead,” is the way he puts it.

He sums up: Fred is outstanding. It’s hard to grasp the depth of this man.

And where is Fred? In Las Vegas, natch.

The reporter makes another call.

This physician rolls the clock back a bit. He recalls Fred as a premed student at UH, before he went to Berkeley and on to Stanford.

Fred was always curious, inquisitive, receptive, innovative. Even as a student he was extremely mature—not above having a good time, but never squandering time. He always had something going.

He was a superb tennis player—fast and competitive. He was great on the trumpet and played with Bill Rabe’s band, a popular orchestra at school dances, and with Ray Haley’s Hala'iwa dance band on the North Shore, broadcasting on Saturday nights over KGU. Fred still loves jazz and the big band sounds. Music is an important part of his life.

Fred has an investigative mind, but he has never lost his concern for the patient. Fifty percent of medicine is making a person feel the total focus is on him or her. To be able to make a patient feel he or she is the only other person in the world—even if the waiting room out there is full—that’s the real test.

The reporter is getting a bit dizzy from all of these plaudits—and a bit skeptical. There has to be another side. After all, this guy loves Las Vegas.

So the fact-finder perseveres.

The next call starts out with some promise. The man being questioned says: Fred Gilbert is a bad person to cross politically. The reporter asks: what’s this all about? Well, it turns out there was a hospital administrator who was misbehaving (to put it mildly), so Fred got him fired. And for good measure he also defeated an undeserving legislator and a dubious member of the Board of Supervisors in the old days. Moral: If you’re bad news, get away from Gilbert.

What else? Well, says the source, Fred Gilbert is the most widely diversified guy I’ve ever seen. A great all-around physician with a creative and restless mind. He has a great grasp of the literature. He digs into things, gets them going well, then moves on to start something else.

Anyone, he adds, can learn the mechanics of medicine and set up a practice. But it takes something more to be a real doctor.

He recalls that over the years, although Fred has always been extremely busy, he managed a lot of time with his family and friends. On weekends Fred would stay out surfing with children for six or seven hours at a crack.

He’s nuts about children, loves to play and work with them. And he’s great at keeping them busy. He’ll say, “Hey, let’s clean up the yard,” and they all do.

The inquiring reporter wants to know more about this side of Fred. He discovers there are seven children—Jerry, an accountant, and Gig, a photographer and designer, are here tonight. Galen lives and works in New York in the field of ceramics. Rondi teaches English at UC Berkeley; Kristin is a cellist in Washington DC and has performed in Carnegie Hall; Lisa teaches linguistics at the University of Barcelona; and the youngest, Cara, is a freshman at Occidental.

Fred does love kids. I have a feeling that if he and Gayle move into a new neighborhood when Fred is 90, the first thing he’ll do is check out the schools.

I use an age like 90 advisedly. There’s a record of longevity in the family. His mother—whose kin from Norway settled in Oroville, California—is still living there. One of Fred’s aunts was the first woman elected to public office in California. Another aunt, 89, does all the book-work for the rice farms she owns. And still another aunt, a mere 83, lives in Sacramento. Fred’s late father, of English background, was a retired U.S. Army colonel. In fact, Fred’s first exposure to Hawaii was when his father was stationed at Fort Shafter.

Fred has been a true Islander from the start. He was one of the first to use air tanks in scuba diving. He’s into wind-surfing. He’s probably show up.

Since my reporter did a thorough job on Fred, I’m tempted to detail all of his research activities; give you the titles of his 45 publications; list all the professional organizations he’s headed or belongs to such as the Institute of Medicine of the National Academy of Sciences, enumerate all of his honors, fellowships and awards, and describe all of his community services—but I won’t.

Let me conclude by simply saying that he is “calm and effective, humane and observant, prompt and careful. At once learned and willing to learn, eager alike to get and give knowledge, incorruptible, and pure in mind and body.”

Those words were used to describe Hippocrates. I borrow them tonight because Fred Gilbert is faithful to that tradition.

Patricia Lanoie Blanchette MD, MPH Professor of Medicine and Public Health Director, Geriatric Medicine Program

With a person as enormously talented and unfailingly generous as Fred Gilbert, we will all have different favorite memories of him. Brilliant and compassionate physician, patient and generous teacher and mentor, trusted friend and companion, exemplary community leader, protector of the public health, probing researcher—all of these terms describe him.

I first met Fred when I was a medical student and he a respected and accomplished physician at Straub. Among the many things we students absorbed from him was his humble and thoroughly well-prepared approach to patients. I don’t ever remember him talking about this, it was just a given. I remember how he could so completely convey to a patient that he cared. He had a talented diagnostic hand that could both find the problem and impart comfort at the same time. He was never satisfied with the current knowledge. We needed to push the boundaries, to learn more, to continuously involve ourselves in research.

What surprised me the most and impresses me still was his ability to listen to medical students as though we might actually have something important to say. It’s difficult to describe how encouraging this is to people just entering medicine. Fred. I think of this often now that I am a teacher, and I am grateful. I miss you
and I know that you are a part of many of us in practice today. Thank you.

Ralph M. Beddow MD, FACP
Associate Professor of Medicine
Former Chief of Medicine
Straub Clinic and Hospital

It is with difficulty that I attempt to express my feelings about my dear friend and colleague of many years, Dr Fred Gilbert. He passed away in February, 1995.

He was a complex personality endowed with many talents. First and foremost a skilled physician-internist who applied advances in medical science to his patients in a caring manner. He was always kind and supportive of those seeking his care. However, Fred possessed a reservoir of boundless energy. I always admired and marveled at his ability to find the energy to initiate and complete many research projects. He was a master in grantsmanship. He would spend hours writing proposals that resulted in the funding of many research projects at the Pacific Health Research Institute.

He also found time as a teacher of medicine. He was a Professor of Public Health, School of Public Health, and Professor of Medicine, John A. Burns School of Medicine, University of Hawaii. He was a Fellow as well as a Laureate of the American College of Physicians.

We were partners in the Department of Medicine, Straub Clinic & Hospital for many years. In the early 1970s he suggested that I organize a diabetes education and treatment center managed by a registered nurse. In my opinion the quality of care for diabetics would be vastly improved, and I would be able to see and care for many more patients with diabetes mellitus. At that time, the idea of having a nurse functioning as a manager of a specialty clinic was an innovation ahead of its time. I resisted the idea. However, Dr Fred Gilbert, who also had a persuasive side to his personality, convinced me of the soundness of his proposal. The rest is history! The Diabetes Center of the Pacific was a pacesetter in the use of a multidisciplinary team in caring for patients with diabetes mellitus.

Fred was also a visionary—a man ahead of his times. He anticipated future changes in medicine, and the way some services would be provided. Much of what he envisioned has come to pass. Tenacity was another of Fred’s attributes. If, in his opinion, his proposal had merit and deserved support, he persisted until his objective was achieved. This characteristic served him well as Medical Director of PHRI, and contributed significantly to its success.

Max G. Botticelli, MD
Professor and Chairman
Department of Medicine
John A. Burns School of Medicine

My recollections of Fred Gilbert always begin with his galloping up and down the stairs at the Queens Hospital. I suspect he was doing that when I first saw him during my internship in 1956. He was rarely seen on the elevator and most of the time he was taking the steps two or three at a time. It fits with his other physical accomplishments that were documented in his obituary. It also fits with the intellectual restlessness that characterized his full and productive professional life. He didn’t seem to be able to do anything at a regular pace.

But what I remember most vividly is his mastery of the art of internal medicine. He was considered by the house staff to be one of or perhaps the best internist in Honolulu. To be a master of this art requires deft hands, acute senses, and an inquiring mind. Fred had all of those and, in addition, the intellectual honesty and love of his work that is required of a great artist. This combination of attributes was a natural ethical bulwark against the economic forces by which we have been inundated. While we may not have prevailed in this effort, it wasn’t Fred’s fault; he was a paragon of professionalism for many of us.

As an intern I was swept off my feet by a beautiful and charming young nurse whom I courted with great intensity. As an argument for marrying me, I told her that my long-term goal was to return to Honolulu and practice internal medicine like Fred Gilbert, and I think this had something to do with my

In Honor of
Fred I. Gilbert, Jr, MD
As a personal friend,
I will always remember him

Mark Parker

Monarch Insurance
800 South King Street
537-2564
eventual success in gaining Alice’s hand. Fred was and is an important role model for me, and though I fell short of his standard, what little success I’ve had I owe saliently to him.

Reginald C.S. Ho MD
Straub Clinic & Hospital
Immediate Past President
American Cancer Society

When I completed my medical residency in 1963, my chief asked me what career path I would like to take in medicine: clinical care, research, or teaching? I said that all three appealed to me, and I would want to strive for excellence as a clinician, as a researcher, and as a teacher. He smiled and said very few people are able to achieve excellence in all three areas. Little did I know that a few months later, I was to meet Fred Gilbert, who has become such a Renaissance Man in medicine in Hawaii.

I have known him as a superb clinician who took pride in solving difficult diagnostic problems. I have known him as a compassionate clinician who was loved by his patients, and whose concern for their welfare was uppermost in his counsel to them.

I have known him as a researcher whose work has been widely recognized across the country, and because of this recognition was appointed to the Institute of Medicine of the National Academy of Sciences in 1978 by President Jimmy Carter. One of the pleasures of my travels in recent years has been to convey messages from his many friends among eminent scientists across the country, who asked to be remembered to him.

I have known him as a dedicated and committed teacher, who has taught not only medical students and residents, but who has also taught many nurses and technicians that they have an important role to play in the care of patients in nurse-managed clinics.

If I were limited to a few words that would describe my memories of Fred, these would be vision, vigor, optimism, and honesty.

He had vision in the 1960s when he first proposed the concept of the health appraisal center as a nurse-managed program. He was met with skepticism and resistance. But by sheer energy and refusal to consider failure, he made it work. It has since become the prototype of similar programs around the country. He felt that many tasks formerly reserved for physicians could be done by paramedical personnel if the task were well defined and controls were established. Few people bought that concept at the time.

He had an ability to inspire cooperation because he was honest in his dealings and was able to engender trust and cooperation in people who worked with him.

When he applied to the National Cancer Institute (NCI) for a Breast Cancer Detection Demonstration Project for Hawaii, he encountered great odds because of the small population and insularity of Hawaii. However, he was able to convince the NCI that he had the numbers and was able to do the job. He was right, and as a result, mammography was demonstrated to be an important screening procedure for women, and the use of mammography became established in Hawaii.

Every once in a while, someone appears whose life and contributions have made his patients, his colleagues, and his community the better for having known him—Fred was that kind of a person.

Edwin P. Gramlich MD
Pacific Health Research Institute

I first met Fred Gilbert in July of 1965 when I joined Straub Clinic as its first psychiatrist. Fred was extremely helpful in my initiation into Straub Clinic and into the practice of medicine in Honolulu. Over the years, Fred, in his inimitable way, became a close friend, a mentor, a professional associate, a surfing buddy, a diving companion, a tennis teammate, a business associate, and a land and boat co-owner.

From the beginning, Fred was most inviting and my family participated with his in many outings and family celebrations. In the late 60s and early 70s, we were avid surfers frequently arriving at Makaha or the North Shore before the sun came up to surf prior to returning to work for the day. We surfed weekends and went on numerous scuba-diving expeditions on Oahu, Lanai, and the Big Island.

In the early 70s, our lives changed in many ways. I left Straub Clinic, we both were divorced, and we began to play tennis instead of surfing, although we continued on diving trips. On the tennis court, Fred was a formidable opponent and an extremely good partner in doubles. In the mid 70s, Fred and I established an ongoing doctors’ doubles tennis match weekly at the King Street courts which lasted even though I moved to the Big Island in the 80s. The Thursday evening doctors’ men’s doubles continued until Fred became ill in early December of 1994.

In 1973, Fred and I bought property together on Mount Hualalai (Kona, Hawaii) and spent many weekends there with our chain saws clearing the property of ohia trees for roads and eventual cabins. He and his family built a small cabin on their property but I never was able to build on mine.

The 1980s brought yet another change in my life and change in our relationship. I moved to Kona in early 1980 to practice obstetrics and gynecology. A group of physicians on the Big Island formed a coffee enterprise which eventually became Captain Cook Coffee Company. Fred participated fully in the purchase of coffee lands and in running the company until we sold it in 1991. Fred contributed immense expertise to the managerial aspect of the company itself and demonstrated his capacity for hard work in running the coffee farms and dealing with the many difficulties associated with business.

In 1989 after Fred, as director of the Pacific Health Research Institute, procured funds to establish the Hawaii Quality Cost Consortium and after I indicated I wanted to move back to Honolulu in early 1990, I was offered the position as project director. In the last four and a half years, Fred had been a valuable source of guidance and support in keeping the HQCC project alive.

If it is not conveyed in the foregoing, I would like to emphasize that Fred represented industry and enterprise in every aspect of his life. He was hard working, fair, and giving in everything he did. He contributed positively to everything he participated in and was tenacious in making those participation’s successful. Fred is missed most sadly and remembered most fondly, but it would be unfair and inaccurate not to add a negative note. Fred hated income taxes and worked passionately at keeping his payments to an absolute minimum. Those who know him well will understand this totally. Fred also had difficulty taking vacations. When we scheduled trips to Micronesia, he scheduled working conferences with Micronesian physicians to make the trips deductible if not to avoid pure leisure.
Fred Gilbert filled a large space in my life and the lives of others. That space is now empty of the person of Fred I. Gilbert, Jr, but it is rapidly filling with memories and experiences that have been mediated by his presence. When the pain and sadness brought on by his early departure from life have ended, we will once again be full of gladness for the time we spent with Fred Gilbert and our lives are better for it.

Christian L. Gulbrandsen MD, Dean
Satoru Izutsu PhD, Associate Dean
John A. Burns School of Medicine

Dr Fred I. Gilbert, Jr, a physician, scholar, and researcher, was a founding member of the John A. Burns School of Medicine. His regard and respect of his fellow humans, colleagues, students, and friends were his hallmark. Fred was a doctor’s doctor who was sought by many for advice and care.

Fred was a tireless builder. Among the many institutions and programs he helped build, the following stand out—the Straub Clinic & Hospital where he practiced medicine, the John A. Burns School of Medicine where he taught hundreds of future physicians, and the Pacific Health Research Institute where he initiated and conducted research. His most recent research activity, the Prostate, Lung, Colorectal and Ovarian Cancer Project, will undoubtedly save countless lives in Hawaii. The research findings will affect people throughout the country and the world.

In addition to all of his pioneering efforts, he was an avid conservationist. As a man who adopted Hawaii, he loved this state. He respected the world around him. His unwavering belief in its beauty and strength led him to pursue actively the legacy of preserving thousands of acres in California for the conservation of agricultural land and wild habitat so that future generations can enjoy and revere.

As a master physician, a scientist, and a compassionate human, Fred has become a permanent part of Hawaii. His presence continues in the programs and institutions he helped build. Most significantly, his influences continue in the lives of all whom he has touched.

Walter S. Strode MD
Urologist, Straub Clinic & Hospital

When I, along with Bob Rigler and Bill Moore, came to Straub in August of 1955, Fred Gilbert was a young whipper snapper. We soon came to realize that Fred’s unusual probing wit, sarcasm, and humor often were responsible for the high level of intellectual and scientific curiosity that marked each of our meetings.

He made a point of questioning the basic concepts and solutions we traditionally worked with. Irritating he was many times, but never without a reason. Because of his persistent penetrating questions, we would laugh and then see the wisdom that was uncovered. Enlightenment and progress often then followed.

I was not privileged to know much of his great family or of his many nonmedical pursuits. I understand these were numerous and varied, both his children and his outside endeavors.

Fred’s death has made me the senior partner at Straub. I hope that all of us who follow him will remember the legacy he leaves as a great physician, a warm humanitarian, a keen intellectual, and a sterling patient advocate. We miss him greatly.

Robert L. Kistner MD
Vascular Surgeon
Straub Clinic & Hospital

To reflect on the memories of Fred Gilbert is to recall a man who impressed all who had the opportunity to become acquainted with him. Fred’s quiet, relaxed, friendly demeanor covered a driving energy toward his inner goals. He was a totally dedicated physician who took a personal interest in each and every one of his patients. I think he treasured his medical practice most of all. His sharp intellect and boundless energy were focused toward driving back the frontiers of medical science wherever he encountered them. Fred was a can-do person who would take the greatest of delight in doing the seemingly impossible task time and again. During his long career (40-plus years) at Straub Clinic, he was a constant source of agitation for education, research, and the common good, in addition to his intense efforts to provide the highest standard of care for his own patients. He encouraged the young and eager new physician and stood his ground against the more established forces as they crossed his path. His qualities of love, competition, dedication to the individual, and his strong-minded and strong-willed approach to achieve his goal will live in the memory of those who knew him and survived him.

Frank Tabrah MD
Baromedicine
Straub Clinic & Hospital

These very appropriate pages will enshrine Fred’s brilliant professional accomplishments, and of these one might ask, why his success? Some solid reasons—there was a magic in Fred’s touch, a unique grace that captivated editors, peers, and granting agencies. Fred sensed what was important in medicine years before the pack caught up. He was utterly personable, persuasive, logical, and right—and above all, a perfect gentleman in the intellectual forum and economic jungle. Not to say he treasured others’ opinions—he generally didn’t, and his wit in exposing stupidity was legendary. When Fred rose to speak, the uncomfortable truth often struck in the velvet glove of humor, leaving his hearers with the germ of suspicion that perhaps health care needs an uplift.

And there was much more. Fred’s utter commitment to human patient care immersed him in a myriad of clinical triumphs and tragedies that the world of his peers brought to him, often in desperation, for the deeper answers, for Fred was truly kind,
considerate, and intensely philosophical. With no illusions about the human condition, he managed, to the end, a productive optimism for his world and himself. Though Fred is gone, his words and ways will continue to enhance thousands of lives and careers. Thank you Fred, for all you did for us; and Gayle, for the happiness and support he found in you.

Brian F. Issell MD
Director, University of Hawaii Cancer Research Center and Professor of Medicine

What an honor it is to share with you a few professional and personal reflections about Dr Fred Gilbert in this issue of the *Hawaii Medical Journal* dedicated to the memory of this outstanding individual. His energy and enthusiasm touched so many who are working to improve health care in our state.

Fred’s contributions to cancer research and care in Hawaii are numerous. Let me mention just a few. In the 1970s, Fred co-directed cancer control activities at the Cancer Research Center of Hawaii. During this time, he established mammography as an important means of controlling breast cancer by conducting the Hawaii Breast Cancer Detection Demonstration Project. This was one of 29 breast cancer screening programs nationwide funded by the American Cancer Society/National Cancer Institute. The project screened more than 10,000 Hawaii women of various ethnic groups between March 1974 and December 1979. More than 170 new breast cancer cases were identified over this time.

Fred could never say no to a request for help or an opportunity to bring funds for health care research and service into our community. In the 1980s, Fred responded to our need and became interim program director of cancer control at the Cancer Research Center. More recently, he was responsible for Hawaii’s participation in the National Cancer Institute-funded prostate, lung, colorectal, and ovarian cancer screening project which is recruiting 15,000 individuals aged 60 to 74 years of age nationwide. Until his death, Fred served on Cancer Research Center advisory committees. He provided us all with invaluable advice coupled with a warm and delightful personality.

I, like so many, have been personally influenced by Fred’s dynamism. Having taken up my appointment as director of the Cancer Research Center of Hawaii in September 1988, I believed that clinical research in Hawaii was unlimited. I thought that the absence of a large university-operated medical center was not an impediment but an opportunity to lead the world with innovative community-based research projects. My close friends and colleagues from Mainland cancer centers would visit and smile sympathetically while I assaulted them with enthusiasm. Occasionally, my closest friends would tell me I was delusional. However, this had little impact because all I had to do was talk to Fred to have my enthusiasm (and delusions) reaffirmed.

Fred’s optimism, enthusiasm, and tenacity knew no bounds. He was a master at getting something started. When individual self-interest or institutional rivalry appeared to be impeding progress, Fred would adroitly sidestep these vexing issues by brilliantly articulating the bigger more important vision interpersed with a complex and bewildering story about how the vision could be achieved. All of us in cancer research and care will miss Fred very much.

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Fred Ivan Gilbert, Jr, MD was a larger-than-life character (with a capital K). His passing has left large holes in many lives. First and foremost he was a doctor and we have oblique but superb views of the extent of his skills, concern, and compassion for those he took care of. From my perspective in medical education, I saw him in his visionary role and, over a 30-year period, we saw many of his visions come to reality, and frequently he, himself, was the major change agent. When we differed on these matters he was never abrasive. Instead he would give that notorious boyish smile and explain that if I didn’t agree it was simply because I did not understand, which was harder to take than if he had yelled back. Fred had that largely vanished quality of civility.

I also knew him as one of the original supporters of developing a medical school in Hawaii. Interestingly, the 15 or 20 such doctors were not wild men and women, but rather people recognized for their conservative bent in both medicine and personal styles. Perhaps Fred got away with being a visionary because, from his Straub partnership to his civility and unchanging Florsheim shoes, he seemed the epitome of conservatism. Fred did his part in teaching medical students with great enthusiasm and the students understood that his enthusiasm was for his vision of medicine and not for Fred.

Fred and I were also personal friends and we each had a concurrent dark period in our personal lives in which that friendship was grappled with hoops of steel. It also led to some escapades which fortunately did not come to official or journalistic attention. Finally, I knew Fred as the devoted husband of my friend and partner of 20 years, Gayle Yamashiro Gilbert. In her guise as my assistant, she was, as one perceptive visitor observed, the real dean of the medical school.

We will often miss Fred, but we can be quite sure that he did not have a dull life. Besides, my children adored him!

Shigeaki Hinohara MD
Past President, IHEA
President, Japanese Multiphasic Health Testing and Service

Dr Fred I. Gilbert, Jr, and I have been friends for more than 20 years. When I visited his Straub Medical Clinic for the first time, I learned much from the extremely efficient way he ran the multiphasic testing. It was conducted as a system on a large number of company workers, and this system was based on principles of preventive medicine. I was also greatly enlightened by the way he cooperated with the establishment of nurse-managed and physician-supervised chronic disease clinics, in their early stages. He had much to teach me, by his foresight, articulate planning, and stalwart power of execution.

When the International Health Evaluation Association (IHEA) was formed in 1987 in Hawaii, he became the founding president, representing the founding members. Since then his contribution has been enormous in the expansion of IHEA and in his
capacity as executive director of Region III of IHEA, which includes Japan and Hawaii. He was a most sincere man, and this sincerity made him a fine designer of an improved medical care system.

To lose him in such a short period of time to illness is a deep sorrow to all the members of the IHEA.

Morris F. Collen MD
Director emeritus, Division of Research
Kaiser Permanente Medical Care Program
Oakland, California

The American medical community has regrettably and prematurely lost a giant among his peers. Dr Fred I. Gilbert, Jr, was a highly respected and skillful physician, an innovative medical administrator, a renowned pioneer in applications of new technology to patient care, and an excellent scientific researcher. He was a good friend of mine for more than 30 years.

In the 1960s, I first became associated with Fred when he became the founding president of the International Health Evaluation Association (IHEA). He called me at that time from Hawaii to invite me to join him in this pioneering organization. He guided IHEA in its worthy objectives to foster computer technology in preventive medicine, and to use computer-based automated multiphasic health testing for the efficient evaluation of the health status of people. I was honored to accept his invitation, and since that time I was privileged to have been associated with him in this increasingly important field of preventive medicine. As recently as May of 1994, we were together at an IHEA meeting in Tokyo where Fred was active on an international program committee, and he gave a visionary paper on his design for optimal primary health care. In addition, he gave a wise, yet gentle, critique of a paper that I had delivered. At this recent meeting I was completely unaware of his impending fatal illness. Fred was at his prime as a medical statesman and as an active contributor to medicine. His premature death is an unfortunate loss to medicine and, of course, a sad one to his family and friends.

I was further enriched and honored by my association with Fred at periodic meetings of the Institute of Medicine, of the National Academy of Practice in Medicine, and of the American College of Physicians. As a friend, I always enjoyed his pleasant company, he was a true gentleman, and a model of excellence in everything he did—even in his Kona coffee. I liked, respected, and admired Fred very much, and I shall miss seeing him at future meetings.

Fred Gilbert was born and raised as an Army brat, which implies frequent moves on behalf of serving the needs of the general public. Such a childhood may also give rise to a view somewhat separated from the culture of the others, who might be persuaded to live in a more orderly fashion.

How does this make for a happy 20-year working relationship with someone who was raised in a three-generation extended family in a missionary compound in central China?

Frequent moves were generated by fleeing from imminent danger in local civil wars (1925, 1927) and from foreign invasion (1932, 1937 to 1940). The public service values were explicit (build schools and a hospital, train local staff, turn control over to them), as was the goal of reform of the culture outside the compound walls (unbind your daughters' feet, equal education for boys and girls, etc).

Fred emerged from the speeded-up medical training of the war years, returning to Hawaii in 1951 as a primary care doctor in Hilo, and thence to Straub, which served as his base for trying to improve the way medicine is practiced. On the other hand, I arrived in Hawaii in 1956, delayed by three years in the Army before my academic career. My first job was at Kalaupapa, where I was appalled by the social damage being done by well-intended but no longer needed rules of segregation. This launched me into health services research to change the practice of public health.

When I was asked to put together the curriculum for public health/community medicine for our brand-new medical school in the mid-1960s, I immediately joined forces with Fred Gilbert. He was not only an excellent role model of a primary care physician (diluted a bit when he moved into nuclear medicine), but he also felt that the patient-primary physician dyad is the key factor for good care.

Fred's twist on this was:
1. An aging patient group leads to more chronic illness;
2. Once the physician has confirmed the chronic disease diagnosis and participated heavily in patient/family teaching about long-term management, the major continuing monitoring is turned over by protocol to specially trained nurses;
3. Thus freeing the physician to do more things that are intellectually challenging, such as research.

Fred loved to bring patients to class to answer a series of questions, leading up to an illustration of structural problems with medical care. For example, he brought in an elderly woman who came holding three or four brown paper bags, from which she revealed 20 to 30 bottles of prescription drugs from her bathroom medicine cabinet. He then asked her to tell the class about the source, history, and results of each bottle. It gradually came clear that this is what happens when care is given by the clinic rather than by Dr X.

The central point of such sessions was to orient the student to the effects the context of practice has on what happens within that practice. Recently, he focused more on how to lower the cost of care. His proposal for primary care physician/nurse teams was central to it all, and for them to be paid on a capitation basis, referring selected cases to specialists who would be paid on a fee-for-service basis from the pool of money in the pocket of the primary care team. This proposal was made 20 years ago on a trial basis, but the trial was never born. It too closely approximated the HMO, and was too threatening in a state busily becoming overloaded with ever-increasing proportions of subspecialists.

Now it looks as though QUEST is in the process of trying out something close to what Fred was talking about 20 years ago. We are now launched into a large experiment; over time it could become something that makes good sense.

**Vicki L. Shambaugh MA, MPH**
**Director, Research and Development**
**Pacific Health Research Institute**

If it was important to do, could be done, but was going to be hard to do, then you knew we were going to do it. Our task was to make it happen.

For every project we were to think of the potential players in the community and invite them to combine their skills and experiences to the benefit of all. If we were going to make a real difference in health care, that was how it was going to be done!

Participatory research was not just some catchy phrase. Dr Gilbert believed in it as the only way to change health care. I can remember the number of site visits by federal managers and academic consultants who would question our approach and caution we would never get anywhere with this philosophy. It would simply take too long. It was great to work with the community but to have them take part in the actual planning of the project? Dr Gilbert believed, as did the staff he surrounded himself with, that the most effective dissemination comes from having the community involved from the very beginning so it became their project. They wanted the study to take place, they wanted to participate, and they wanted to know the results.

In the 15 years I worked with him, I was always told to treat each participating organization, medical center, or individual equally. No one got preferential treatment. Our specialty was research which involved bringing a team of individuals and organizations together to address a common problem. This required that we had their trust. They trusted and respected Fred Gilbert. That's what made the difference. A phone call from Dr Gilbert could open the door. It was never something he boasted about or took for granted. He had earned that trust and worked each day to retain it. Hard to earn but easy to lose.

And it was exciting to see and be a part of making it all happen. The midnight or 2 am evenings to get the grants done weren't our favorites, but there was never much time to pull everyone and everything together.

When I first started working with him, he was sitting across the desk from me developing a grant proposal. As I was talking with him I turned. Still hearing his voice, I turned back but he physically had disappeared. I stood up and looked over the desk to find him on the floor talking away about the proposal. He had a big-board surf meet the next morning and needed to practice jumping up on the board. Naturally, he could do that while we finished the grant, so we combined surfing practice with medical research.

Dr Gilbert always had a story to illustrate his point and put you at ease. Of course I would also get a few sheepish calls from other physicians asking if I could make sure that he was aware of the points were covered “because Fred sometimes, well you know, Vicki.” But it will be all those stories that I will remember and forever picture not only what he said but the humor, warmth and skill with which he said it, whether it be the proper art form for catching flies or his first research project with the rabbits hopping all over the roof of the hospital. I was fortunate to have such a mentor not only professionally but in life in general.

**Madeline J. Goodman PhD**
**Dean, College of Arts and Science**
**Vanderbilt University**

Fred Gilbert and I worked together throughout my years in Hawaii. It all started in about 1971 when I was a graduate student in genetics at the University of Hawaii School of Medicine looking for large ethnic populations to study for my dissertation on the genetic aspects of diabetes. As the pioneer of multiphasic health screening in Hawaii, Fred was interested in putting his vast data source to use as a predictor of impending disease that might be prevented through timely life-style or therapeutic interventions. In the small back room office of the Pacific Health Research Institute, Fred and I plotted a general research design and method of operation that we would successfully repeat many times in the course of my cancer research in Hawaii.
Fred always thought big. Keeping administrative costs down to a level that would delight Newt Gingrich, Fred enjoyed planning massive research projects on a shoestring. He was never happier than when planning to study thousands of people for years and years. The Breast Cancer Detection Demonstration Project, on which I worked most closely with Fred, for example, screened some 10,000 women for five years and then followed them for another seven. The budget was huge for its time, but Fred insisted on stringent cost-saving measures. We would rent space from an insurance agency in the old Alexander Young building. The building was due for demolition, so the rent was low, and we could use the counters and built-ins left by the former tenant. Painting parties were organized to redecorate and spruce up the drab beige walls. An army of women volunteers from the American Cancer Society staffed the clinic, and much of the technical assistance came from physicians and academic researchers like me who faithfully donated our services as in-kind contributions. After the active screening years were over, the follow-up effort was moved to a second floor walk-up over a print shop on South King Street, and the mammography equipment was sent to the Waianae Coast Comprehensive Health Center for pro bono applications. Site visitors were so impressed by this combination of thrift and ingenuity that they never had the heart to cut one of Fred’s proposed budgets. The dedication of the volunteers and staff was infectious. Anyone even remotely associated with one of Fred’s big grants became an instant advocate of the research and would expound at length on its global value and long-term benefits to the people of Hawaii.

Fred loved to compete. Nothing gave him more pleasure than to sit down with a few of us and spin out a plan for some new research project. Trained in pathology, internal medicine, and nuclear medicine, he felt supremely comfortable in most areas of clinical research. With a wide acquaintance, great intuition, and confidence, he competed successfully for funding in nearly all branches of the National Institutes of Health. He never passed up an opportunity to prepare multiple research proposals on diverse health-related problems for the same NIH deadline. More often than not, all the proposals would be funded at once, creating a buzz in Honolulu medical circles and the impression in Washington that Fred’s Pacific Health Research Institute was ten times its actual size. Fred’s love of the hunt electrified the Institute. There was always one more grant to write and one more under review. Even Fred’s leisure activities were competitive, as the trophy for the rough-water swim (senior division) attested.

Fred couldn’t say no. Many times he took up the slack for community needs. One year, I recall, he headed up the Cancer Control unit of the University of Hawaii Cancer Center while keeping up his Straub practice and his directorship of the Research Institute. There always seemed to be room on Fred’s schedule for another committee or conference presentation to communicate his views on the way medicine should be practiced and how it could become more efficient and effective. He could juggle several full-time careers and carry each of his roles with liveliness, creativity, strength, and determination. His well-
developed sense of moral integrity and liberal outlook left a
distinctive mark on the many local institutions he worked with
professionally and privately. He enriched the community by his
contributions to enhancing the standard of medical practice in
Hawaii and far beyond.

It’s hard to say how many people it would take to approach in
quantity and quality the record of the professional life of Dr Fred
Gilbert.

**Colin C. McCroriston MD**

**Obstetrician/Gynecologist**

My friendship with Fred Gilbert spans almost 50 years. He
was not only a talented physician but a true humanitarian—
brilliant and compassionate. His patients were always warmly
treated and considered him a close confidant and true friend.

Fred’s inquiring mind never let the status quo satisfy him—he
sought and brought to fruition new and better ways to improve
the health not only for his own patients but for all in the
community. He extended his knowledge by returning for further
studies in neurology at the National Neurological Institute in
London (Queens Square) and in nuclear medicine at the Univer-
sity of California, Davis. He pioneered methods of using auto-
mation to make health care less expensive. His investigations
into the value of mammograms in the early detection of breast
cancer was one of the best early studies of this problem.

After Fred finished a year of surgical internship at Stanford, he
did a year-long locum tenens for Dr Sam Brown in Hilo,
covering a large general practice. A sugar mill worker caught his
hand in a machine and macerated it. Fred cleaned the wound
and sewed up the tendons. Another man broke his hip. Fred
pinned it. Both patients were later referred for follow-up to Dr
Joseph Strode at Straub Clinic in Honolulu. Joe was so pleased
with the outcomes he invited Fred to be on the surgical staff at
Straub (Fred turned down the offer, later joining Straub after a
three-year residency in internal medicine).

In the early 1950s one of my patients, a physician’s wife, had
a surgical procedure at Kapiolani Hospital. Shortly thereafter
she developed abdominal pain and fever that confounded all
diagnostic attempts. I called Fred in. He made the diagnosis of
Mediterranean fever, the first such diagnosis in Hawaii.

An early glimmer of Fred Gilbert’s social concerns occurred
when he was a second year medical student at Stanford. He
rounded up signatures from all of his classmates on a petition
asking Governor Earl Warren to guarantee health insurance to
evry man, woman and child in California. Warren sent a copy
to the medical school dean, Yank Chandler, who called Fred into
his office and demanded, “Why didn’t you show me the petition
before sending it to the Governor?”

Fred replied, “Because you would have tried to stop me from
sending it!” Years later Yank was visiting Fred in Hawaii. “How
are you doing?” he asked. Fred started to tell him about his
practice and research. “No, I don’t mean that!” said Yank. “I
mean, are you having fun like you used to at Stanford?”

Fred strongly believed that money should never be a physician’s
goal. With some relish, he told this story: Dr Clayton Mote, one
of the most respected diagnosticians and teachers at San Fran-
cisco General, invited him with other fourth year medical
students to his Marin County home for an evening’s discussion
about what it means to be a physician. As they were having
drinks before dinner, Dr Mote had an interchange with one of the
other students:

Mote: Have you decided what field of medicine you’d like to
go into?
Student: Yes. One where you can make the most money and
you don’t get called out at night.
(Pause...)
Mote: Get out of my house!
Student, startled: What did you say?
Mote, angrily: I said, get out of my house. Now! And don’t
ever come back. I never want to see you again!

Fred was a man of many seasons and many interests—a
devoted family man, a surfer who loved the waves, a coffee
farmer, a man with a great sense of humor, a pusher who
accomplished whatever he sought out to do with his charm and
perseverence. Above all, Fred was a true friend to his acquaintan-
tces and to his community.

*Aloha*, Fred, you are one in a million and will be sorely missed.
In Memoriam

Pioneer in Hawaii medical research

Outstanding physician

Respected colleague

Dr. Fred I. Gilbert, Jr.
1920 - 1995

Kaiser Permanente
Caring For Hawaii's People Like Family
Introduction to Scientific Section

Robert A. Nordyke MD

The primary purpose of this festschrift issue of the *Hawaii Medical Journal* is to honor Fred Gilbert. Having worked closely with him as a professional colleague and friend for three and a half decades, I would be remiss not to share some of the principles and underlying philosophy of his remarkable life. Although he has accomplished an incredible amount of work for the benefit of patients all over Hawaii and the Pacific, most of the recipients have never heard his name.

From his scores of writings some have been selected that are representative and reflect his broad interests, convictions, and philosophy. In reviewing these, I am again reminded how visionary he was, how solid and sustaining his principles were, and how much of a pillar they provide to further improve health care in Hawaii.

In the hubbub of daily work, some of his precepts are overlooked but need constant reminders. In briefest form, they are:

- a primary concern for patient outcomes, including satisfaction;
- recognition that research is a critical part of health care, not an ancillary add-on when it’s convenient;
- community-wide inclusion and cooperation;
- awareness that health is intertwined with social and economic problems.

To bolster and sustain these principles, Fred believed we must:

- build the system around the patient, not the reverse;
- place primary care at the center;
- provide capitated health insurance to every person in Hawaii;
- involve patients more positively in their own decisions;
- carry out continuous research in every office and byway to improve quality and contain costs;
- extend research from basic and clinical to the broader area of health services;
- emphasize outcome over process;
- make leaps of improvement in addition to the incremental;
- develop more cost-effective mixes of personnel and technology;
- encourage creative thinking and risk-taking at every level;
- provide administration that is lean, cooperative and intercommunicative rather than bureaucratic and pyramidal; and
- partly for the fun of it, shake up the status quo.

To illustrate Dr Gilbert’s precepts, we have included samples of papers written by him and his colleagues since the 1950s, divided into:

1) clinical research
2) health services research
3) the appropriate use of technology
4) the reorganization of health care
5) the search for excellence.

*Core staff discussing a proposal. Left to right: Carla Connell, Secretary; Vicki Shambaugh, Director of Research and Development; Fred I. Gilbert, Jr, MD, Medical Director; Wally Izumigawa, Administrative Officer.*

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Clinical Research

Clinical Research fuses indistinguishably into quality improvement. It is increasingly necessary because new medications and techniques are pouring down on us, with their potential for great harm as well as good. Dr Gilbert believed that every reflective health worker would constantly undertake research/quality control if he or she were not overwhelmed by a crowded practice, and that part of the difficulty lies in being too busy to consider how it could be improved. Discovery, he believed, consists of seeing what everybody sees and thinking what nobody has thought. But it takes time to contemplate, and reinvent.

Single case studies, such as this 1962 analysis of Ilosone as a cause of hepatitis, remain an important type of research that can be carried out by any thoughtful physician as part of the routine practice of medicine. Dr Gilbert's report almost single-handedly stopped the indiscriminate use of a new antibiotic.

Cholestatic Hepatitis Caused by Esters of Erythromycin and Oleandomycin

Fred I. Gilbert, Jr, MD


Erythromycin is derived from a strain of Streptomyces and belongs to the macrolide family of antibiotics which include triacetyloleandomycin. Erythromycin was introduced in 1952. Erythromycin propionate was introduced in September, 1958. Its lauryl sulfate salt has been named erythromycin estolate. The manufacturer estimates that some 15 million courses of therapy with this drug have been given since its introduction, with only 33 cases of jaundice having been reported as directly or indirectly attributable to the drug.

Kuder, in reviewing 20,525 cases, noted that erythromycin propionate caused some type of gastrointestinal symptomatology in 5.7% of patients, whereas the lauryl sulfate salt of this drug (erythromycin estolate) caused only 2% to have gastrointestinal symptoms, indicated the major side effects, with nausea leading the list. No jaundice or hepatitis was reported in this series. He also observed that of 69 patients less than one month of age receiving the antibiotic, there were no side effects except for loose stools in 2. Reichelderfer and associates observed that giving large amounts of erythromycin estolate to premature and newborn infants resulted in no significant side effects after several days of treatment.

More recently, Kohlstaeid has received reports from physicians noting hepatitis in 13 patients treated with erythromycin estolate. In the more carefully studied patients, it appeared to be hypersensitivity rather than a toxic reaction. The initial symp-

toms of hepatitis appeared between the 10th and 21st day of continuous therapy or after repeated courses of the drug.

Robinson also noted similar hypersensitivity with hepatitis in approximately 12% of the patients who received triacetyloleandomycin or erythromycin estolate for longer than 14 days. This reaction mimics viral hepatitis, cholecystitis, or pancreatitis, with mid impeo gastric pain, vomiting, transaminase elevation, increased direct-reacting bilirubin, and a negative or weakly positive turbidity test. In some instances, serum alkaline phosphatase was elevated. Liver biopsy in one patient showed periportal infiltration with lymphocytes, a few polymorphonuclear leukocytes, and many eosinophils. Peripheral eosinophilia has been noted. It is of interest that hepatitis with jaundice had been previously reported in 3 of 82 patients receiving triacetyloleandomycin.

Report of a Case

A 46-year-old physician was seen on September 13, 1961, after having taken 750 mg of erythromycin estolate during the previous 12 hours. When examined at about midnight, she was acutely ill, with severe epigastric pain radiating through to the back and both shoulders. She believed she was experiencing a myocardial infarction, while I considered biliary colic or pancreatitis as the cause of the upper abdominal pain, vomiting, and right upper quadrant tenderness. Subsequent events proved us both wrong: her serum amylase, gallbladder visualization, and electrocardiogram were all normal. The packed cell volume (PCV) was 43 ml\%; hemoglobin 13.5 gm; white blood cell count 6,600 with 76% polymorphonuclear leukocytes, 18% lymphocytes, 2% eosinophils, 3% monocytes, and 1% stab cells. Urinalysis was normal. The serum glutamic oxalacetic transaminase (SGOT) was moderately elevated to 350 units (normal 40 to 80 units), but the thymol turbidity was normal at 2.5 units. For the first 4 days of hospitalization, the patient was miserable with persistent upper abdominal pain, vomiting, and anorexia. The afebrile course was interrupted on the third day of the illness by a fever of 102°F (39°C). This fever subsided within 24 hours, and she was discharged 9 days after admission, free of symptoms except for mild epigastric distress after meals and residual tenderness in the right upper quadrant on deep inspiration.

Further history disclosed that hives had developed after the patient had received penicillin several years before, but that she had taken erythromycin stearate for 4 days in May, 1961, without incident. Three erythromycin estolate capsules had been taken on September 13, because of a tooth extraction that day. There was no other history of drug sensitivity, asthma, hay fever, or other allergic reactions (Fig 1).

On October 31, 1961, she came into the office desperately ill, with fever of 104°F (40°C), chills, nausea, vomiting, and abdominal pain so severe that she could not tolerate abdominal palpation until after injection of 100 mg of meperidine hydrochloride. This time she had taken one 25-mg capsule of erythromycin estolate after further dental work and had noted abdominal pain at 3 hours, chills and fever at 8 hours, and vomiting at
10 hours after the single dose. She was extremely sick and noted a peculiar disturbance of color vision, with red, yellow, and green vertical bars, on closing her eyes. There was also an unusual sensation of tumbling vertigo, and for several days there was persistent yellow tinging of the central visual field. She had continuous headache, upper abdominal pain, and repeated attacks of vomiting for the past 3 days. During this period, intravenous fluids were required. Thirty-six hours after the onset, she became afebrile and remained so until discharge on November 4, 1961 (Fig 1).

Laboratory studies performed during this second episode showed increased serum bilirubin, with total bilirubin of 2.4 mg%, 1.1 mg% direct-reacting. The SGOT was elevated to 91 units. There was a slight increase in the serum alkaline phosphatase to 4.7 Bodansky units. Blood studies revealed a drop in the hemoglobin, PCV, and (except for eosinophils) granulocyte, as compared to the values obtained 2 weeks previously (PCV 35 ml%; hemoglobin 11.9 gm; white blood cell count 4,700 with 52% polymorphonuclear leukocytes, 33% lymphocytes, 6% eosinophils, and 9% monocytes). A radio-rose bengal test done 4 days after onset of acute symptoms indicated moderate liver dysfunction without biliary tract obstruction. The radio dye flowed into the intestine readily. Urinalysis, including qualitative tests for bile and urobilinogen, was normal. The thymol turbidity was 2 units.

By November 7, 1961, one week after taking the capsule, the patient was asymptomatic except for acute iritis of the left eye and epigastric distress after meals. On November 18, she had no symptoms. Scratch tests with erythromycin as the base, stearate, estolate, and controls were negative at 1, 24, and 72 hours. The SGOT, serum bilirubin, and blood cell count were normal. The PCV was 38 ml% white blood cell count 5,600, with 56% polymorphonuclear leukocytes, 37% lymphocytes, and 7% eosinophils, and the radio-rose bengal test continued to indicate very slight liver dysfunction with 56% retention in 20 min.

On December 5, 1961, after having taken a small test dose of less than one-quarter of a 250-mg tablet of erythromycin stearate the night before, the patient took the remaining portion of the tablet. No unusual signs or symptoms developed and 24 hours later, all laboratory studies, including SGOT, and radio-rose bengal, were within normal limits.

Comment

This 46-year-old physician tolerated a 4-day course of erythromycin stearate in 1957 and a 5-day course of erythromycin estolate in May, 1961. Neither of these courses of treatment caused symptoms, but the latter almost certainly sensitized her, so that a challenge dose of the same preparation administered on 2 subsequent occasions cause symptoms and signs of hepatitis within 12 hours of erythromycin ingestion. Her second challenge of only 250 mg of erythromycin estolate caused a much more severe illness than the first challenge of 750 mg. A final challenge of 250 mg of erythromycin stearate resulted in no clinical or laboratory evidence of hepatitis.

This case is similar in most respects to the one recently reported by Johnson and Hall. In their patient, cholestatic hepatitis developed after 12 days of erythromycin estolate. Three challenges with the estolate reactivated signs and symptoms of hepatitis. A final challenge with erythromycin base failed to produce hepatitis. They concluded that drug allergy was the cause of the hepatitis.

Although clinical jaundice develops in less than 5% of patients receiving macrolide ester antibiotics, routine sulfobromophate (BSP) and SGOT determinations carried out on patients receiving triacytyleoleandomycin for longer than 10 days indicate that subclinical hepatitis develops in approximately 50% of patients receiving the drug. In 3 of 4 patients with abnormal liver function tests, elevated SGOT and elevated BSP values developed within 24 hours of a challenge dose of triacytyleoleandomycin. These results were sufficient to cause 2 drug companies reporting this high incidence of occult hepatitis to revise their brochures and suggest that their products not be used for longer than 10 days. The significance of the challenge
dose producing hepatitis within 24 hours of administration has been almost overlooked, for there is no word of caution regarding a second course of the antibiotic. As yet, no comparable studies with erythromycin estolate have been reported, but it is anticipated that the results will be similar. The appearance of cholestatic hepatitis in patients receiving the macrolide antibiotics, triacetyloleandomycin and erythromycin estolate, is too much to expect coincidence. The parent molecules, oleandomycin phosphate and erythromycin, have not produced hepatitis. Triacetylation of oleandomycin phosphate and propionylation of erythromycin results in preparations that are more effective antibiotics. At the same time, the new compound acquires the capacity to cause hepatitis.

On turning to the chemical formulas10-12 (Fig 2) in an attempt to explain the sensitization property (Fig 2) of the esterified molecules, it is observed that erythromycin and oleandomycin phosphate differ as to their macrocyclic lactone nuclei and one of their side-chain sugars. The second side-chain “sugar,” desosamine, is the same in both antibiotics. When the molecular position marked with an asterisk is represented by a simple OH group in either antibiotic, hepatitis does not occur; nor does it occur when steroid is added proximal to the single nitrogen atom in desosamine.

Only when the OH at the positions marked by asterisks is replaced by the propionyl radical in erythromycin and by the acetyl radical in oleandomycin phosphate do these macrolide antibiotics acquire the capacity to cause hepatitis. In all probability, other acids similarly linked to macrolide desosamine would provoke similar hypersensitivity and hepatitis, but with the specificity of the immune response residing in the specific acid radical.13

It has been suggested14 that esterification at the molecular position indicated confers the properties of a hapten on the macrolide molecule. This chemical alteration may permit the antibiotic to become antigenic by enabling it to conjugate with the necessary body protein, or more likely provides the signal by which the individual’s cellular clones recognize the antibiotic as “not self.” In any event, administration of the esterified antibiotic to a susceptible individual starts the chain of events that may lead to the hypersensitivity response. Once this occurs, all that is now necessary to produce cholestatic hepatitis is a properly timed triggering dose of the antibiotic in the primed hypersensitive individual.

Summary

The macrolide antibiotics erythromycin and oleandomycin, incapable of causing hepatitis in their basic form, apparently acquire this capacity by esterification of their desosamine side chains.

Although abnormal liver function developed in approximately 50% of patients receiving triacetyloleandomycin for longer than 10 days, clinical jaundice developed in less than 5%. Because of the high incidence of liver function abnormalities following the use of triacetyloleandomycin, 2 drug firms have advised that this product not be used for longer than 10 days. It appears advisable to observe similar precautions in the use of erythromycin estolate until appropriate investigation has excluded the possibility of high incidence of subclinical hepatitis. It is also suggested that a second course of either of these macrolide esters be used with extreme caution, if at all.

I am grateful to my patient, Dr Emiko Sakurai Hirschy, who recognized the potential hazard of reexposure to the antibiotics studied, yet deliberately accepted the risk in order to gain more information about this hepatosensitivity.

Generic and Trade Names of Drugs

Triacetyloleandomycin - Cyclamycin, Tao.
Erythromycin estolate - Ilosone.
Erythromycin stearate - Erythcin Stearate.
Meperidine hydrochloride - Demerol Hydrochloride.
Oleandomycin phosphate - Matronycin.
Erythromycin - Erythromycin, floytic.

References


Combining patient information. The step beyond single case reports is to combine information from many patients in one or more practices. This is especially important if the answers vary in different practices, laboratories, or (so common in Hawaii) ethnic groups. The next papers describe the outcomes from some of the innumerable questions that cry out for solution, that would improve the health of our patients if known, and that can best be answered by ourselves.

Dr Lynn Madanay tells this story about the following article: Several recent publications suggested that prostate-specific antigen (PSA) gradually increases with age in men without prostate cancer, and therefore laboratories should report age-adjusted normal limits. Pressure was put on Lynn to consider changing the standards in his laboratory. He and Fred Gilbert were discussing whether to make those changes when Fred suggested that they find out whether the age-adjustments obtained from mostly Whites at Mayo applied to our own laboratory and to our own ethnic populations. In three days Fred dropped on his desk a 16-page proposal, budget and all, ready for signature. A week later funds were available, and within three months the analysis was made, paper written, and presentation given at the American College of Physicians’ Annual Scientific Meeting in April, 1995.
This pilot study evaluated the influence of age and ethnicity on serum prostate-specific antigen (PSA) concentration in Asian and white men without a clinical diagnosis of prostate cancer. Between October and December 1993, 1260 patients who underwent serum PSA determination (Hybritech Tandem-R assay, San Diego, California) at Straub Clinic & Hospital were retrospectively analyzed. Of these, 885 (70%) men aged 40 to 79 years were either Asian (Chinese, Filipino, Japanese, and Korean) or white and had a serum PSA less than 10.0 ng/ml. The PSA for the entire group was 2.1 +/- 2.0 ng/ml (mean +/- SD). PSA correlated with age (r=0.31, p=0.0001) and age accounted for 10% of the variance in serum PSA. Using the regression formula, serum PSA increased 2.5% (0.06 ng/ml) per year of age. The entire study group was about equally divided between whites (49%) and Asians (51%). Nearly three-fourths of the Asian men were Japanese. The mean PSA was very close in the Asian and white groups. There was no direct correlation between serum PSA and ethnicity (r=0.03; p=0.3201). Ethnicity contributed 0.1% of the variance in PSA. In conclusion, this preliminary study suggests serum PSA increases with age in Asian and white men without a clinical diagnosis of prostate cancer. No difference was found in PSA between men of Asian and white ethnicity.

Introduction
Prostate carcinoma is an increasing medical problem in the United States. Prostate cancer is the most frequent nonskin cancer among men in the U.S., with 244,000 new cases and 40,400 deaths estimated for 1995. In Hawaii, 790 new cases and 140 deaths are estimated for this year. Prostate-specific antigen is a protease secreted almost exclusively by the prostate epithelium. Blood levels are increased when normal glandular structure is disrupted by benign or malignant tumor, inflammation, or trauma due to cystoscopy or biopsy. The serum PSA level is directly proportional to tumor volume, with a greater increase per unit volume of cancer compared with benign prostatic hyperplasia. However, PSA is not sufficiently sensitive or specific to be the ideal method of screening for prostate cancer. Approximately 25% of men with benign prostatic hyperplasia have an elevated serum PSA level. Conversely, not all prostate cancers give rise to an elevated serum PSA concentration. Approximately 40% of men with organ-confined prostate cancer who undergo radical prostatectomy for potential cure have a normal serum PSA value using the conventional reference range.

The standard normal reference range for PSA (Hybritech Tandem-R assay, San Diego, California) is 0.0-4.0 ng/ml. Myrtle et al derived the upper limit of normal in a population of 472 apparently healthy, asymptomatic men. No PSA values exceeded 10.0 ng/ml and 99% were less than 4.0 ng/ml. All men less than 40 years of age and 97% of men 40 years or older had a serum PSA less than or equal to 4.0 ng/ml. Recently Dalkin and co-workers conducted a study to refine the upper limits of PSA by age in men older than 50 years. The new upper limits were 3.5 ng/ml for the 50-59 year old group, 5.4 ng/ml in the 60-69 year old, and 6.3 ng/ml in the 70-79 year old men. Oesterling and colleagues also suggested a revision with age-specific reference values for serum PSA. The recommended upper normal values were 2.5 ng/ml for men 40-49 years, 3.5 ng/ml for 50-59 years, 4.5 ng/ml for 60-69 years and 6.5 ng/ml for 70-79 years.

The influence of ethnicity on serum PSA has not been well-studied. Oesterling’s study was limited to a population of white men. The possible link between PSA and ethnicity is suggested by data demonstrating differences in incidence and death rates.
between Asian, black, Hispanic, and white populations. As Asians represent the fastest growing minority group in the U.S., PSA normal value recommendations should be examined within the context of different ethnic groups in order to ascertain the effects of both age and ethnicity variables. This is especially important as the use of serum PSA values increasingly influence recommendations regarding referral and follow-up procedures for the diagnosis of prostate cancer. This pilot study was designed to assess the influence of age and ethnicity on serum PSA concentrations in Asian and white men living in the U.S. without a clinical diagnosis of prostate cancer.

**Methods**

**Patients**

Between October and December 1993, 1260 men who had serum PSA (Hybritech Tandem-R assay, San Diego, California) determinations at Straub Clinic & Hospital Department of Nuclear Medicine Radioimmunoassay Laboratory were initially identified as the cohort population. Patient name, age, and PSA concentration were obtained from the computer Laboratory Information System. The ethnicity of the patient was identified from the clinic and hospital computer demographic and schedule tracking system. The clinical diagnosis pertaining to disease of the prostate was obtained from review of each patient’s clinic chart. Men who had a PSA value less than 10.0 ng/ml and who had no diagnosis of prostate cancer were selected for analysis. Ethnic categories included Asian and white men. Asian included Japanese, Korean, Filipino, and Chinese. Those who had mixed ancestry among these groups were included as Asian. Those who had mixed ancestry between any of these groups and other groups were not included in the study. Anyone with mixed ancestry between white and other groups was also not included. The final population sample consisted of 885 (70%) men aged 40 to 79 years.

**Statistical analysis**

Regression analysis was accomplished with the Statistical Analysis System (SAS) software, Regression Procedure, using the multiple regression and stepwise regression models with PSA as the predicted (dependent) variable and age and ethnicity as predictor (independent) variables. The PSA values were log (natural) transformed in order to better meet the linear assumptions of the regression model. The regression procedure calculated the Y intercept and the slope of the regression line. From this information it was possible to compute the predicted increase in PSA per year of age, both in absolute and relative terms. The software also calculated the multiple regression coefficient squared which indicates the proportion of the variance in PSA that is accounted for by age and ethnicity. The SAS Correlation Procedure computed the Pearson product moment coefficients of correlation (r). This allowed paired comparisons of PSA and age and PSA and ethnicity. A p<0.05 was considered significant. The SAS software also calculated PSA means by different age and ethnicity groups and determined the cross-tabulations used in the analysis with 95% confidence intervals.

The mean + 2 SD was used as the upper limit of the estimated ranges for the serum PSA concentration for each 10-year age group.

**Results**

The PSA for the entire group of 885 men was 2.08 ± 2.0 ng/ml (mean ± SD) (Table 1). The mean serum PSA concentration for each 10-year age group increased with age at the 95% level of confidence. Between 40-49 years, 2 (2.8%) had a serum PSA greater than 4.0 ng/ml; between 50-59 years, 5 (2.8%); between 60-69 years, 51 (15.8%); and between 70-79 years 69 (25.7%) had a serum PSA above 4.0 ng/ml. Overall, 127 men (14.7%) had a serum PSA greater than 4.0 ng/ml. PSA correlated with age (r=0.31; p<0.0001). Age accounted for 10% of the variance in serum PSA (p=0.0001). Using the regression formula, serum PSA increased 2.5% (0.06 ng/ml) per year of age.

The study group was about equally divided between white (49%) and Asian (51%) cases. Nearly three-fourths of the Asian men were of Japanese ethnicity. There was no direct correlation between serum PSA and ethnicity (r=0.03; p=0.3201). Ethnicity accounted for only 0.1% of the variance in PSA. Mean serum PSA for each age-specific group increased with age in both the Asian and white men (Fig 1). For age groups 40-49 and 60-69 years, mean PSA for the Asian cases was higher than white at the 95% level of confidence: for age groups 50-59 and 70-79 years, for white men were higher than Asian (Table 2). The age and ethnic-specific serum PSA ranges are shown in Table 3.

**Discussion**

Reference ranges for serum PSA in the published literature were derived from various populations of healthy men without clinically evident prostate cancer. The validity of these parameters for the detection of early, and potentially curable prostate cancer have not been well-studied among the Asians. A possible link between PSA and ethnicity was suggested by a study conducted by Christmas, where the incidence of prostate cancer.

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**Table 1.—Serum PSA Concentration and Patient Distribution by Age**

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>Patient No.</th>
<th>PSA (ng/ml)</th>
</tr>
</thead>
<tbody>
<tr>
<td>40 - 49</td>
<td>71</td>
<td>1.03†</td>
</tr>
<tr>
<td>50 - 59</td>
<td>215</td>
<td>1.24</td>
</tr>
<tr>
<td>60 - 69</td>
<td>323</td>
<td>2.17</td>
</tr>
<tr>
<td>70 - 79</td>
<td>276</td>
<td>2.08</td>
</tr>
<tr>
<td>Total</td>
<td>885</td>
<td>2.08</td>
</tr>
</tbody>
</table>

*PSA indicates prostate-specific antigen
†Mean value
‡Numbers in parenthesis are the lower and upper values for the 95% confidence interval

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**Table 2.—Serum PSA Concentration by Age and Ethnicity**

<table>
<thead>
<tr>
<th>Age Group</th>
<th>PSA (ng/ml)</th>
<th>95% C.I.</th>
<th>PSA (ng/ml)</th>
<th>95% C.I.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asian</td>
<td></td>
<td></td>
<td>White</td>
<td></td>
</tr>
<tr>
<td>40 - 49</td>
<td>1.10†</td>
<td>(1.03, 1.17)‡</td>
<td>0.99†</td>
<td>(0.94, 1.03)‡</td>
</tr>
<tr>
<td>50 - 59</td>
<td>1.13</td>
<td>(1.11, 1.15)</td>
<td>1.36</td>
<td>(1.34, 1.36)</td>
</tr>
<tr>
<td>60 - 69</td>
<td>2.24</td>
<td>(2.22, 2.28)</td>
<td>2.09</td>
<td>(2.07, 2.11)</td>
</tr>
<tr>
<td>70 - 79</td>
<td>2.66</td>
<td>(2.65, 2.68)</td>
<td>2.73</td>
<td>(2.71, 2.75)</td>
</tr>
<tr>
<td>Total</td>
<td>210</td>
<td>(2.10, 2.11)</td>
<td>2.05</td>
<td>(2.05, 2.06)</td>
</tr>
</tbody>
</table>

*PSA indicates prostate-specific antigen
†Mean value
‡Numbers in parenthesis are the lower and upper values for the 95% confidence interval
The study population was selected from an arbitrary fixed time frame. This permitted a sample of the large patient population at the clinic and hospital undergoing a PSA test. The inherent biases of the cross-sectional study applied across the Asian and white groups and still permitted a valid comparison of the two groups. The inclusion of men with a PSA greater than 4.0 ng/ml but with prostate cancer not yet diagnosed could inflate the calculated mean PSA values and ranges; the effect on the correlation and regression analysis values would be slight in the estimation of the authors.

Data on patient prostate size were not included in this study. Adjustment of the serum PSA for the size of the prostate gland may help to distinguish men with early prostate cancer from those with benign prostatic hypertrophy. An ancillary study proposal to the National Cancer Institute Prostate, Lung, Colon, and Ovary cancer screening trial evaluating the risk relationship between PSA, prostate size, and ethnicity in patients from Hawaii was recently approved for the investigators of this study.

Serum PSA is currently the most useful tumor marker for the diagnosis of prostate cancer, and is a potentially important screening test. Intensive efforts by researchers to identify cost-effective screening strategies incorporating the PSA test are ongoing. This preliminary study contributes to the understanding of PSA variation among individuals at risk for prostate malignancy with respect to ethnicity.

In summary, PSA increases with age in Asian and white men without a clinical diagnosis of prostate cancer but who are at risk for malignancy. No apparent difference was found in serum PSA between Asian and white men.

### Table 3—Serum PSA Ranges by Age and Ethnicity

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Total PSA (ng/ml)</th>
<th>S.D.</th>
<th>Range</th>
<th>Asian PSA (ng/ml)</th>
<th>S.D.</th>
<th>Range</th>
<th>White PSA (ng/ml)</th>
<th>S.D.</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>40-49</td>
<td>1.0†</td>
<td>0.7</td>
<td>0.0-24†</td>
<td>1.1†</td>
<td>0.7</td>
<td>0.0-26†</td>
<td>1.0†</td>
<td>0.6</td>
<td>0.0-22†</td>
</tr>
<tr>
<td>50-59</td>
<td>1.2</td>
<td>1.0</td>
<td>0.0-33</td>
<td>1.1</td>
<td>0.1</td>
<td>0.0-27</td>
<td>1.4</td>
<td>1.3</td>
<td>0.0-39</td>
</tr>
<tr>
<td>60-69</td>
<td>2.2</td>
<td>2.0</td>
<td>0.0-61</td>
<td>2.2</td>
<td>2.0</td>
<td>0.0-62</td>
<td>2.1</td>
<td>1.9</td>
<td>0.0-59</td>
</tr>
<tr>
<td>70-79</td>
<td>2.7</td>
<td>2.3</td>
<td>0.0-72</td>
<td>2.7</td>
<td>2.2</td>
<td>0.0-70</td>
<td>2.7</td>
<td>2.4</td>
<td>0.0-74</td>
</tr>
<tr>
<td>All Ages</td>
<td>2.1</td>
<td>2.0</td>
<td>0.0-6.0</td>
<td>2.1</td>
<td>2.0</td>
<td>0.0-6.0</td>
<td>2.1</td>
<td>2.0</td>
<td>0.0-6.0</td>
</tr>
</tbody>
</table>

*PSA indicates prostate-specific antigen †Mean value ‡Range upper limit is mean + 2 S.D.

was shown to be particularly common among blacks in the U.S. and among Scandinavians, but rare among Japanese and other Asians. More recent cancer statistics show that age-adjusted death rates for prostate cancer reported between 1988-1991 were highest in Switzerland, Sweden, and Norway and lowest in Japan, Hong Kong, and China.

The increase in PSA with age demonstrated in this study has been observed by other investigators. There was no consistent difference in serum PSA between Asian and white men without a clinical diagnosis of prostate cancer. PSA did not correlate with ethnicity (r=0.03, p=0.3210) and ethnicity was not predictive of PSA (0.1% of the variance). From a practical standpoint, the mean PSA levels were nearly identical overall for the Asian and white men. The age-specific range of PSA values for the two ethnic groups were very similar. Statistical differences between Asian and white PSA levels fluctuated for the age-specific groups and there was no consistent trend.

The retrospective, cross-sectional nature of our study is inappropriate for deriving reference ranges for PSA concentrations. Although patients with a diagnosis of prostate cancer were excluded from the study, the sample population cannot be considered healthy and prostate cancer-free. The fraction of patients with an abnormal PSA using the conventional cutoff value of 4.0 ng/ml and no clinical evidence of cancer by digital rectal examination (DRE), transrectal ultrasonography (TRUS), and prostate biopsy is unknown. In addition, patients with a normal DRE and PSA cannot be excluded from harboring prostate cancer. The significant expense of TRUS makes its use in the routine evaluation of patients with normal PSA and DRE impractical in the clinical practice at the study institution.

The investigators of this study attempted to decrease the level of uncertainty of undiagnosed prostate cancer cases by excluding patients with PSA greater than 10 ng/ml in our final analysis. The rationale for this rests on the observation that individuals with such values distort the true population of normal men at large. In addition, men with values substantially greater than 10 ng/ml, and certainly values reaching the hundreds, have a higher likelihood of prostatic cancer.

### References

Computers. Very early Fred sensed the potential of computers in clinical research, and argued that they should be used directly in patient care rather than being limited (as they were then) to business activities. Here are some of his early statements.

Computers in Medicine: Emergence of a New Technology

by Fred I. Gilbert, Jr, MD


In the late 1950s, physicians began to consider the potential of high speed electronic computers with possible application to their day-to-day practices. Throughout the next decade, in a surge of research activity, computer firms, academic and practicing physicians, and even pharmaceutical houses sought to adapt this new tool to the practice of medicine. Practitioners attending medical meetings during the 1960s were a bit surprised, and often fascinated, to find computer-driven typewriters producing long printouts in the drug firm exhibit booths.

Despite impressive displays, enthusiasm for using the computer in diagnostic procedures was dampened by the realization that, if a physician diagnosed an exotic disease rarely encountered in practice, the computer would not be of much use in determining what confirmatory tests were needed. Other drawbacks became apparent. The high-speed printers were not that fast. They were also very noisy. The printouts were foreign to most physicians, with capital letters throughout. The programs and program languages were far beyond the understanding of most physicians and there was no way that he or she could write a program, or even modify an existing one.

By the early 1970s, the lively interest of both physicians and suppliers of the hardware and software had lessened—at least regarding the applications of computers to office practice.

Success in Clinical Labs

In other areas of medicine, however, computers have flourished. Clinical laboratories have made extensive use of computers. Blood counts are rarely made manually these days and small dedicated computers assist in the performance or reporting of numerous laboratory procedures. Business offices in outpatient and inpatient settings use computers extensively to link charges with diagnoses and procedures. In some settings, particularly in group practices, business office computers are linked directly to insurance carrier computers without bits of paper going back and forth between clinic and insurance carrier.

Coronary care units and intensive care facilities utilize computers to monitor heart rate, blood pressure, central nervous pressure, etc. Visual and auditory alarm signals are triggered if set limits are exceeded. The most dramatic use of computers in the past few years, of course, is in CAT scanning. Anatomic images are constructed from computer-analyzed data recorded for either x-ray beams transmitted through tissues or gamma rays emitted from organs under study.

New advances, new uses

The use of computers by physicians in their daily practices has been stimulated recently by technologic improvements—higher speed, quieter printers with upper and lowercase letters in printouts that closely resemble what a physician is used to seeing and microcomputers that use less space, cost less, and operate at high speed. More flexible, easy-to-use computer languages permit physicians, with minimal instruction, to write and modify their own programs and allow a new generation of physicians to be exposed to computers throughout undergraduate and medical school. Many of them have received part of their education and have taken examinations by computers interacting with various display devices.

Medical audit programs (MAP) have been used for years in most major hospitals in the United States to audit certain in-hospital procedures. Increasingly stringent legislative requirements to support diagnoses, procedures, and length of hospital stay by legible records has stimulated use of computers for at least part of these activities—particularly by physicians who have waded through hospital charts as part of their PSRO stint.

The complete computer-based record for inpatients and outpatients is still more than a little way down the road. A more limited database, including critical information such as diagnoses, procedures and results, and therapeutic outcome is within reach, and many institutions are collecting and storing portions of this data base in a useful, retrievable manner.

We have come a long way since the loud, unwieldy, and slow computers of a few decades ago. Physicians must be willing to work with developers of this new technology to see that it meets the needs of medicine.

The Ups and Downs of Computers

Fred I. Gilbert, Jr, MD


In the mid-1960s the computer-based medical record was just around the corner. For most internists, it still is. Why has it taken so long? It certainly hasn’t been lack of research and development funds. Industry and the federal government have spent millions to develop the software and hardware needed for computerized medical record systems. It hasn’t been lack of effort by capable and dedicated people like Colleen, Weed, Barnett, Hall, Oldfield, and many others. It hasn’t even been internists’ reluctance to entrust their most valuable tool, the medical history, to the computer; nor is it their reluctance to accept new technology. The rapid acceptance of CT scanning, radionuclide testing, and ultrasound procedures bear witness to the internist’s ability to understand and use the new tools to really prove helpful in defining a patient’s problem or assisting in care.

High Cost of Computers

Since the computer deals with numbers much better than with words, a major difficulty has been the nature of the medical record itself. It is obviously more complex than the financial record, which has successfully been transferred to the computer in many settings. For the medical records, many more charac-
ters, with far greater storage capability and more extensive programming are required, all at much higher cost.

The problems inherent in the updating of medical records are also much more complex than updating financial records. There are also other, more subtle difficulties in communicating with the computer, but cost is, or has been, the principle culprit.

The computer-based medical record is, at best, only marginally cost-effective. Portions of the medical record, particularly the reporting of procedures and tests, can be handled cost-effectively by computers. However, the complete medical record—history, physical, lab data, identification of solutions—is much more complicated and considerably more expensive for a computer to capture and to print in an acceptable form.

Here in Hawaii, our efforts to apply the computer to the medical record have produced a road map complete with the frustrations, detours, and successes for anyone who wishes to travel in the same direction. With or without a map, we would not recommend repeating the entire trip. In 1967 we produced an off-line punch card computer-assisted medical record for use in an automated multiphasic health testing system in a multispecialty group practice (The Straub Clinic in Honolulu). This was similar in many respects to Dr Morris Collen’s system at Kaiser Permanente in Oakland. The cost was fairly reasonable, but the turnaround time was slow, and the printout reflected its source; an obviously mechanical series of disjointed statements.

Two years later we moved to an on-line system developed by Oldfield and his group near Boston (Medidata-Searle). This was considerably more costly but had an almost immediate turnaround time. The reports generated more closely resembled the traditional record, but we were never congratulated by our fellow physicians on a well-turned phrase or solicitous syntax.

Problems Encountered

The computer programming and hardware limitations that we encountered made it a major problem to modify what went in and came out. The physicians at our clinic correctly recognized that they had little control over the medical record; after a decade they abandoned it and now use a self-administered medical history with only limited portions of the medical record assisted by the computer.

Dr Robert Nordyke has worked out a successful cost-effective computer reporting system for nuclear medicine procedures. Since this is an on-line system with immediate turnaround, reports can be signed and entered in the record right after the test is completed. Access to the computer occurs through an input-output terminal in the department.

After closely observing the cost and other limitations of our complete medical record system over the past decade, Dr Robert Worth, professor of public health at the University of Hawaii, has developed a computer-assisted medical record and billing system7 that has been field-tested in a small group practice in Berkeley, California and in the family practice department of the Kaiser group here in Honolulu. It may prove to be the most cost-effective of any system developed thus far. It produces a mini-computer hybrid record (part computer—part paper) designed primarily for outpatient office practice.

Deciding on the Computer Route

Computer-based medical records are still just around the corner, and the corner is closer than it was 15 years ago. If internists believe their medical records might be helped by the use of the computer, it is necessary to research the subject just as they would if they were confronted with an unfamiliar disease or a perplexing medical problem. That would be to ask an expert consultant for help or to go the available literature, or both. Joan Zimmerman PhD has neatly summarized the necessary steps that a physician should take before seriously considering purchase of necessary hardware and software in a recent JAMA article, “Are Mini-computers Appropriate for your Practice?”

If the internist stays in practice long enough, that decision eventually will have to be made.


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![Partial computer printout from combined billing and medical record system, developed by Dr Worth of the University of Hawaii School of Public Health.](hawaii-medicall-journal-vol-54-june-1995)
Computers in the doctor's office. It was Fred's long-held conviction that much of the information gathered at the point where physician and patient interact is lost, and that leaps of improvement in patient care can stem from retaining and retrieving that information. Computers are necessary to accomplish this. If retrieval is made easy, dozens of questions important to one's own patients can be answered, and it helps to stimulate and excite a practice that might otherwise seem repetitive and humdrum.

The following paper describes one of many possible approaches to organizing and simplifying daily practice while bursting into the wondrous world of continuous learning that lies beyond case remembrance. A surge of effort is required to develop the template. Once done, the rocket soars into exciting new territory. Needing only minor directional adjustments. With Dr. Gilbert's constant encouragement and involvement, we have accumulated a computerized data base containing detailed information on patients with thyroid disease. It has become a gold mine, allowing constant improvement in the care of patients. The best time to start this kind of activity was 35 years ago. The second best time is now. And it's fun!

Summary
Using the Computer in the Doctor's Office to Enhance the Quality of Patient Care

Robert A. Nordyke MD, Fred I. Gilbert, Jr, MD


"Science is built up with facts as a house with stones. But a collection of facts is no more a science than a heap of stone is a house."

—Jules Henri Poincare, 1908

Information gathered during office visits can be a powerful force for practice evaluation, education, and research. However, unless this information is stored and retrievable, access to it is lost. We describe a simple, inexpensive computer model we have developed over the past 30 years that has enabled us to organize, store, and retrieve data on more than 14,000 patients.

Much of the information collected routinely during office visits has potential value far beyond the management of the immediate medical problems. Most of this information is lost because it is neither gathered nor stored to make retrieval and analysis feasible. Physicians' records reflect their efforts to diagnose and treat individual patients. Neglected is the wealth of data on groups of patients, their trends, their outcomes, and alternative approaches to diagnosis and treatment. Patient records are rarely organized to permit administrative and quality control, clinical research, physician education, and continuous quality improvement in patient care.

To use all the information gathered, records must be retrievable. We describe our experience with a simple and inexpensive way to obtain, store, retrieve, sort, and use clinical data collected by the physician. Our method combines a paper worksheet with a desktop microcomputer and commercial software to retrieve otherwise inaccessible clinical information.

How Can the Computer Help?

Handwriting has the advantage of rapid turnaround time. The typewriter delays turnaround time but its advantage is "fierce legibility" that Henry James noted at the turn of the century. The typewriter's successor, the word processor, retains rapid turn-around and legibility. The computer adds completeness and retrievability. These features open up new possibilities for quality control and clinical research.

Thyroid Clinic Example

Since 1960 we have recorded history, physical examination, laboratory studies, clinical impression, and final diagnosis on a standardized worksheet for more than 14,000 patients referred for suspected thyroid disease. Subgroups of these patients have been followed for up to 30 years. In 1972, these data were computerized. Our model is for a physician's office seeing from five to 50 patients a day. These patients have similar problems that can be described in a relatively brief report. Such conditions are best found in the office of the subspecialist who sees patients for upper respiratory and GU infections, diabetes, arthritis, coronary artery disease, neurologic disorders, neck-back pain, peptic ulcer, pregnancy, and hypertension, and in such areas as periodic health appraisal. The model can be used in almost any practice but it is easier when much of the data is repetitive. It is more difficult when many of the workups are more complex. The model excels in long-term follow-up of chronic diseases which are becoming more frequent in medical care.

Worksheet.—The primary document is a printed worksheet with a follow-up flowsheet the physician takes into the examining room. This doesn't change the normal way of practice or the physician's relationship with the patient. The technique of gathering information and the computer do not intrude. The record may be organized in any way, including the problem-oriented medical record. The special characteristics of this worksheet are shorthand notations, completeness, flexibility, and flow-charting.

Shorthand notations are faster to use and simplify data entry into the computer. Examples are a line through a number if the item is negative, a circle if it is positive, and a modifier if it is needed.

Completeness is illustrated in the sector on thyroid palpation: if an abnormality is felt, the size, consistency, form, tenderness, and the presence or absence of nodules must be recorded. If there is a nodule, its size, consistency, form, mobility, and tenderness are recorded.

The ability to insert free-language at any point provides flexibility. Free-language is used routinely in the "chief complaint" and "comment" positions, but can be used throughout the sheet.

Flow-charting formats the follow-up records so the information can be checked at a glance-major problems and diagnoses, as well as each item of the patient's progress. A study by Freis measured the time it took to thumb through a standard chart versus a flowchart. The study showed the time was reduced from seven to two minutes for each patient.

The combined effect of these qualities is a reasonably complete data set organized to make storage and retrieval by computer possible.
Hardware.—From 1960 to 1972, information was transcribed to the patient’s chart from the worksheets. From 1972 to 1987 we used HP 2000, 3000, and 4400 minicomputers. Recently all data, including free-language and codes, were shifted to an IBM-PC-AT microcomputer with a 60 megabyte hard disk.

Software.—The original programming was in BASIC, which required a trained programmer to make necessary modifications. This was slow and costly. Later we changed to dBASE III Plus which greatly simplified the process.

Reports.—Coded and free-language data are entered into the computer by an aide. Data are used to produce a typed copy report for the patient’s chart (Fig. 5), ready within a few minutes, and are also stored for administrative control, research, and self-education.

Usefulness of the System

Data base.—The worksheet is fundamental to the success of the system because it provides the input to the data base for later retrieval. Care must be taken in its development. Usually, modifications are necessary before the worksheet is sufficiently complete and comfortable to use. The process of developing the worksheet improves recordkeeping and patient care because it requires decisions about what information is important to gather and retain and what is not.

Retrieval and sorting. This is the heart of the system. After data are entered into the computer they can be retrieved, sorted, and plotted. The physician may wish to do this or may prefer to use another person to extract needed information regularly.

Administrative efficiencies—Much of the immediate gain derives from administrative improvements: dictation is rarely needed, charts are not transported for transcription, patient information is always available, review of past history is shortened, reports can be complete and typed within minutes, and the record is in the patient’s chart promptly. Charges can be attached to each office visit and procedure to determine cost per visit, per year, per patient, or per group of patients with similar diagnoses and similar severity. Potentially, these data can be compared to data of other physicians.

Education and research—Both education and research are sharply expanded by the ability to review one’s own data. We have answered a number of questions from our own practice. For example: Can the sensitive TSH (IRMA) be used as a first-line test to detect hyperthyroidism as well as hypothyroidism? What additional information is gained by the FT4? What is the best use of the laboratory for monitoring patients with primary hypothyroidism? What is the optimal dose of 131I for a single-dose cure of hyperthyroidism? Is the cure rate affected by post-treatment use of antithyroid drugs? How do the signs and symptoms of hyperthyroidism change by age decade? What are the clinical characteristics and course of subacute thyroiditis in Hawaii?

Possibly, access to other data bases can be added to the system. However, the gains derived from observation of one’s own patients will remain more important for a long time.

Comment

Most physicians believe the quality of their patient care is high, but few have measured it or objectively compared it with that of their peers.

No matter how quality in the doctor’s office is defined, its improvement depends on easy access to information about the outcome of their efforts—individual patients, groups of patients, at the first visit, and over time. Records are the storehouse of that information but the records of most doctors are inaccessible. Practicing physicians rarely review records of groups of patients. If such a review is done, it is time-consuming, costly, and usually a one-shot effort that is soon out of date. This leads to nothing more than sporadic bursts of change.

To correct these deficiencies, records must be organized, retrievable, and easily analyzed. These tasks are best accomplished with the help of the computer. Until recently, computers have been used almost exclusively for administrative and financial functions, rarely being applied at the professional level in the physician’s office. This is unfortunate, since the doctor-patient interchange is the crux of professional quality. We agree with Houle that the “most fruitful education derives from continually monitoring one’s own work, making judgments about success or failure, and altering performance accordingly.”

In our model we have attempted to organize records so they lead to a continuing stream of improvements. The system is simple. Cost is reduced by using a worksheet, microcomputer, and commercial software.

Better ways to approach the problem of making information accessible will come later. For now, any physician willing to spend the time and thought on preliminary planning can develop a customized, computerized record system. The effort required to develop the system will be amply rewarded by gains accrued from easy observation of process, cost, and outcome in one’s own patients. This will lead to a new and higher level of continuing education and quality of patient care. Also, it’s fun.
Acknowledgments

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Selected Bibliography


Out of the thyroid database have come many studies, each changing the way we care for patients—diagnosis, treatment, and data-driven decisions. Brief abstracts provide the flavor.

Summary
Graves' Disease Influence of Age on Clinical Findings

Robert A. Nordyke MD, Fred I. Gilbert, Jr, MD, Ann S. M. Harada MPH


To determine the influence of age on the signs and symptoms of hyperthyroidism, we prospectively examined 880 patients and matched them by age, sex, race, and visit date with similarly examined euthyroid control subjects. Many signs and symptoms showed little change with age until after the fifth decade of life when they began to decrease gradually. Findings that increased with age were weight loss and atrial fibrillation, while those that decreased most markedly with age were increased appetite and weight gain. The diagnosis is more difficult as age progresses because there are fewer findings and because the significance of those present may not be appreciated. Identification of the most sensitive and specific signs and symptoms in each age decade should improve the early detection of hyperthyroidism.

Summary
Painful Subacute Thyroiditis in Hawaii

Robert A. Nordyke MD, Fred I. Gilbert, Jr, MD, Chris Lew MD


Between 1960 and 1982 we prospectively studied 269 patients with painful subacute thyroiditis to determine the demographic characteristics, seasonality, and natural course of the disease. The mean age for all patients was 37.1 years. The female:male ratio was 6.7:1. At the first visit, disease was bilateral in 69%. No epidemic or seasonal pattern was identified. The mean duration of thyroid tenderness was 2.2 months and that of palpable thyroid lumps was 2.8 months. This time difference, sometimes lasting many months, left a pain-free "window" during which the palpable hard residual mass of subacute thyroiditis may be confused with other thyroid problems, especially cancer.

The following bit of clinical research also combines the results from many patients. The questions arose during an after-hours discussion. Why are we routinely doing two tests for the detection of Hashimoto's thyroiditis?...The literature says they are both useful...So?...Nearly every laboratory routinely does two...So?...Has anybody ever considered doing just one?...Don't know....Hundreds are done each day in Hawaii...Yes...We do both on our own patients...Yes! Is it possible that one might be enough?...Don't know...Doing both doubles the cost, and every day hundreds of the double-testing are being done in Hawaii...Right...Let's find out if two are necessary...OK. Let's go!
In the next few months we discovered that only one is needed, cutting the cost in half.

Summary

The Superiority of Antimicrosomal Over Antithyroglobulin Antibodies for Detecting Hashimoto's Thyroiditis

Robert A. Nordyke MD; Fred I. Gilbert, Jr, MD; Linda A. Miyamoto MT (ASCP), CNMT; Katherine A. Fleury MT (ASCP), MBA


Background
Antimicrosomal (anti-M) and antithyroglobulin (anti-Tg) antibodies are commonly measured together to detect Hashimoto's thyroiditis. Since this nearly doubles the cost of testing for one antibody, we wished to determine whether significant diagnostic loss would occur if the two tests were replaced by anti-M alone.

Methods
Both tests were performed in 2030 consecutive patients referred by general internists and endocrinologists.

Results
With a positive result defined as either test being positive at a 1:100 dilution, anti-M was much more sensitive than anti-Tg. Anti-M was positive in 99% (823/831) of all patients with positive tests, while anti-Tg was positive in 36% (302/831). Anti-M was the only positive test in 64% of all patients with positive tests, while anti-Tg was the only positive test in 1%. With a cutoff point of 1:400 dilution, the results were similar.

Conclusions
Anti-M alone appears sufficient to detect autoimmune thyroid disease at about one-half the cost of routinely performing both anti-M and anti-Tg studies. The widespread practice of perform-
Simplifying the complicated. Collecting a large amount of data in the computer is just the first step. Analyzing it is another. Over and over, in hundreds of hours of thoughtful discussion with Dr. Gilbert, I was constantly reminded of his extraordinary ability to cut through chaff. In one instance we were laboriously trying to summarize the complex information on treatment of hyperthyroid patients with radioiodine that we had entered so carefully into our thyroid data base over 30 years.

He read what I had written, pushed it aside, and began to talk. Slowly he said (the words are burned in my mind), "The argument over how much radioiodine to use is confused by four widely-held flaws." Sensing that something important was about to be born, I reached for my pencil to take notes. "The first flaw," he went on, "is failure to recognize that most patients with hyperthyroidism eventually become hypothyroid regardless of the dose selected. The second is the unjustified confidence that gland size and tracer uptake are the key determinants in arriving at the proper dose. The third is overestimation of the long-term radiation risk at the dose levels we use." Long pause, gazing out the window. "But probably the most important flaw is that most physicians set the initial treatment of hyperthyroidism to achieve the goal of normal thyroid function rather than to cure hyperthyroidism. This often prolongs hyperthyroidism and doesn't prevent the ultimate development of hypothyroidism."

Suddenly the clarifying light flashed. That's it! The paper was redesigned and published shortly thereafter. A statement of the "flaws" unified it all.

Optimal Iodine-131 Dose for Eliminating Hyperthyroidism in Graves’ Disease*

Robert A. Nordyke MD, Fred I. Gilbert, Jr, MD

Summary and Introduction only.

Since hypothyroidism is commonplace after treatment of Graves' disease with radioiodine, the goal should be cure of hyperthyroidism rather than avoidance of hypothyroidism. To find the optimal dose to accomplish cure, we treated 605 patients with stepwise increasing doses of 3, 4, 5, 6, 8, and 10 mCi, analyzing the relationship of dose, age, sex, gland weight, and thyroidal uptake to cure. Estimates of cure at doses above 10 mCi were made from the literature. Cure was directly related to dose between 5 and 10 mCi. There was no significant relationship between cure and age (chi-square, p = 0.74), sex (chi-square, p = 0.12), and 24 hour uptake if over 30% (chi-square for slope, p > 0.10). Cure and gland weight had an inverse relationship (chi-square for slope, 0.01 < p < 0.02). We concluded that the optimal 131I dose for curing hyperthyroidism is approximated by starting with 10 mCi and increasing it for unusually large glands or for special patient circumstances.

Since 1941 when the first patient was treated with iodine-131 (131I), there has been widespread acceptance of radioiodine as a treatment for hyperthyroidism, but there has been no general agreement on the dose. The earliest and most widely used methods for dose calculation have been formulas involving estimated gland size, thyroidal uptake, and tracer retention in the gland aimed at bringing each patient to a normal metabolic state.

This approach, which continues to influence the treatment of hyperthyroidism with radioiodine, has several major flaws: failure to recognize that most patients with hyperthyroidism eventually become hypothyroid regardless of the dose selected, thus making the goal of achieving a permanent state of normal thyroid function unrealistic; unjustified confidence that gland size, tracer uptake, and retention in the gland are the key determinants in arriving at a proper dose; overestimation of the long-term radiation risk at the dose levels used; and setting the goal of therapy as normal thyroid function rather than curing hyperthyroidism.

Recognizing these flaws, some investigators have suggested that patients are best treated by a single thyroablative dose,
arguing that the aim is elimination of hyperthyroidism, that larger doses accomplish it with more certainty, and that the inevitable hyperthyroidism develops under physician control. This approach raises a new question: In the tradeoff between curing hyperthyroidism and the radiation risk, how much $^{131}$I is enough? To answer this, we examined the proportion cured (proportion of hyperthyroidism eliminated) for 605 patients with Graves’ disease treated at progressively increasing fixed doses of $^{131}$I.

**Large prospective studies.** Expensive long-term, randomized, double-blind, crossover studies are essential to settle some important questions, and Dr Gilbert’s teams have been involved in a number of federally funded ones. The Coronary Drug Project eliminated Atromid-S and D-thyroxine as cholesterol-lowering agents because they did more harm than good; the Systolic Hypertension in the Elderly Project determined that treatment of persons with this condition improved life expectancy. This broader approach to clinical research is exemplified by the Breast Cancer Detection Demonstration Project (BCDDP). To execute the 10-year venture successfully required innovative uses of highly trained non-physician personnel, constant quality monitoring, a high level of team coordination, and a lookout for improved technology and new ideas. Among the national centers, Dr Gilbert’s was the first to insist on using rare-earth radiologic screens which reduced radiation by 90%; this gradually spread throughout the U.S. At the end of the project he gave mammographic instruments to three hospitals that agreed to carry out low-cost screening for women of Hawaii.

**What Have We Learned from the Breast Cancer Detection Demonstration Project?**

Fred I. Gilbert, Jr, MD, Gloria Low MPH


Between 1974 and 1979, 10,000 women with no symptoms or suspicion of breast cancer entered a screening project to detect the presence of breast cancer in asymptomatic women. Of the 10,000 women, 181 breast cancers were discovered in 171 women during the five-year screening period. An additional 82 women developed 89 breast cancers during the five-year follow-up period.

Although preliminary analysis of this data has been published both nationally and locally, this article summarizes what we have learned from this project over the past decade and some of the unresolved issues. A similar report has been distributed via a final newsletter to the 10,000 women who participated.

The Breast Cancer Detection Demonstration Projects (BCDDP) raised the level of capability of early detection of breast cancer in Hawaii and the nation. It was started here in Hawaii early in 1974.

**Accomplishments**

For years we knew that some women were lucky enough to have had a minute breast cancer discovered and treated because it happened to be next to or in a biopsied lump. In the early 1970s, the Breast Cancer Detection Demonstration Projects brought to communities across the country the means to detect systematically these tiny, often microscopic, cancers through the use of the relatively new technique of breast x-ray imaging called mammography. Initially, personal physicians, surgeons, radiologists, and pathologists had difficulty in making decisions about suspected cancers that neither could be seen nor felt. However, increased use of mammographic units and technical improvements were paralleled by increased professional skills in both the diagnosis and management of breast cancer. Diagnosing smaller localized cancers resulted in more conservative forms of treatment that offered an alternative to radical mastectomy. This new knowledge was made available to women, enabling them to participate more actively in decisions regarding treatment.

In 1975, the Kodak Company developed the rare-earth screen that converts x-ray energy into light energy. The author (Gilbert) applied this to mammography in Hawaii’s BCDDP the same year. This new technique resulted
in an enormous reduction in radiation exposure without losing definition. These screens not only reduced mammographic radiation to 10% of what had been a previous low level, but also led to similar reductions in radiation levels in other procedures, such as x-rays of the chest.

While physicians improved their skills, nurses and x-ray technologists were trained and learned how to palpate the breast for possible tumors. This new skill was honed to a very high degree because these people received precise instruction on breast examination and then performed 20 or more examinations daily, month after month.

Utilizing these improved capabilities during the five years of screening, the BCDDP detected 181 breast cancers in women who were unaware that they had it. Although almost 45% of these cancers could be felt with the fingertips, an additional 42% were so small that they could be detected only by mammography. In any screening program, the first screening yields the largest number of cancers: 55 women of the 10,000 in the Hawaii project were found to have breast cancer during the first screening round (which took two years) and 41 during the second round. An average of 30 women were diagnosed annually thereafter, bringing the total to 181.

There is no question that mammography is a screening technique that can save lives. In these women, diagnosed with very early breast cancer, the five-year survival rate is 96%. This is very much better than the five-year survival rate of 71% in women with larger cancers and cancers that have spread to the lymph nodes.

**False Negatives and False Positives**

Screening techniques still are not perfect. Even with the best available skills and technology, and screening as frequently as every year, 13% of these 181 cancers were undetectable at screening but became evident within a year. At the same time, a high percentage of breast biopsies or aspirations, done as a consequence of the screening, turned out to be negative for cancer. Therefore, some women who ultimately are proven to be free of breast cancer may, because of suspicious findings on palpation or mammography, undergo emotional stress and the expense of biopsy, only to discover that the abnormal finding is not a cancer. On the other hand, a normal mammogram or a negative aspiration or biopsy may greatly allay fears about the presence of breast cancer.

**Screening Intervals**

The question of what is the appropriate interval between mammographic examinations still needs further evaluation. Recent studies in the Netherlands have shown an improved five-year survival rate, when screening mammograms were done 18 to 24 months apart. Of course, more cases could be diagnosed at an earlier stage if screening were done as often as every 12 months, but, so far, a 12-month interval between examinations has not been accepted by the majority of physicians or by women. Ten out of 11 women feel that x-ray examinations are probably too hazardous and too expensive to be worth the potential benefit. How often to have screening mammograms will depend on individual circumstances and the willingness of both individuals and society to pay for such examinations.

The true cost of a set of screening mammograms, under optimal conditions, is close to $50. However, the chances of finding a cancer in women at random risk are only about two out of 1,000. It ends up costing society approximately $25,000 per discovered breast cancer in women who have no signs or symptoms! This figure includes, in addition to screening mammograms, costs such as biopsies for false positives, extra office visits, and so forth, which amount to an average of about 10 times the initial mass screening cost. Obviously, we still need better ways to identify women at increased risk, and we need better and less expensive ways of detecting breast cancer, especially early and potentially curable breast cancer. Most of all, we need to know how to prevent breast cancer, which is only a faint hope at present.

**What Can a Woman Do?**

Until we can answer precisely the question of prevention, women can, for now, reduce the risk of breast cancer by following a general guideline for good health. Substances that are known to have detrimental effects on general health should be avoided. For example, it is known that fat women and women
who eat a high-fat diet are more apt to develop breast cancer. This suggests that a balanced diet without excessive calories, particularly as fats and oils, may not only benefit total well-being but also result in lowering the risk for breast cancer. Regular exercise and recreation contribute to weight control by burning up calories and providing a means of managing stress. Ineffectual management of stress does lead to overeating.

**Affordability of Screening Mammography**

The cost of mass screening for breast cancer is, in our opinion, still too high. As stated above, the actual cost of taking and interpreting a set of screening mammograms under nearly optimal conditions is about $50. By contrast, the cost of diagnostic mammography (when there is a suspicion of cancer) is about twice as much as screening mammography, but is often covered in part by insurance plans. The answer to high cost is neither government subsidy nor insurance coverage. Either course would merely shift costs, rather than reduce them.

Several factors influence the cost and hence the affordability of screening examinations for breast cancer. First and foremost, the cost of the test itself: Not only is the mammography equipment expensive ($70,000 or so), but so are the necessary services of highly trained personnel. Additionally, there are the expenses involved in following up suspicious findings, which often prove to be benign. Second, the frequency of screening: Annual screening can be more than a lot of women can afford. Finally, the site: The track record suggests that low-cost screening services are more likely to be available in a nonhospital setting or a facility that is specially set up for such services, utilizing volunteer help and other community support mechanisms, rather than a hospital or a private radiological laboratory.

Another factor to be considered is that the lack of any effective method of identifying women at high risk means that all women must be considered as at risk. Although there is a relatively high probability of a woman developing breast cancer during her lifetime (one in 11), there is a relatively low probability of her developing it in any one year (one in 400). Therefore, the ideal screening test for a disease such as this one would have to be very inexpensive so that it can be utilized repeatedly by all women over age 40. Unfortunately, such a test is not yet available. However, using the tests we do have, the BCDDP has demonstrated several cost-effective techniques of screening that reduce costs and increase quality at the same time.

The BCDDP has shown that trained, non-physician examiners can perform screening breast examinations very well. Specially trained technologists can distinguish normal mammograms from abnormal ones, thus permitting the radiologist to focus his attention on the abnormal ones. Women appreciate the opportunity that is also provided, to learn breast self-examination on their own bodies. Palpation and mammographic examinations of good quality require proper training, proper maintenance of the mammographic unit and monitoring of radiation, proper positioning of the screenee and processing of film, interpretation of films, and followup of suspicious findings. Moreover, the quality of the procedure depends heavily on the number of exams performed daily. Thus, a facility that keeps its acumen finely honed by a large volume of cases would be the place to have a screening done.

Although research will proceed on the question of optimal frequency and other issues, we feel that screening mammography should be offered to the public, while efforts to lower cost and improve efficiency continue.

**References**

Health Services Research

Task reassignment is an aspect of health services research. It seemed evident to Fred Gilbert that the tasks done by health care team members were often inappropriate. Physicians carry out simple, repetitive tasks that might be done as well or better by others who are well trained and supervised, leaving physicians to perform tasks more in keeping with their unique abilities. In 1969 he wrote: "The physician in the near future must function as a technician and accept this role, or he must function as a true professional creating new health workers where needed and organizing about him the new people and technologies to improve the health of his or her patients. If there is thoughtful consideration of the patient as well as the disease, patients will accept these new interfaces and all participants, including the physician, will be the better for it.

The following papers sample these ideas.

Screening of Chest Roentgenograms by a Radiological Assistant*

Robert G. Rigler MD, Fred I. Gilbert, Jr, MD

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Medical-legal roadblocks would first have to be lowered. But the extended use of paramedical personnel in the field of radiology could reduce the cost of medical care without compromising quality.

The demands being made on diagnostic radiology are increasing. Soon there will not be enough radiologists to meet the needs. This was the essence of the National Advisory Committee on Radiation's report to the Surgeon General in 1966.

With this in mind, the Straub Medical Research Institute decided to undertake a pilot program to train lay persons to screen survey chest roentgenograms in the Health Appraisal Center. If the program was a success, we might be able to ease the burden of our radiologists.

The Cost Factor

There were also obvious implications regarding the cost of medical care. Physicians in our health appraisal center use the results of a series of diagnostic tests to determine the overall status of an individual's health. In our radiological program, we use 100 mm photofluorograms of the chest, and cost is an important consideration.

The lower cost of the miniﬁlms and their lower storage and development costs outweigh the cost of the additional radiation that must be administered. We have found that the 100 mm films are as efficient as 14 by 17 films for survey and teaching purposes. However, we could achieve the greatest economy if we could utilize a lay reader instead of a physician to interpret the films.

Training

The individual who participated in this investigation had worked for three years as a secretary to a group of orthopedic surgeons and her mother was a registered nurse. She had no prior experience in medicine or radiology other than this peripheral exposure. At Straub Clinic, she first underwent a three-month probationary training period as a diagnostic technician. Her work involved performing tests such as height, weight, pulmonary function, vision, hearing, blood pressure, photomotograms, EKG, and taking chest photofluorograms.

It was not until this three-month period was completed that her interest in interpreting chest films was aroused, and she was chiefly motivated to undertake the pilot program through her own interest. However, her knowledge of radiographic technique was limited to taking photofluorograms.

Each day, for the next three months, she watched our radiologists and learned the basic concepts of chest film interpretation. She did not attempt to read the films herself. She simply listened and looked while the radiologist explained any abnormalities that he discovered in the course of daily interpretations.

At the same time, she spent many hours at home studying the details of normal and pathological anatomy of the chest from textbooks. She learned to distinguish some of the normal and abnormal physiological changes of chests studied in relation ship to roentgenograms, the changes due to chronic and acute disease, and to recognize abnormality and decide whether or not it was significant.

Study Methodology

At the end of the six-month period, we began a double-blind study to measure her newly found knowledge. Our assistant privately reviewed each film, recorded her interpretation and then sorted the films into negative and positive groups. Borderline findings were included in the positive group.

Then a radiologist conducted independent examinations and recorded his interpretations. The results were compared and discrepancies reviewed. The films could fall into five categories, which we used. This classification, incidentally, readily lends itself to computer analysis.

Results

With time and experience, the significant discrepancies made by the screening assistant began to diminish. The radiologist and screening assistant read 2,432 films over an intermittent period of 115 days. In that time, there were 57 significant discrepancies in their interpretations, a rate of 2.6%. There were 18 significant discrepancies, or 3.6%, for the first 500 x-rays that the assistant screened and 12 significant discrepancies, 2.4%, for the final 500.

The results of the study were heartening. They indicate that a well-motivated, bright person can be trained to recognize abnormalities in chest roentgenograms and to grade the significance of the findings.

From reading Garland's article on "The Reliability of Roent
ogen Survey Procedures," it can be seen that the consistency and performance of the trainee compared favorably with that of seasoned radiologists. The best of radiologists will have a significant rate of self-inconsistency with his or her own readings and rereadings of an identical large series of films.

There is also an attitude factor to be taken into account. The mood of the reader will have an effect on the number of positives and negatives that are called. For example, an individual in an optimistic frame of mind will tend to call fewer positives, and vice versa. Fatigue, distraction, boredom, and the wandering mind become factors also inherent in any mass screening situation.

When the double-blind portion of the study was completed, the assistant began to give the radiologist two distinct stacks of films. We found that she saved him one-half to two-thirds of the time that it had taken him to interpret and record the findings of the films before the program was instituted. For example, if it had taken him 30 minutes to view some 50 films, it now took him less than 15 minutes to complete this same number.

The attraction of this system is apparent. It eliminates the radiologist's tedious chores of recording and classifying and allows him to concentrate on those films which he knows show abnormalities and are, therefore, of particular interest.

Overview

The entire study and training program took 18 months and far exceeded that which would be normally expected under an intensive training program. One reason for this was that the investigation was essentially being conducted only for interest's sake during the initial stages.

Then, she was instructed by three radiologists during the 18 months. This is not fully desirable because each doctor has a different approach to interpretation. Consequently, the time taken to absorb the different methods was longer than if just one radiologist had been the instructor throughout.

In addition, she felt that she should receive training in anatomy and pathology. Although she might be able to observe an abnormality in the film, she would be unable to give an accurate anatomical description. She had never formally studied these areas.

<table>
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<td>Negative</td>
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<td>Abnormality of doubtful significance</td>
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<td>Significant abnormality (but no additional information likely to be gained by more films)</td>
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</table>

An intensive training program should take approximately three months, depending on the previous knowledge of the applicants. For example, the training period for a candidate who received some medical training in the armed services would be shorter than that for a high school graduate. Utilizing radiologic technologists for film interpretation has recognized merit. However, the demands placed on a radiologist's time for teaching must also be weighed. When the pluses and minuses of such a program are tallied, this factor must be subtracted from future benefits. Several assistants should be taught simultaneously. Training on a one-to-one basis may not be worthwhile.

Legal Responsibility

Until problems of legal responsibility can be clarified, physicians will be hesitant to allow any lay person, however competent, to render final diagnostic judgment in a separation of negative from positive chest roentgenograms. The American Society of Clinical Pathologists has made great forward strides in lessening the skilled manpower shortage by instituting the Certified Laboratory Assistants (CLA) and Cytotechnologists (CT) (ASCP) Programs years ago.

Perhaps it is time for organized radiology to follow suit and develop standardized courses, requirements and a proficiency examination for a Certified Radiological Assistant Program. The economic implications are obvious. The extended use of paramedical personnel in the field of radiology could reduce the cost of medical care without compromising quality.

References


* Supported in part by NIH grant number 599021-03-70
Allied Health Personnel in Cancer Detection

Utilization of Proctosigmoidoscopic Technicians in Detecting Abnormalities of the Lower Bowel

Fred I. Gilbert, Jr, MD, James W. Cherry MD, Donald E. Downing, and Richard J. Anema

Reprinted from Cancer (Suppl), 1974;33:1725-1727.

The use of allied health personnel in early cancer detection was precipitated by an involvement in automated multiphasic health testing at the Straub Clinic in Honolulu, Hawaii. The Health Appraisal Center itself evolved out of the conviction that it was absolutely impossible for physicians on a one-to-one basis to screen large numbers of apparently well individuals for significant disease. Internists, in particular, were most outspoken about the misuse of their time in repetitive, low-yield diagnostic maneuvers. They felt that properly trained technicians and nurses could do much of what they were doing. Accordingly, high-school graduates with little or no medical background were trained to do basic procedures such as vision and hearing tests, venipunctures, and simple laboratory tests such as hemoglobin and urinalysis. They were also trained to take and screen-read electrocardiograms and chest roentgenograms. The registered nurses were trained to perform screening, physical examinations for the presence or absence of abnormalities. This included a Pap smear for carcinoma of the cervix, and palpation of the breast. The nurses also gave the patients instructions on breast self-examination.

Patients over 39 years of age were routinely referred from the HAC for proctoscopies. The gastrointestinal surgeon who performed the majority of the proctoscopies soon found that a great deal of his time was being spent in routine proctoscopies with resultant decrease in time available for major abdominal surgery. Also, the economics of having a highly trained surgeon perform routine proctoscopies on asymptomatic patients did not work out to the advantage of either patient or physician. The charge for the proctoscopic examination was almost the same as for an entire examination in the HAC. It was decided that a person with some medical background could be trained to do routine proctoscopies. A former Army corpsman commenced training for this position in March 1969.

Training the Proctosigmoidoscopic Technician

It was anticipated that a training period of approximately 6 months would be necessary. However, since the trainee had previously worked in a medical environment, he readily adapted to the clinical setting. Within 3 months, he had acquired a technical competence in proctoscopic examination that was comparable to that of his physician preceptor. His training included formal discussions with the physician, study of pertinent literature, observation of proctoscopies and, finally, actual performance of proctoscopies under direct supervision of the physician.

The technician's responsibilities included administration of enemas to male patients, explanation of proctoscopic procedures to all patients, performance of proctologic examinations on asymptomatic or minimally symptomatic patients, and scheduling patients for necessary laboratory and roentgenographic studies. He also took the initial history pertinent to the ano-rectal problem. On symptomatic patients, the physician performed the proctoscopic examination, and the proctoscopic technician observed the procedure and the pathology, if found.

After performing 2515 proctoscopic examinations over a period of 18 months, the technician participated in training his replacement, another corpsman, who underwent a similar training. The latter conducted more than 4000 proctoscopic examinations in the 28 months he has been with the clinic. Boredom became a real problem for the technician after he performed some 2000 proctoscopies. Assisting the supervising physician in the operating room with further responsibilities in care of patients now relieves
Table 1.—Pathology Found in 1972, Ano-Rectal Clinic, Straub Clinic and Hospital, Inc.

<table>
<thead>
<tr>
<th>Pathology</th>
<th>Technician</th>
<th>Physician</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemorrhoids</td>
<td>378</td>
<td>202</td>
</tr>
<tr>
<td>Fissure and anal ulcer</td>
<td>59</td>
<td>82</td>
</tr>
<tr>
<td>Carcinoma</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td>Mucosal excrecence</td>
<td>61</td>
<td>20</td>
</tr>
<tr>
<td>Proctitis</td>
<td>12</td>
<td>21</td>
</tr>
<tr>
<td>Hypertrrophic and papillae</td>
<td>81</td>
<td>20</td>
</tr>
<tr>
<td>Carcinoid</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Villous adenoma</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Polyps</td>
<td>75</td>
<td>59</td>
</tr>
<tr>
<td>Ulcerative colitis</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td>Unspecified</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td>Pruritis ani</td>
<td>13</td>
<td>2</td>
</tr>
<tr>
<td>Baron ligation of hemorrhoids</td>
<td>25</td>
<td>55</td>
</tr>
<tr>
<td>Melanosis coli</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Diverticula</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>Followup carcinoma</td>
<td>2</td>
<td>35</td>
</tr>
<tr>
<td>Total asymptomatic</td>
<td>1074</td>
<td>553</td>
</tr>
<tr>
<td>Total proctoscopies</td>
<td>1801</td>
<td>1099</td>
</tr>
</tbody>
</table>

Table 2.—Patient satisfaction with Proctosigmoidoscopies and Associated Care by Proctoscopy Technician

<table>
<thead>
<tr>
<th>Degree of satisfaction</th>
<th>Number of patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very satisfied</td>
<td>39</td>
</tr>
<tr>
<td>Moderately satisfied</td>
<td>7</td>
</tr>
<tr>
<td>Not satisfied</td>
<td>0</td>
</tr>
<tr>
<td>Total patients interviewed</td>
<td>46</td>
</tr>
</tbody>
</table>

Of the 46 patients interviewed, 7 had previous proctosigmoidoscopies by a physician. These patients were asked to compare the care received by the technician with that of the physician. The results are as follows:

<table>
<thead>
<tr>
<th>Comparison of technician-administered proctosigmoidoscopy vs. physician-administered proctosigmoidoscopy</th>
<th>Number of patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Better than physician</td>
<td>3</td>
</tr>
<tr>
<td>Same as physician</td>
<td>3</td>
</tr>
<tr>
<td>Not as good as physician</td>
<td>1</td>
</tr>
</tbody>
</table>

Cost

The cost of the proctoscopic examination to the institution per visit is approximately $8.70 for the procto-technician, not including physician supervision, as compared to $14.70 for a proctoscopy performed by the physician.

Acceptance

Probably the best guide to patient acceptance is the willingness of patients to return in subsequent years for a proctoscopy by the technician. We have had several informal guides as to patient acceptance, the first from the supervising physician who notes that the proctoscopic technician in general takes more time with the proctoscopic examination, and includes what might be termed vocal anesthesia in discussing the procedure with the patient prior to and during the examination. The supervising surgeon has noted a very high level of patient acceptance in having the procedure done by the proctoscopic technician. On scheduling the patients for a subsequent proctoscopic examination, the referring physicians have observed no reluctance to having the procedure done by the technician. To put this in more objective terms, registered nurses who were trained interviewers not associated with Straub Clinic interviewed a sample of the patients. Of 46 patients interviewed after the procedure, none was dissatisfied with the proctoscopy being performed by the technician (Table 2).

Summary

Proctoscopic examinations on the apparently well or minimally symptomatic individual can be safely conducted by individuals with corpsman background, who can be trained to levels of competence within 2 to 3 months. No complications were noted in 6500 proctoscopies performed by technicians over a 4-year period. This has produced a savings to the patient and institution, with a patient acceptance equal to that of having the procedure performed by a physician. As expressed by Dr Joseph Strode, one of the most respected senior surgeons in Hawaii, "Any clinic faced with the problem of routine proctoscopic examinations in a significant number of individuals would do well to enlist the services of a properly trained technician."

References


Results of the Proctosigmoidoscopic Examinations

Table 1 illustrates pathology found by the physicians and technicians in 1972. Although there were 3 carcinomas found by the technician, compared with 13 found by the physician, it is to be remembered that symptomatic patients were referred to the physician, and asymptomatic patients to the technician. Similarly, no cases of ulcerative colitis were found by the technician, whereas the 15 cases found by the physician were originally referred to him as symptomatic patients, and most had the diagnosis of ulcerative colitis at the time of referral. Both physician and technician attempt to introduce the proctosigmoidoscope 25 cm without producing undue discomfort to the patient. Both reach this depth in slightly over one-half of the patients examined.

this boredom and reduces the possibility of lapse in quality of the examinations.
The Health Appraisal Center (HAC) was another example of health services research, emphasizing task reassignment, innovative use of technology, and computer-controlled information-gathering rolled into one system. It is described in a series of reports on automated multiphasic health testing at Straub. As developed by Dr Gilbert’s group in the mid-1960s with the aid of a $150,000 NIH grant, the central idea was to improve the quality and efficiency while reducing the cost of periodic examinations of patients who were “apparently well” or had stable chronic diseases. They needed complete health reviews or updates, but their numbers were overwhelming clinicians.

HAC’s elements were a computer-patient interactive branching history; physical measurements and blood drawing by aides in the unique “Hawaiian carrel”; ECGs by technicians who screen-read them; physical examinations including Pap tests, rectal examinations, and sigmoidoscopies by nurse practitioners; and review by physicians after data-gathering. At each juncture printouts of positive findings were spewed out from the imposing PDP-40 computer housed in a 12-cubic-foot air-conditioned room that did the same work as a little laptop does now. The time was one hour, the cost $30.

The HAC functioned steadily at 25 to 35 patients daily for 11 years, but its value was not widely appreciated, partly because of a fee-for-service environment. It was complete, complementary, and timesaving to physicians who used it but directly competitive to those who didn’t. Its rebirth as an integral part of ongoing patient care will most likely occur when managed care expands.

Health Exam Plans

Tomi Kaizawa Knaefler

Reprinted from the Honolulu Star Bulletin, August 16, 1967

The Straub Clinic’s revolutionary physical examination plan that will go into effect later next month was unveiled today, oddly enough, in Stockholm, Sweden.

The plan was presented before the Seventh International Conference on Medical and Biological Engineering by Dr Fred I. Gilbert, Jr, who co-authored the blueprint with Dr R.A. Nordyke.

The new plan, designed for the apparently well individual, is tailored to provide comprehensive examinations in a minimum of time, with a maximum of efficiency.

The cost, however, is expected to remain pretty much the same as under the existing system.

Eventually, Straub Clinic physicians believe the new plan will bring physical examination fees down, or additional tests will be added, enabling patients to get more for their money.

An average pre-employment physical today costs about $15. The price for periodic physicals varies greatly—from a $15 more-or-less quickie to a $75 to $100 executive royale.

Initially, the plan will be geared to meet the needs of persons needing pre-employment or periodic physicals. Later, the program may be expanded to provide diagnostic procedures for the sick.

Under the plan, an apparently well individual will start by answering (multiple choice or yes-no) questions pertaining to general medical history on an automated reader.

Then, the patient will sit in a cubicle and undergo tests, including vision, hearing, respiratory function, thyroid, EKGs, blood pressure, chest x-rays, blood and urinalysis, conducted by diagnostic technicians. All that will be done within the cubicle area.

From there, the patient will walk a short way to an examining room, where a registered nurse specializing in diagnostic medicine will conduct an initial physical evaluation and summarize the test findings.

It is only at this point that the doctor will enter the examination and perform selective tests based on the findings and make recommendations.

Dr. Nordyke and Gilbert point out that the plan will relieve physicians from doing many routine measures that they now perform and, theoretically, they’ll be able to spend more time studying patients and talking over problems with them.

To accommodate the plan, the Straub Clinic is now renovating the entire second floor of the Palma Building, where the test procedures will be concentrated.

The new setup will enable a patient to be comprehensively examined in about an hour. Under the existing non-concentrated

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HAWAII MEDICAL JOURNAL, VOL. 54, JUNE 1995 622
system, a patient has to spend well over a half-day for a thorough physical.

The doctors expect to examine about 50 patients a day by the end of the first year and double that number eventually.

In addition to increased efficiency and maximal utilization of staff, the Straub doctors point out that computers would be used for data processing.

This will enable doctors to retrieve individual information quickly and accurately and to compile various summary data for research purposes.

Drs Gilbert and Nordyke worked out of Straub Medical Research Institute for the project, which, they believe, will relieve today’s paradoxical problem of considerable magnitude the hordes of apparently well individuals needing examinations.

They state that physicians now are bogged down with routine procedures and frustratingly engaged in high-cost, low-yield diagnostic maneuvers.

The Straub doctors rejected the fully automated multi-test procedures now being tried in several areas because of high per patient cost factors and the absence of the non-programmed human element so essential in medicine.

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**Multiphasic Screening Cut Down to Size**

Fred I. Gilbert, Jr, MD

Reprinted from Medical World News. 1968;60-61

A group practice in Hawaii has demonstrated that it doesn’t take a lot of elaborate apparatus and huge outlays of money to set up a semiautomated unit for screening apparently well patients. Such a facility, the group’s director contends, is within the reach of many physicians.

"Doctors tend to view multiphasic health screening only in terms of expensive equipment requiring large numbers of highly trained personnel," says Dr Fred I. Gilbert, Jr, director of the Straub Medical Research Institute in Honolulu. Such physicians usually think of the assembly-line type of operation used at big diagnostic clinics, where a patient goes through some 20 stations for a head-to-toe examination. "But there is another way."

At the Straub Clinic—a group-practice, fee-for-service clinic of 60 doctors that handles about 1,000 patients a day—the machines are, in effect, brought to the patients rather than the other way around. The six-foot-square room known as a carrel after the library term meaning a place for individual study—contains a photomotograph for evaluating thyroid function, a Vitalor machine for measuring respiratory function, an ECG, an audiometer, a sphygmomanometer, calipers for measuring fat, and a sight scanner. The cost of setting up one such carrel, which can handle 25 patients a day: $5,000.

Group practices involving even as few as four internists would find the system particularly useful, Dr Gilbert believes. Larger groups can simply increase the number of carrels used. In the Hawaii clinic they have four of the screening units. And if a group’s doctors should decide to invest in a very expensive machine, they can have it serve several carrels by means of connecting cables.

The carrels at the Straub Clinic have proven to be economical in several ways, says Dr Gilbert. First is the saving in employees. Instead of marching the patient to a dozen or more people who each manipulate some testing device, a single diagnostic technician performs all the tests conducted in the carrel. One person can handle almost everything, Dr Gilbert notes, because the machines are relatively simple to operate and have built-in quality controls.

Second, the clinic physicians did not choose the most sophisticated hardware possible but only the machine that would suffice to do the job they want. "And if people can do the job better, faster, and for less money than machines, we use people," says the Honolulu internist. "For example, we find that interpretations of ECGs can be done more accurately by a diagnostic technician and electrocardiographer than by any existing machine."

Third, the multiphasic unit cuts costs by not tying the equipment directly into a computer for immediate recording. Instead, the screening unit feeds the test data twice a day into a computer used by the entire clinic.

Before a patient sees the diagnostic technician in the carrel at Straub Clinic, he fills out a medical history questionnaire and has his chest x-rayed. Later, an RN specially trained in diagnostic medicine examines the patient for gross physical abnormalities and such diseases as glaucoma. An internist then checks the findings of the nurse and the diagnostic technician and does any physical examinations he feels are warranted. At this point, he may call in another specialist. Meanwhile, a laboratory technician carries out biochemical tests on blood and urine samples in a minilab that is equipped with an AutoAnalyzer.

The entire procedure, from history questionnaire to examination by a specialist if indicated, takes about one hour for a person in his thirties. If he is over 40, it takes another half-hour because additional tests are done. The price to the patient varies from $15 to $50, depending on the extent of the examination.

The health-appraisal unit in the clinic is open to all 60 doctors in the group and to any other physician in the Honolulu area who wishes to refer his patients for the screening procedure. "Physician acceptance has been excellent," says Dr Gilbert. To help the referring doctor make the best use of the screening program, the clinic sends him a tentative diagnosis based on the test results
and also suggests any other diagnostic tests that seem to be indicated.

Dr Gilbert would like to see similar carrel units set up through­out Honolulu and elsewhere, so that all physicians can have testing facilities near their offices. He says the carrels in his clinic are “suitable for both large and small populations and can be fixed or mobile. I believe they set the direction that most multiphasic screening units will take in the next few years.”

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The Hawaii Carrel—
A Modular Approach to Multiphasic Screening

Fred I. Gilbert, Jr, MD


This presentation is a review of the developments of multiphasic screening for chronic disease as conducted in the multispecialty group practice that I am associated with in Honolulu, Hawaii. My personal interest in this field began in 1951, shortly after I joined the Straub Clinic. I found that along with a number of my colleagues, especially in the fields of general practice, internal medicine, and pediatrics, I was spending approximately 25% of my time caring for the well rather than the sick. Also, I observed that most of us approached the examination of the apparently well in much the same manner that we dealt with the obviously sick. We did what we were taught to do in medical school. We would record the chief complaint, family history, past and present illnesses and perform a physical examination and then order certain laboratory procedures. Diagnoses were arrived at after the results of the laboratory tests were known and then certain recommendations were made. We physicians who were actually doing these examinations frequently found ourselves functioning more like clerks and machines than as physicians. Repetitively going through various diagnostic maneuvers and sorting through piles of normal laboratory reports does not sharpen diagnostic abilities. In short, the periodic health appraisal examination, as was conducted during that era, wasted considerable time of both the physician and the patient. In 1951, we introduced the Cornell Medical Inven­
booth to give free tests to anyone who requested them. We included such procedures as chest x-ray, EKG, hemoglobin, white blood count, vision and even blood typing. Although this was an operational success, it had one major defect: It was directly linked to primary patient care. It presented the physician with the results of a number of unsolicited tests, which, in some cases, indicated the possible presence of a condition which had in fact been under treatment for several years. This experience led to the conclusion that if multiphasic testing were to be of real value, it had to be done close to the mainstream of medical care and should be conducted close to the physician or group of physicians responsible for the comprehensive care of the individual. The physician responsible for the patient’s care should have much to say about who is to undergo multiphasic screening, what tests are to be done, and how often the tests are to be performed.

Throughout the 50s and 60s, we also watched with interest the progress of Dr Morris Collen2,3 who was refining multiphasic screening techniques at the Kaiser Hospital in Oakland, California. He introduced two very important factors during this period: Automation of multiphasic testing equipment and improved quality of the examination.

In 1966, with the assistance of a National Institute of Health grant,4 we were able to further define our concepts of what we thought multiphasic testing should be. Although we admired Dr Collen’s achievement and borrowed many of his ideas, We took a slightly different pathway in our design of a multiphasic screening center.

The Kaiser Multiphasic Health Screening unit is the prototype for a number of units including the four large U.S. Public Health Service centers. It is designed basically as a multistation semiautomated multittest laboratory, which is dependent upon a large volume of patients for efficient operation. Our approach in Hawaii differs in two respects. First of all, we substituted modules for multiple stations, and we utilized specially trained registered nurses to perform the physical examination at the time of the screening procedures. This approach made it possible to conduct multiphasic examinations without large patient volume and to present a report to the physician that included a screening physical examination with a tentative statement of the medical problem and a suggested solution. Several improper uses of other professional personnel soon became evident. While we were using the clinician’s time more effectively, we were wasting the radiologist’s and roentgenologist’s time in reading routine EKGs and chest x-rays. (The pathologist had long ago anticipated us by having a technician screen Papanicolaou tests of the cervix for the presence of abnormal cells). We therefore started a program to train technicians to screen EKGs and chest x-rays for deviation from normalcy. Thus far, one technician has read over 5,000 chest x-rays with a missed lesion error of 5.4% on the last 1,300 reviewed. This compares favorably with two similarly trained technicians in California who missed 4% and 8% respectively. Staff radiologists at the University of California Medical School missed 6% of known lesions.5

One of our technicians has read over 10,000 EKGs over the past two years with less than 17 missed abnormal records in the last 250 reviewed. Review of 1,000 consecutive physical examinations performed by registered nurses and MDs6 revealed that the registered nurses performed as well as the MDs except in one area. In auscultation of the heart, the registered nurses heard three times more faint high-pitched systolic murmurs than the MDs (audiograms performed on the registered nurses in their 20s and MDs in their 40s and 50s revealed that all of the MDs had high-frequency-hearing defects.)

The registered nurses incidentally also take a cervical smear at time of bimanual palpation of the pelvic structures. Richard Anema, a former army corpsman, has been trained by Dr James Cherry of the surgical department, to perform routine sigmoidoscopies and now is undergoing training to do gastroscopy.

A high school graduate can be trained to operate all of the diagnostic hardware utilized in multiphasic screening in three to six months and a registered nurse can be trained to perform a screening physical examination in the same period of time. Quality control must be an integral part of multiphasic screening and with diagnostic technicians, registered nurses and physicians, is accomplished by peer review and consultations.

Just as the diagnostic technicians have advanced from merely running the diagnostic hardware to giving a screening interpretation of the tests such as EKG and chest x-rays, the registered nurses in the health appraisal center are now directly managing the care of patients with high blood pressure and obesity, and will soon care for patients with other chronic diseases such as diabetes and arthritis. The physician’s role in the nurse management of patients with chronic diseases is one of programming the protocol to be followed and availability for consultation by the registered nurse or patient.

In our unit the cost of the examination varies from $15 to $50 dependent upon the age and sex of the patient, and procedures performed.

The medical data is fed into a computer (IBM 360/30) via punch card, stored on magnetic tape and printed out in a format similar to that of a traditional medical work-up. We are presently using a linear off-line data system but in August of this year will convert to a branching on-line data system.

In summary, by appropriate use of specially trained technicians, registered nurses and physicians; a high quality, computer stored modular multiphasic examination can be performed in a clinical setting with high and low patient volume for an average cost of about $30.

References
4. The research activities of this project were supported in part by a grant (80021) from the National Institute of Health, Periodic Examination of Apparently Well Individuals.
Comparison of Health Appraisals by Nurses and Physicians

Kane Kaku MD, DMSc, MS; Fred I. Gilbert, Jr, MD; Ralph R. Sachs MD, MPH


A three-month special training program enabled nurses in a multiphasic screening unit to perform relatively accurate physical examinations.

Traditionally, physical examinations in health appraisal have been performed only by physicians. With the increasing numbers of physical examinations as prerequisites for employment or insurance and yearly physical examinations of relatively well persons, physicians are finding it difficult to meet the demand for physical examinations and also maintain quality care of their patients. To cope with this increased demand, efforts have been made to use registered nurses in health appraisals of adults and children throughout the United States.1-3 Although physicians have traditionally delegated many patient care responsibilities to nurses and more recently to medical assistants, they have expressed reluctance to permit physical examination by the medical assistant. Nurses’ participation in health appraisal has been largely in assisting in taking patients’ histories and performing certain technical procedures.4,5

A health appraisal center was instituted in September 1967 at the Straub Clinic, a private multispecialty fee-for-service group practice, located in Honolulu, Hawaii. The procedures followed in this unit include the following:

1. Self-administered medical history.
2. Diagnostic tests of vision, hearing, respiratory function, and Achilles’ reflex time; electrocardiogram, blood pressure, chest x-ray, and urinalysis.
3. Screening physical examination.
4. Automated laboratory tests, including studies of blood chemistry and blood cells counts.
5. Follow-up of persons with questionable or abnormal findings or both.

The director of health appraisal center believed that nurses with additional in-service training could be taught to perform screening physical examinations without loss of quality. Thus, in June 1968, four nurses employed at the health appraisal center were selected to participate in the in-service training program for approximately 3 months. Their training consisted of on-the-job supervised physical examinations and attending sessions with students at the University of Hawaii School of Medicine.

Following this training period, these nurses were assigned to perform the screening physical examination, review patients’ histories and results of their laboratory tests, and make tentative recommendations for decision by physicians. The purpose of this study was to analyze and compare the quality of the physical examinations performed by nurses with those performed by physicians.

Summary

A comparative study of four registered nurses’ and seven physicians’ observations in the health appraisal of apparently well persons was undertaken by reviewing and evaluating 1,000 patients’ records. The objective was to see how well nurses who received 3 months of additional service in training could perform physical examinations and make diagnoses. The physicians’ examinations were the criteria for determining the accuracy of the nurses’ findings.

In 10.3% of the 16,000 independent variables, there was positive concurrence of findings by the physician and the nurse. Both the physician and nurse concurred that there was no finding in 70.3% of the variables. In 5% of the variables, the physician found a sign or symptom that the nurse did not. In 14.4% of the variables, the nurse found signs by the physician did not. Nurses had a tendency to record findings more completely than physicians. These notations generally pertained to observations of skin pigmentation and scars as well as auscultation of functional heart and breath sounds.

In view of the results of this study, there were few serious differences in recorded findings when the nurses and the physicians examined the same patients. For further validation of this observation, more fully controlled studies will be necessary.

References

Nurse-managed Clinics. Other examples of health services research are the 12 nurse-managed doctor-supervised chronic disease clinics started at Straub Clinic in 1971 to 1973 with the aid of a federal grant. As noted in the following paper, they “would seem to be unnatural in a fee-for-service setting.” Despite this, they flourished for a decade. Some remain but most gradually died. However, the principle is solid and the growth of capitation and managed care could see a flowering of such clinics. Dr Melvin Levin’s Gout Clinic was one of these.

Share-Care Clinics

Robert A. Nordyke MD and Fred I. Gilbert, Jr, MD

Reprinted from The Changing Health Care Team. MCSA, Seattle, Washington @1976

Introduction

In the years 1971 to 1973, we received a grant for a project entitled, Use of Allied Health Personnel in Management of Chronic Diseases. The project’s specific aim was to establish and evaluate non-physician-managed clinics for the long-term care of patients with chronic diseases as encountered in a fee-for-service, multispecialty group practice. Twelve of these
Share-Care Clinics (a name given to them by Walter Strode MD, of the Straub Clinic and the Hawaii Health Net) were started.

It took a great deal of time, money, effort and report-writing to initiate the Share-Care Clinics which have continued without outside funding since 1973. This paper will address the following questions:

- Why did the Share-Care Clinics start at all?
- What happened when they were released to fly on their own?
- How do the Share-Care Clinics compare at the end of 1975 with their status at the end of 1973?
- Which ones did well and why?
- Which ones did poorly and why?
- And, lastly, what have we at Straub learned from these experiences that is generally applicable to other practice settings?

Background of the Straub Clinic

In 1971 the Straub Clinic was 50 years old with a 78-member physician staff, seeing about 1,000 patients daily. Six years earlier, in 1965, a crisis had developed regarding physician time. Each internist was doing routine histories and physical examinations on 1 to 6 persons daily. The time needed for these routines plus the time spent examining apparently well people cut drastically into the physician’s abilities to care for sick patients.

The initial response to this time crunch was to add another internist to handle the patient load, even though the addition of a physician to the organization had never been shown in the past to reduce the number of routine examinations being done by any other physician.

Therefore, as an alternative, it was decided to develop an automated, multiphasic health testing (AMHT) area the Health Appraisal Center—with the goal of using as much allied health personnel and computer aid as possible. It has been very successful. Started in 1967, it regularly screens 30 to 40 patients daily.

The creation of the Center did lessen the physician load, and still does. But this solution created a new problem. The efficiency of the automated screening system uncovered increasing numbers of persons with chronic disease who were funneled to the physicians for preventive maintenance, patient education, routine follow-up visits and repetitive monitoring. This patient group accumulated steadily, and soon constituted over half of the patients seen by many of the physicians. Once again, a crisis situation required that a decision be made.

The Beginning of Share-Care Clinics

As in 1965, the first reaction was to hire more doctors. Fortunately, on reconsideration it was felt that the thoughtful development of physician-supervised, nurse-managed chronic disease clinics of the share-care type might be able to extend the ability of one physician to oversee many more patients. In addition, it was felt that the care of these patients might even be improved by the extra time and skill the nurses could provide, especially in educating each patient about his or her disease.

At this point, we were ready to revolutionize the health care delivery system; and in our grant request we said the following: It has been repeatedly stated over the last decade that a large shortage of physicians exists throughout the United States. This statement may be true only if physicians continue to approach patient care in the traditional manner taught in medical school. The major shortage in health manpower may not be physicians, but non-physician health personnel. A more rational use of these health workers may come closer to solving the physician shortage than the very costly efforts to produce more physicians. A critical look at the present activities of physicians leads us to believe that much of the primary and secondary screening and care of stabilized illness can be accomplished by allied health personnel under physician supervision with no loss in quality.

At the same time this should multiply the physician’s ability to oversee health problems and allow him to concentrate attention in the areas where his unique, as well as his major, interest lies.

With the acceptance of the grant, and with aims as stated in Figure 1, we set out to demonstrate that we were not deluding ourselves, and that nurse-managed clinics could indeed succeed.

The Clinics General

Allergy, acne, and back-neck clinics are doing extremely well without financial subsidy. Allergy has gone from 100 patients per week in 1973 to 300 in 1975; acne from 92 to 116; back-neck from 100 to 160. Others leveled off and are functioning about the same now as in 1973: Parkinson’s, thyroid, hypertension, multiple diseases, and ano-rectal (Fig 2). Family planning seems to be declining. An obesity clinic never really got off the ground, even after several gallant tries using different approaches. The gout clinic, which will be discussed later, came close to dying but was rejuvenated and now shows signs of growth. For the year 1975, there were 32,000 patient visits. Collectively, they do the work of about six full-time physicians, representing perhaps 10% to 15% of the primary care work at the Straub Clinic.

Understandably, numbers of patients do not spell success or failure, so I would like to describe three sample clinics. Each illustrates a different point. The innovations in the gout clinic are...
relevant in terms of quality control; the thyroid clinic is important for its record keeping approach; and the back/neck clinic is important in an economic sense.

The Gout Clinic

In establishing the Gout Clinic (as in each other clinic) we defined three stages of management (Fig 3): evaluation, stabilization and chronic maintenance.

In the Gout Clinic the physician and the nurse practitioner together do a great deal of work in the original patient evaluation, whereas in the Hypertension Clinic the nurse-manager is not involved in this phase at all. A great deal of attention was paid to patient education, using audiovisual materials including a home-developed videotape.

The records of this clinic were reasonably good, but not computerized, and somewhat difficult to extract later.

The traditional care of gout patients as done previously at Straub by the rheumatologist and other internists is contrasted with the care now available in the Gout Clinic (Fig 4). Group A were patients followed for 12 to 20 months, and Group B were followed for 20 to 24 months in the clinic and an equal time before. It should be noted that there were 35 attacks of gout in Group A and after the establishment of the Gout Clinic, the number of attacks dropped to 28. In Group B, which was followed longer, there were 56 attacks of gout while the patients were under the care of physicians, and after the establishment of the Gout Clinic there were 21 attacks.

Figure 5 is another way of looking at the results. Nine Patients in Group A had more attacks, 12 had fewer attacks, and 4 stayed the same. In Group B, the longer one, three had more attacks, 18 had fewer, and 16 stayed the same.

Gout Clinic Compared with Traditional Care

Of all the data that assess quality of medical care in gout, it seems that the number of attacks of gouty arthritis in a given time period should be the most significant. Certainly this is true from the patient’s viewpoint. The fact that the Gout Clinic experienced a reduction in attack rate over that of traditional physician care is most impressive, particularly when one realizes that the majority of prior care was rendered by specialists.

The major point about the Gout Clinic is that in both process and outcome analysis, the quality of care appears to be at least as good in the clinic as in standard, traditional one-to-one physician care.

The Thyroid Clinic

The Thyroid Clinic, unlike the Gout Clinic, was never intended to be a nurse-managed clinic, per se. Instead it is an LPN-computer-MD working clinic which attempts to maximize data gathering. The data is gathered, tabulated and partially analyzed, after which the physician steps in. It saves him or her a great deal of time. The LPN gathered the data and kept precise records. Crucial judgments are then made by the physician or the computer in a minimum of time; and typing, record transfer, and data retrieval are done by computer. In this way it is possible for one physician to oversee 18 patients from the Gout Clinic, up to 20 new and old thyroid patients, run an active nuclear medicine laboratory, and still have a portion of the day unscheduled.

The record-keeping method was presented last year in the Advances in Patient Care Publication. The real down-to-earth value of the LPN-computer system lies in the time saved: 12 minutes per patient for the physician. The amount of repetitive and laborious work in primary data-gathering and reporting is minimized, freeing approximately two hours per day for both staff and physician.

The Back-Neck Clinic

The Back-Neck Clinic was started primarily to reduce the large load of one type of routine, repetitive problems seen by the orthopedist. This clinic has a structure similar to the other nurse-managed clinics. In 1973, the nurse practitioner examined 3,200 patients or about 30 per day. In 1974, the patient load increased to 3,500 with an 11-day waiting time. The maximum per day patient load was 29. In April, 1975, a second nurse was trained by the nurse practitioner. The total number of patients examined in 1975 rose to 4,600, with each nurse seeing a comfortable 15 to 18 patients per day with no waiting time. The two nurses do the equivalent workload of one and a half to two full-time orthopedists. Supervision on the part of the orthopedist requires about one hour per day.

It is the current opinion of the four-doctor orthopedic department that the Back-Neck Clinic is indispensable; that the quality of care is equally good or better than what was previously available; and that the records and documentations are definitely better (this is confirmed by our legal department). Importantly, the patients like it very well.

A third nurse will be needed soon, and the area is becoming crowded. But these problems do not detract from the fact that the Back-Neck Clinic is a life-saver for both the doctors and the patients.

In September, 1974, an administrative economic analysis found that in comparing the first six months of 1974 to the same period in 1973 in the total Orthopedic Department, the income
(corrected for changes in charges) increased 11.4%, and there was a 24.5% increase in the number of patients seen by the Department.

**Advantages of a Successful Nurse-Managed Clinic**

The primary advantage of a successful nurse-managed clinic is in quality of care, which is at least as high as the one-to-one physician care. The patients like the clinics very well, which we have corroborated recently by a statistical study. They take a large load off of the physicians, especially in terms of “routine” work. They increase the interest and responsibility of the nursing staff, thereby rekindling a sense of excitement in their work. They improve record keeping legibility, completeness and retrievability; and allow the physician to concentrate on what he or she prefers to do, and what he or she can do uniquely.

**Disadvantages of a Nurse-Managed Clinic**

Of course, some disadvantages exist. A successful clinic can greatly increase the size of a practice, and for primary care physicians this may create night call problems. A few patients insist on being seen by the physician every visit, some for valid reasons, some not. The third problem which occasionally arises concerns physician ego. As the nurse-managed clinic becomes stronger and more competent, other physicians within the group may feel threatened. At least in the fee-for-service setting, they are often reluctant to send their patients to the Share-Care clinics for fear of losing their patient.

**Elements of Success in a Clinic**

What are the elements leading to continued clinic success? Why do some clinics thrive while others do not? The first requirement is an aggressive and confident physician. The second (even more important) is an aggressive and confident nurse. The workload of the supervising physician must be high, to the point where the physician feels pushed or else the clinic won’t succeed. There must also be a high education component. In the best clinics there must be independent judgment by the nurse, and an accompanying feeling of responsibility. The nurse is the obvious center force in a nurse-managed clinic, and turn-over of the nurse is disastrous. Lastly, of course, the clinic must have enough volume to keep it financially in the black.

Given these conditions, what can lead to failure of a clinic? Insufficient patient volume for whatever reason is detrimental. If the doctor changes, it is devastating. If the nurse changes, it is even more devastating. And, if the physician’s patient load is insufficient, chances are that the physician will begin taking over the nurse’s job responsibilities.
The Nurse-Managed Clinic and the Fee-For-Service Practice

As a final statement I think it is only fair to say that nurse-managed clinics would seem to be unnatural in a fee-for-service setting. Drs. Collen and Garfield of the Kaiser system reported at this conference a year ago that their automated health testing reduced the need for total services considerably. Such success might be expected to strike terror in the hearts of fee-for-service administrators. The possibility that nurse-managed clinics could, especially through intense patient education, decrease the number of patient visits per year, might strike a similar note in administrative hearts.

However, given the statistics of our more successful clinics, we believe that they really are natural in this fee-for-service multispecialty setting. To extract them now would be close to impossible. They are good for the physician; they are good for the nurse educator; they are even good for the administrator; and most of all they are good for the patient.

References

The Complete Man

Any tribute to Dr. Fred I. Gilbert must take into account the incredible diversity of the man. Doctor, lecturer, tireless researcher into the causes of disease, author of over a hundred medical journal articles, innovator of health testing systems, campaigner for affordable health care for the Hawaii community, member of the prestigious Institute of Medicine and National Academy of Sciences, and philanthropist — donating his own funds to entities like the Pacific Health Research Institute. The list goes on and on, because Dr. Gilbert was that rarity among rarities: a true Renaissance man.

We are proud to have known him.

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Appropriate Use of Technology

Fred Gilbert was always "steeped in the old but espousing the new." The accelerating technology revolution greatly interested but also concerned him. While technological advances were conceded to be important, he was always troubled about their appropriate use. The following article reviews his hopes and misgivings. In it he makes the bold suggestion that a percentage of income from equipment should be set aside for research on outcome effectiveness.

The Appropriate Use of Technology (Particularly in Medical Problems of the Elderly)

Fred J. Gilbert, Jr, MD


Technology, particularly high technology, with little solid data, is often blamed for much of our increasing cost of health care. Politics and emotions are poor substitutes for accurate information needed for rational solutions. By targeting the desired outcome and studying the process needed to reach the outcome, we can make better decisions. The methods of designing, conducting and funding the studies needed to answer the difficult questions posed by the use of high technology in the elderly are available. Do we have the wisdom to use them?

Introduction

Technology is enormously useful in most fields of medicine but is frequently used for the wrong problem, on the wrong patients, and at the wrong time. I will discuss those issues that contribute to the improper use of technology and the means of resolving them.

I direct my concerns regarding the appropriate use of technology to the elderly, because there are so many of them and because they are the recipients of most of the misuse of technology. (Webster, incidently, defines elderly as "somewhat old, between middle and old age.")

My observations are drawn from 25 years of experience as a practicing general internist, followed by 15 years as a specialist in the field of nuclear medicine. As a general internist, the technology that I used most frequently and continue to use is that wonderful creation called the ballpoint pen; it is followed in importance by the telephone, and at considerable distance by the stethoscope, reflex hammer and EKG machine. The field of nuclear medicine, on the other hand, requires the creation of images from gamma rays detected by very expensive cameras that count data reconstructed by complex computer manipulations.

Technology

What is the magnitude of unwise use of technology? From the standpoint of costs, the Office of Technology Assessment found almost one-third of increased spending for Medicare was due to medical technology. The 11% of the population over 65 consumes 50% of the federal health budget, and slightly less than that in terms of physicians' time. There is no question in my mind as to whether patients can be better served with the new technologies than previously. The answer is yes, they can be. Virtually all of what we call high technology in medicine has emerged since I started to practice in 1946. If that high technology didn't exist, we didn't have to worry about it.

In short, if a physician completed medical school and residency in the late 40s and attempted to practice today without access to the technological advances of the last 40 years, he would find considerable difficulty in dealing with most clinical problems of any magnitude. I have a strong feeling, however, that his patients of yesteryear were more satisfied with his efforts, if not his results, than they are now.

Certainly many, if not most, of the new procedures present the patient with less risk to life and limb and with often measurably better outcomes than those of the past. As an outpatient procedure, we can slip a marvelously designed piece of equipment called a pacemaker beneath the skin of the chest and with a wire attached to the heart, correct life-threatening disturbances of the heart rhythm. With new techniques for studying the brain, we have replaced uncomfortable, risky and costly procedures such as pneumoencephalograms and most cerebral angiograms.

To What Purpose?

I could go on with examples of the positive benefits versus risks, including risks to the pocketbook as well as to the person, by the new technologies. The problem, however, is not with the new technologies. The problems—and they are multiple in different arenas. These include questions such as who decides and under what circumstances is the technology to be used? Who pays for it? Who is to receive it? These questions in turn are shaped by another level of questions.

What is the cost of not using technology? In the past, a physician would examine a patient with a headache after taking a history and then make a decision as to whether or not to proceed with further tests, and usually decided not to. Now, although the physician knows that almost all CAT scans performed for headaches are a waste of time and money and often carry a risk to the patient's health, he also knows that a malpractice suit can result from the failure to carry out such a scan. He, therefore, orders it as additional malpractice insurance.

Patient and family expectations also play no small role in a physician ordering procedures for reasons other than medical indications.

It also should be noted that most physicians, particularly subspecialists, derive a sizable portion of their incomes from technological gadgets rather than from their knowledge, judgment, compassion and understanding. Every natural body orifice permits at least one instrument to be inserted by one or more
specialists. If an instrument with a light on one end cannot be inserted down the gullet or windpipe or up the rectum or through the urethra, or into the ear or nose any good "oologist" lacking a natural orifice can always make an unnatural one through which he or she can introduce a costly instrument. It is not that procedures such as gastroscopy, colonoscopy, and bronchoscopy, with the ability to biopsy suspicious lesions under direct vision, are without value. With proper indications, they are of great value in diagnosis and management of many problems. On the other hand, they almost certainly are performed too frequently on too many people at too great a cost.

So are most other procedures we physicians perform on inpatients and outpatients.

At this point, I have made some very dogmatic statements and you should be asking where is the hard data to support my contentions. Unfortunately, medicine until recently had not tried to answer questions such as: How many normal "oscopies" or CT scans or blood chemistries is it reasonable to perform before finding an abnormality that results not only in additional tests or change in diagnosis or management but in a significant difference in outcome. We are so concerned about false-negatives with all of the implications of a missed diagnosis that we overlook the enormous mischief that is produced by the false-positive results of tests and procedures.

Morris Collen MD of the Kaiser Permanente Group in Oakland is one of the few physicians who has carefully kept information for the past 30 years on patients who have undergone multiple tests as a part of multiphasic testing. He found only two tests that made any difference in the outcome as measured by decreased rates in death and disability. These were blood pressure readings and proctoscopy. All of the millions of other procedures being routinely performed on apparently well people throughout the nation appear to have had little influence on improving health. In fact, just the reverse may be true in that many procedures have an adverse effect on health.

How Appropriate?

Why has medicine not made greater efforts to answer basic questions like what is the appropriate use of technology? I am convinced that at least part of the answer to that question is the fear that the answers may be financially harmful to much of the entire system. This includes the manufacturers of the equipment, the marketing and sales staff, as well as the physicians, technicians and hospitals that use the equipment. It would, however, be too cynical to attribute this solely to self-serving inertia on the part of the medical care system. There are very real problems in trying to evaluate the benefits of technology.

Technology, particularly new high technology, changes fast. Often by the time a study is designed, approved, and financed, the technology has changed so much that the study will be irrelevant before it gets underway. For example, soon after a study is designed to determine the cost-effectiveness of a second generation x-ray CT or nuclear scanning unit, a third generation unit enters the arena. This unit is said to have improved hardware that permits better resolution with reduced radiation risk, faster through-time at less cost. This creates two big problems for the investigators. First, if they still want to carry out the study, they have to rewrite the proposal and secure new approval by the granting organization. Second, they contribute to the cost of medical care by convincing the hospital to purchase the newer, as yet even less verified, equipment. Even under ideal circumstances, evaluating technology is costly, frustrating, and extremely demanding of time and talent.

Some Answers

With this background of unanswered questions and additional problems, your concerns and mine should be: Is there any way that we can find the appropriate use of technology. We have already noted that it is not the technology but its inappropriate use that is the problem. Some of the solutions that were proposed in the past are:

1. Rationing.—Use of high technology only for those problems where there is a reasonable probability of correcting or modifying a condition that will result in survival for a long enough period of time to justify the cost of the procedure and intervention. This is being used in England for renal dialysis and renal transplant for kidney failure as the model. The English achieved rationing by assigning a fixed budget for end-stage renal disease. If you overspend the hospital or clinic budget, no more dialysis or renal transplants will be done until next year.

2. Peer Review.—The peer review mechanism with both the prospective and retrospective reviews being continued and expanded. Medicine as a profession has always supported the concept of peer review—to have your performance judged by your peers rather than by outsiders. A cardiac surgeon reviews the performance of a cardiac surgeon, an oncologist of an oncologist, and so on. People who live or work in glass houses shouldn’t throw stones. If their livelihood requires working in one, they seldom will. On the other hand, if a generalist is enlisted to review the appropriateness of the specialist’s decisions in using high diagnostic or therapeutic technology and disagrees with the decisions made, his opinions are apt to be disregarded because of lack of expertise. In my opinion peer review, including the original PSRO or its descendants the PROS, is not the proper vehicle to resolve the use of technology issues.

3. A Fixed Budget.—A fixed budget for management of all health problems of a geographically defined area. This is another form of rationing, across the board rather than for a specific technology or a specific medical problem: It does permit the geographical area to define its own priorities which have merit.

4. Education.—Education of both physicians and patients as to realistic expectations of the use of technology along with any combinations of other efforts to prevent misuse of technology.

All of the above approaches have some merit, but for the greater part we cannot use them properly because we have never bothered to gather and analyze the information we need to make rational decisions.

Conclusion

Here we are then in 1990, in a nation over $3 trillion in debt, finally realizing that our resources are finite; that our elderly are getting older faster than they are dying off; that a nation that seems to be pinning its future existence on service industries is in deep trouble.

Fortunately, there is a solution to the proper use of technology. It neither has been formally proposed nor considered. It is a solution that does not require decisions.

The first is that any technology, new or old, having met safety requirements, must also meet requirements as to efficacy under
specific circumstances.
This in turn would necessitate answers to such questions such as: "Does the procedure significantly alter the diagnosis, treatment or outcome of the disease (with major emphasis on the outcome), and at what cost?"

This would require research design and methods, data collection and analysis applicable to the technology and medical problem under study. Knowledge, skills and funds would also be needed. The funds would be generated by the technology being investigated. A certain percentage of the fee for the service, say 10%, of the charge for new high technology with poorly documented or undocumented efficacy would be set aside to investigate the technology. As done with other research projects, patients would be informed as to the details, including the reasons for the study. The hospital or clinic using the equipment could participate in the study and recover part of the costs for such research by being paid for the data obtained but the research study itself would be designed and carried out under supervision of a disinterested investigator. Similar efforts could also be applied to long-established, low-level technology such as routine blood counts and even urinalysis. This would make it possible to shift disproportionate efforts in cost control to more reasonable efforts to define the proper use of technology, with cost control as an important by-product.

In conclusion, if technology high or low is to be used appropriately, we have to stop thinking of increasing the size of the medical monetary pie with an increasing share for everybody including those involved in high technology. This will not happen because the pie is not going to get much bigger.

We must also escape the narrow thinking that is bred by increased specialization with major efforts spent in protection of turf and the kind of mentality that builds bridges over River Kwais.

Medicine is a part of our social structure. Physicians must step out of their narrow roles and assume broader roles as citizens by using their knowledge and experience to solve one of society's major problems - the appropriate use of technology in that large and increasing segment of our population that we call the elderly. We physicians can perceive ourselves as guardians of the past and protectors of special interests, or we can boldly and unselfishly move ahead and lead the way to the solution rather than continue to be part of the problem.

References
The Reorganization of Health Care

For at least four decades Fred has been fighting for—and to some extent bringing about—the reorganization of health care. As he saw it, the requirements for real change are group practice, prepayment capitation, a primary care base, greater patient input, a new cadre of health workers, automation, and physician education modified to better oversee “the one hundred upright patients for every one horizontal in the hospital.” But these alone won’t do it. Fundamental changes in the way medicine is practiced are needed to pull the elements together effectively, and brought about by health services research. These changes will take place with or without governmental intercession. He hoped we could do it ourselves.

Health Maintenance Organizations in Hawaii

Fred I. Gilbert, Jr, MD

Health Maintenance Organizations in Hawaii (Unpublished—Circa 1972)

President Nixon’s strong support of Paul Ellwood’s concept of health maintenance organizations a year ago stimulated interest in HMOs throughout the nation. Hawaii, however, as a monarchy, as a republic, as a territory and, since 1959, as a state, has had experience with health maintenance organizations extending over 100 years. Even before the arrival of Captain Cook in 1778, there was a recognized need for health maintenance organizations. Woven into the complex Hawaiian society were a series of kahuna, or priests, who were highly specialized. Some kahuna would specialize in selecting the proper koa tree to make into a war canoe. Other kahuna, called kahuna lapaau, or medical kahuna, specialized in preventive and therapeutic medicine. This was necessary to some degree because the gods at that time were also specialized. No ancient Hawaiian would depend on one god or one kahuna to care for his or her needs, medical or otherwise. I was not able to determine whether or not the kahuna were reimbursed on a fee-for-service or a prepayment capitation basis, but I rather suspect that they had a pluralistic arrangement at that time and used both methods. All in all, the kahuna lapaau did quite well for their patients and before the arrival of Captain Cook the Hawaiians died of old age, accident or war injuries. Soon after the arrival of the haole (foreigners), major epidemics began to sweep the Islands. Cholera or bubonic plague appeared epidemically in 1804 and a smallpox outbreak in 1853 killed thousands of Hawaiians and resulted in stricter public health measures. A Board of Health had already been established in Hawaii in 1850 and the Hawaii Medical Association was founded shortly thereafter in 1856. Whalers on the whaling fleet, for example, were not permitted by the Board of Health to leave their ships without proof of vaccination. In the late 1800s, the development of sugar production as a major industry in Hawaii strongly stimulated the development of health maintenance among the laborers. Unlike most migrant workers on the mainland United States, the sugar-cane laborers received contracts to work on the plantations. Except for a brief and unsuccessful effort to induce Native Hawaiians to work in the fields, most of the laboring force came from the Orient, particularly from Japan in the 1870s and 1880s. In a contract made with the immigration authorities, the plantation management was required to make a capital investment in the workers before they arrived in Hawaii by paying for their transportation and providing housing on their arrival in Hawaii and a guarantee of three years’ employment at $3 a month. By 1880, the Rhodes bill was introduced to provide medical care for contract laborers. In 1885, the manager of Waiakea Mill, which had recently imported Japanese contract laborers, wrote, “I tell them to eat plenty of vegetables and occasionally send them a box of Irish potatoes, cabbage, bananas, vinegar, etc. I find this is as cheap as to pay doctors.” The manager in those days was required to see all patients with ordinary illnesses. The physician was summoned in cases of severe illnesses. This mechanism of requiring the manager to see sick patients resulted in management’s direct involvement in health maintenance. Shortly after the Waiakea Mill closed down in 1948, I did a year’s locum tenens for Dr Sam Brown, who had been the plantation physician for many years. In going over his records, many of which were stamped “Waiakea Mill,” he noted with considerable pleasure that after the plantation mill workers had free choice of their physician, almost all of them continued to keep him as their physician.

By 1901, government doctors were staffing community health centers throughout the Islands. These centers made medical care available to all citizens regardless of ability to pay and anticipated by almost 70 years the Federal proposal to develop community health centers in areas lacking adequate medical care. Every large plantation had its own hospital, usually combined with its outpatient services. Hospital costs in 1901 were running about $70¢ a day. By 1925, the cost had risen so high that the plantations began to withdraw from the Kohala Plantation to the County of Hawaii with the patients paying $2 a day. Major surgery at that time ran about $15 an operation and minor surgery $10. The County of Hawaii objected to the $2 a day because they insisted that the true cost of caring for a patient was approximately $2.25 a day. The public statement by hospitals that costs always exceed charges has persisted in Hawaii to the present, and I understand that it is also prevalent in other parts of the United States.

Largely because of the efforts of a very imaginative and practical internist, Dr Nils P. Larsen, plantation medicine with the plantations underwriting all costs for preventive and therapeutic care was by many measurements better than the rest of the Territory. Mortality figures in 1931 indicated that the plantation medical care was considerably better than the rest of the Territory and was certainly the best care for agricultural workers in the world. According to Al Yuen of the HMSA in 1972,
plantation clinics included birth control, day-care nurseries, noon meals as well as conventional general medical and surgical care to approximately 100,000 sugar workers, including their families. The physicians, hired by Larsen, provided top-rate primary care for the plantation workers without a direct fee for service. A number of the plantation physicians did, however, care for patients from nearby towns and charged fees for services.

The decade after World War II saw a decline of the Hawaiian style of health maintenance. This was due to (1) unionization of the plantations with insistence that the recently developed specialist services would be made more available to plantation workers and that the workers have a more direct say in the selection of their physician. (2) The increased access to medical centers and specialists in Honolulu by air transportation. (Prior to World War II a trip between the Islands was usually made by steamer. The DC3 was introduced in 1941 and changed an overnight trip by steamer to less than an hour by air.) (3) The sharp increased cost of medical care associated with more costly medications, procedures and specialization all of which hastened the plantation management exit from direct involvement in medical care. (4) The emergence of state-wide medical insurance plans, such as HMSA, which made it possible to spread risks over a broader population with continued coverage in geographic areas other than the patient’s plantation. At present, the Waialua Plantation on the Island of Oahu is the only remnant of plantation-type HMOs. Here, two physicians give primary care in the form of more than 25,000 office visits a year and 3,000 hospitalized patients a year.3

The appearance of the Kaiser Plan in 1958 introduced a new type of HMO to Hawaii. The rapid expansion of the Kaiser Plan over the last decade has made it second only to HMSA in numbers of insured. More than 80 physicians are now practicing in the Kaiser Permanente Group which makes it equal in size to the 50-year-old Straub Clinic with its traditional fee-for-service practice. I might also say that group practice on a fee-for-service basis has long been established in Hawaii. Until the last 10 years, this was almost entirely confined to Honolulu on the island of Oahu. At present, there are practicing groups on all of the major islands with approximately half of the population of the islands being cared for by physicians in group practice.

HMOs are similar to the Kaiser Permanente Plan, basically a capitation plan in which a cost per head for total health care is spread out over groups of people and over periods of time. Cost effectiveness presumably would be enhanced by having both providers as well as recipients of health services share in financial losses due to ill-advised use of health workers and facilities. Effective use of health care resources should, on the other hand, financially reward both providers and recipients of health services.

Two new HMO plans are emerging in Hawaii. One is outlined in a grant proposal submitted to the HEW by HMSA,4 the local Blue Shield plan which insures approximately one-half of the population of Hawaii. The other is a grant proposal being prepared by The Foundation, a corporation under the jurisdiction of, and a subsidiary of, the Honolulu County Medical Society. The HMSA HMO plan would provide all participating subscribers within the state the opportunity to select a group of physicians to provide their basic medical care. Tentative arrangements have been made with three group practice clinics on the outer islands. HMSA, like CPS, draws upon some 35 years of health insurance experience with the personnel and data control capabilities to move into this area.

The Foundation HMO grant proposal will explore the presence of a proper market for self-insured HMO plans. Initially, this would be directed toward groups of workers, particularly unions. Each union would process its own claims, write its own claim checks and have peer review of claims at the union level.

The Foundation would provide:
1. technical support
2. fiscal advice and counsel
3. peer review and disciplinary action.

The Honolulu County Medical Society Foundation has had experience since June 1970 with providing this service to the Roofer’s Union here and could extend its capabilities to a larger HMO group. The cost of this support is relatively low—only 40¢/month on a capitation basis—and would amount to perhaps 2% of medical costs if the HMO plan is established.

On January 1, 1972, the Maui Medical Group, with the Hawaii Medical Service Association as the insurance carrier, established the state’s newest HMO. This HMO/HMSA plan is presented as an alternate to the regular HMSA plan, the only stipulation being that only group membership is available under the HMO plan. This is to reduce bad risks.

The rates for the two plans are very similar. Regular membership, single member, being $13.86 as opposed to HMO of $14.20; family membership, regular $38.86 and HMO $41.20. HMO members will pay $1 for each visit to the clinic. Covered will be physical examinations, educational programs, procedures by allied health personnel as well as other comprehensive health care services. A consumer advisory group will include representatives from the general membership, labor, management, the Maui Medical Group, and HMSA.5

In summary, Hawaii has had a long experience with medical care plans incorporating many features of HMOs. I personally believe that prepaid capitation plans incorporating HMO concepts provide a structure that makes certain badly needed innovations in medical care delivery possible. However, I agree with Dr Sidney Garfield6 and James Vohs7 who have had much firsthand experience with the Kaiser Plan. They correctly indicate that HMO’s capitation prepayment by itself is a small part of the solution. Improving the organization and distribution of health services.4 The important issue is not simply how medicine is paid for, but how it is practiced. This mean in addition to how it is paid for a much wiser use of existing and as yet nonexistent manpower coupled with the wise use of technology is needed.

References
Reorganization of Medical Practice: Its Influence on Patient-Physician Relationships

Fred I. Gilbert, Jr, MD

No physician in the United States, no matter what he practices or where he practices, can help being aware of the powerful surge of change on the medical scene over the last few years. Never has there been more said and more written in the field of medical care than there has been over the last five years. Politicians, economists, insurance experts, hospital administrators, labor leaders, industrialists, educators and even patients and physicians have all had their say. The passage of Medicare has been followed by a series of three-letter health laws, the RMP, the OEO, the CEP, and the CMP. The physician has been repeatedly told that the passage of each new bill will have an even greater influence on the practice of medicine than its predecessor or any previous single piece of legislation. We neglect our patients while sitting in committee meetings designed to work out ways to ease the shortage of physicians. In spite of all this massive effort, the problem worsens, programs overlap programs, monetary bait captures a few but frightens many. The problem, simply stated, is that large numbers of people in this nation are economically, culturally and geographically isolated from good medical care. I define good medical care as physicians defined it in 1969. The patients would define this differently. Systems analysts and experts in cost benefit ratios would define good medical care in still different terms. All might be right with their own definition.

Every major change in science or art must be preceded by a change in philosophy. This philosophical shift in American medicine is really a very slight change from the philosophy long held by physicians. We have said that we will take care of anyone who requires our services regardless of race, color, creed or even economic status. This has been more recently restated that good medical care must be available to all citizens as a basic human right. This is, of course, not the same as the previous statement, but while intellectually we might have trouble accepting this, practically we cannot disagree. The real shift in philosophy, then, is that good medical care must be available to all citizens no matter who they are or where they live, whether in the hills of Appalachia, whether in the slums of New York or in the back lanes of Nanakuli. This, of course, changes the whole picture; no longer can I sit in my office on King Street in Honolulu and tell the world that I will take care of all who come to me. In reality, I had already stopped seeing all who sought my care because of state laws that make it possible for medically indigent patients to receive treatment at certain hospitals but not in my office. True enough, I might see the same patients at no charge during my stint in the hospital wards or clinics, but this is really not the same as a free choice on the part of the patient. Beyond this technicality it now becomes my responsibility yours and mine to see to it that all members of our community and our country are not denied medical care for any reason, even if that reason is the price of cab fare. This makes an entirely new game with a new set of rules. How do you get physicians and other health workers to move from group practice in a pleasant university town with good schools and other cultural advantages to a solo practice in a rundown office in a ghetto area with a high crime rate and poor schools? The need of a community for good medical care is a strong compelling force, but by itself is not enough. The answer, of course, is that medicine does not and cannot stand alone within a community. It must properly be considered as an integral part of the total community, its housing, its schools, its parks, its art and culture or a lack of these things within the community.

If the problem, then, is the isolation of the consumer from the product, the patient from the health services, and need has thus far not resulted in a solution, what then are the leverage points in solving the problem?

1. Economics.—Making available funds for medical care through private and governmental insurance and other sources may attract some physicians to areas with high needs for health services. Welded together about such economically based health services are such plans as the Health Insurance Plan of New York, Kaiser Plan, and others.

2. Organization.—The removal of some of the professional and cultural isolation of health workers, including physicians who would practice in high need communities, requires effective affiliation with other health workers in universities and clinics. The more complex organization of health services also requires a much higher level and supply of medical management personnel and techniques than are presently available.

3. Education.—This is probably the real key. Schools of health sciences must reorient teaching away from the almost exclusively organ-disease centered curriculum to a patient-society oriented curriculum. This is difficult because professors are no more eager to throw away their lecture notes devoted only to disorders of organs than physicians are to adopt new approaches to patient care. However, the students will soon insist that they do precisely this, just as patients will insist that physicians develop more effective systems of health service delivery.

What will be the organization of medicine then? First of all, the increase in group practice is inevitable. There are too many advantages to both physician and patients to have it otherwise. The group practice I am speaking of bears only a superficial resemblance to group practice as we know it, where physicians are practicing in much the same one-to-one manner as their predecessors did. An effective group practice means more than the sharing of overhead, administration, accounting, and labora­tory services, and more available consultation. It means a full realization of the potential of an outpatient-based comprehensive medical care system.

Second, the cost of medical care will be more broadly spread over groups of people and periods of time by prepayment. With improvement in industrial design, automation, and increasing use of the computer, the technical aspects of medicine are made easier. The physician who insists on having a purely
technical relationship with patients runs a very high risk of being replaced by another less expensive technician or a machine. A physician who is functioning as a machine deserves to be replaced by one. A whole series of diagnostic and therapeutic procedures now done largely by physicians are beginning to be done by non-physicians. These range from a simple procedure such as taking the patient’s temperature to more complex activities as interpreting EKGs, performing cardiac catheterizations or proctoscopic examinations.

Here in Kansas, Lewis and Resnik have already demonstrated that a nurse can manage the care of certain phases and aspects of chronic diseases better than physicians. Nurse-managed ambulatory clinics with patients receiving strong supportive therapy by the nurses apparently result in less disability from the chronic disease than similar clinics run by internists.

We, then, must think not only of patient-physician relationships but patient-machine relationships (or interfaces), patient-nurse relationships and patient-paramedical relationships. This whole matter of the patient-physician relationship is extremely important because in this relationship is defined the physician’s role in our society.

There exists between patient and physician an unwritten contract that goes into effect when the patient asks the physician to take care of him. The physician, by applying a bandage or looking down the throat, indicates that he will. All of us know that this arrangement no longer holds in quite the same manner. When a patient asks such a question, whether expressed in words or not, the physician now replies, “It depends on whether or not your present or future illness matches my speciality or subspeciality.” This relationship between patient and physician for several million people in the U.S. has been formalized by written contracts. Groups of physicians, through an insurance plan, agree to take care of certain specified diseases for a certain period of time for a prepaid fee.

The group assumes the responsibility once held by the individual. The “I” in the unwritten contract becomes replaced by the “We” in a written contract. The relationship then becomes a patient-organization one in which the organization, not the patient, decides who is to treat him. Patients often find that the technical aspects of health services are easier to organize into a system than are the professional or human aspects. They seek more and deserve more than technology.

There are other implications to this relationship which in its definition of the responsibility of a physician to a patient indicates a job description of the physician. The schools of medicine use such a job description of their faculty members as guides for admission of students to medical schools and around such job descriptions build their curricula. We therefore continue to create a large excess of physicians trained to care for horizontal patients in hospital beds.

In contrast, our education of physicians and other health workers to care for the one hundred ambulatory patients for every hospitalized one, is hopelessly inadequate. A few years ago perhaps the education of a physician as a junior scientist may have been defended on the grounds that we had to pound all of those facts into his head in a very short period of time. The human brain was regarded as a poorly designed structure incapable of storing all the medical facts appearing in the tons of medical journals published every year. We fragmented medicine into specialties and subspecialties largely because of what many regarded as a gross error in brain design. The truth is that the human brain is quite a remarkable structure, clever enough to provide its owner with books, and more recently computers, as storehouses of knowledge. The physician then is freed to function as a scientific humanist to creatively analyze the biological maladjustment responsible for his patient’s disease. The physician must be prepared to combat the cause of disease whether it lies in his patient’s environment, his society or within himself.

The physician of the near future must function as a technician and accept this role, or he must function as a true professional creating new health workers where needed and organizing about him the new people and technologies to improve the care of his patients. If there is thoughtful consideration of the patient as well as his disease, patients will accept these new interfaces and all participants, including the physician, will be the better for it.

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**Summary**

**Health Care in the United States: The Need for a New Paradigm**

Fred I. Gilbert, Jr, MD


American medicine, as practiced at the close of the 20th century, has some major problems that we categorize as being “upside down, inside out, and backward.” Fortunately, these are correctable.

First, it is upside down. Primary care should be the foundation of the structure upon which the entire practice of medicine is built. However, it is not working that way. Specialists and subspecialists have become the wobbly foundation of health care in America. This makes our care system upside down, with the underpinning being procedure-oriented specialists who get only a glimpse of whole patients and their needs.

That is not the only problem. The system is also inside out. The person of the entire system, and the whole reason for health care, is the patient. The patient has become lost within a very complex, disconnected system. The welfare of the patient should be the core that provides the energy that drives the system. Does it really work that way? Not quite. The patient, not necessarily his or her welfare, sometimes becomes the grist for the medical mill. The system is turned inside out.

And it is backward. But how can we believe the American health care system, which has made such enormous strides in the last century, can be called backward? There is no argument regarding the high peaks of achievement in both research and practice; but there are deep valleys with a persistent and increasing percentage of the U.S. population (with the exception of Hawaii) that has no health insurance coverage. In addition to 30-million people without health insurance, there is a worsening of many of our vital statistics. Infant mortality is increasing as is mortality from many preventable diseases such as lung cancer. Patients, their physicians, the government and insurance carriers are all dissatisfied with our system. Are we moving forward or backward? The figures indicate that in many areas we are slipping backward.
Buried under a pile of papers I found this response by Dr Gilbert to a request by Dr Blake Waterhouse, CEO of Straub Clinic & Hospital. It was written by Fred in 1991 in his broad-stroked and nearly indecipherable longhand, asking questions for us all to answer:

Suggestions for 1992 Service and Cost Improvements

Fred I. Gilbert, Jr, MD

Blake: We are deafened by cries for reform and restructuring of the manner in which medicine is practiced. From rich and poor, radicals and conservatives, big business and small business. Unfortunately, they are more right than wrong. Our system at Straub like most everywhere is upside-down. We need more primary care physicians (and nurse practitioners), fewer specialists, better integration and continuity of care—in short, a greatly revamped, more rational (capitation) system of health care. We need to think about it, talk about it, write about it, and most of all, do it!

What is the best way to reconsider, broadly, how to improve the process, cost, and outcome of patient care? One way is to sit down with a modern-day Osler who has the skill, scope, human-ness, thoughtfulness, and knowledge of the best of the general internists, but who also understands and is willing to re-examine new organization, methods, and technology without being bound to the past.

Priorities for the next decade will be to contain costs, increase quality, involve patients in the decision, put new technology in its proper place, increase efficiency—all the while maintaining or improving personal relationships with our patients, the final common pathway.

General internists.—Two-thirds say they cannot see any more patients.
Do we care for the patients we see in the best way?
How about the care of those who do not come to see us?
Should there be a reorganization of the tasks now done by the general internist? Is he or she trying to do too much? or too little by referring too many patients?

Health care personnel.—Are we using them sufficiently? efficiently?
Could a nurse practitioner (under the guidance of a physician and with the help of a computer) do periodic examinations, provide periodic review and updates of needs (Pap tests, prostate, immunization, pneumovax)?
Could a trained colonoscopist do routine and F/U colon exams?

Fred I. Gilbert, Jr, MD
Could a trained nurse practitioner run specialty clinics for family planning, gout, cardiac rehabilitation, diabetes, hypertension?

When internists are too busy, are they doing the wrong things?

Is the internist freed up to do the things he or she is most uniquely trained for and capable of?

Should the same physician be expert at ICU and periodic examinations?

What should medical schools train an internist to be?

Does the responsibility of the medical school include consideration of innovative ways to deliver health care with different classes of personnel, or does it stop at training a good internist?

Research. — Bench, clinical, outcomes should be part of large, expensive, randomized, double-blind crossover studies. Should every physician be doing continual research, daily? What kind?

How much training in epidemiology and statistics is needed? What is the function of the medical school in fostering it? Who pays for it? Should it be part of every practice?

Medical records. — Are POMRs sufficient? Should the record be entirely electronic within a decade or so? Should every medical student be required to have and use a computer?

Should it be possible to monitor the mix, cost, process, and outcome of every patient of every doctor, with instant peer-review and inter-physician comparison for single patients and groups of patients?

Would that be good or bad, frightening or reassuring?

"Everything is changed except the way we think."

(Einstein at the dropping of the atomic bomb)
The Pursuit of Excellence

Fred I. Gilbert, Jr, MD

For slightly over a decade, I have practiced medicine in the Territory and now State of Hawaii. Almost all of this time has been spent here at the Straub Clinic. It is difficult for me to describe the deep personal satisfaction of working with all of you during this period. Without question, the most satisfying part of it all has been the freedom to work hard at what I wanted to do, with my efforts reinforced by you, each with your own particular skills which I could readily utilize to the advantage of our patients.

Of late, while driving between home, hospitals and clinic, I have thought how this type of medical practice might continue. There are many forces that work against it. Government and private insurance plans, which are gradually controlling the mode of practice by controlling the economics; the orientation of the hospital as the diagnostic, therapeutic and medical teaching center of the community; and the economic disadvantages that a clinic such as ours has in competing with tax-exempt private or public medical institutions, these are a few of the more obvious forces.

I had earlier made a list of specific recommendations that I felt would assist in the growth of the clinic and medical care within Hawaii. These included a research foundation as a repository for funds earmarked for teaching and research; a diagnostic unit; a more adequate system of recording diseases diagnosed and treated here; a more active role in the teaching of medicine; and so forth.

So concerned was I in the details of the solution of these problems that I all but ignored the one answer to maintaining a healthy medical atmosphere and at the same time solving the various problems that present themselves.

The simple truth is that we must continue to acquire men and women who have the urge to excel.

If we do this successfully, we will always find a way to work out any problem that interferes with this driving urge. We should never, no matter how pressed, take on someone merely to get the work done. Such a person not only gets less work done but dulls the keenness of the entire group. If we are to grow in anything beyond mere numbers, we must preoccupy ourselves with this pursuit of excellence.

As new physicians have come into the clinic, some have followed in this tradition, while others have been satisfied to do a reasonably competent job with the rationalization that they are doing as well as other practitioners in the community. Unfortunately, by the time a person is adult, either this urge is there or it is not. By the time a doctor has finished his or her specialty training and started to practice, medicine has (or has not) become part religion, part a way of life, but always a vital, consuming force that he or she is interested in above all else.

We must select doctors who drive themselves to greater proficiency and consequently better care of their patients. Whether they button one or two buttons on their coats, belong to the right or wrong church, are white, black or brown—these should all be of secondary importance. If they have a true love of medicine, patients as well as physicians will never shun them; rather, they will seek them out, often over the one who has a lukewarm, halfhearted, or primarily economic interest in medicine, and who happens to belong to the proper clubs and the right church, and possesses the acceptable shade of skin color, or who puts considerable importance on being regarded as a good guy by the right people.

This urge to excel is contagious among those who possess the germ. A charged atmosphere exists where there is no such thing as an ordinary run-of-the-mill medical problem. This contagion also will infect nurses, technicians, and business personnel. Patients sense this dedication and respond with confidence and even pride in entrusting their care to such physicians.

I might say right there that I believe the economics of medicine can and should be as creatively challenging as the practice of medicine. It should be more than the necessary sending of bills, receiving and crediting the remittances. It certainly is more than merely tailoring our practices to fit a particular insurance plan or negatively protesting the appearance of each new plan. It involves imaginative economic planning and leadership so that the patient can most effectively utilize his or her physician’s time and skill without undue economic hardship. The professional partners of the clinic should encourage this type of thinking among the business managers and personnel.

Our main job, then, if we wish this group to grow in dedicated excellence, is to seek out carefully the individuals whom we want. To do this we must define our needs precisely, not only within our own particular departments, but also within the group. This obviously becomes more difficult as the group increases in size.

Finally, as groups go, ours is a harmonious one. This could be explainable by our individual tolerance, warmheartedness, unselfishness and gregariousness, admixed with pious humility. However, on the other hand, I have noted distinct signs of pigheadedness in some of my partners on occasion. And I would be not in the least surprised if they had noted the same traits in me, perhaps not as often, but still there, nevertheless. I submit that there exists among people who work together to excel a certain mutual regard that is conducive to harmony. This, I believe, is the answer to what has seemed paradoxical to some. It is, I believe, why we can argue almost to the point of blows on the night of our monthly business meeting and then return to work in harmony for the rest of the month. It is next to impossible not to admire rather than belittle one’s adversary of the evening before as he or she practices his or her art the next day with skill that comes from the pursuit of excellence.
Curriculum Vitae

Fred I. Gilbert, Jr., MD

Personal Statistics
Born: March 5, 1920, Newark, New Jersey

Education
1940 Junior Certificate, University of Hawaii, Honolulu, Hawaii
1942 B.S., University of California, Berkeley, California
1945 MD, Stanford University School of Medicine, Palo Alto, California
1948-50 Resident in Medicine, V.A. Fort Miley, San Francisco, California
1960-61 Neurological Institute, University of London National Hospital, London, England
1978 Resident in Nuclear Medicine, University of California, Davis, California; Straub Clinic & Hospital, Inc., Honolulu, Hawaii

Active Military Service
1943-45 P.F.C., U.S. Army Medical Corp
1946-48 Captain, U.S. Army Medical Corp

Honors, Fellowships and Awards
1944 Alpha Omega Alpha (AOA)
1946 Diplomate, National Board of Medical Examiners (DNB)
1947-48 Special Worker, Stanford University School of Medicine
1953 Diplomate, American Board of Internal Medicine
1958 Fellow, American Association for the Advancement of Science
1962 Fellow, American College of Physicians
1971 Fellow, Royal College of Health, England
1979-85 Member, Institute of Medicine, National Academy of Sciences
1985 Distinguished Practitioner, National Academies of Practice
1988-89 International Federation of Nuclear Scientists, President
1991 American College of Physicians

Positions Held
1946-48 Co-Director, Palo Alto Physicians Clinical Laboratory, Palo Alto, California
1949-51 Clinical Instructor in Medicine, Stanford University School of Medicine, Palo Alto, California
1951-52 Assistant Clinical Professor in Medicine, Stanford University School of Medicine, Palo Alto, California
1951-53 Chief, Cardiac Clinic, Queen’s Hospital, Honolulu, Hawaii
1951-53 Internist, Straub Clinic & Hospital, Inc., Honolulu, Hawaii
1952-53 Chief, Cardiac Clinic, St. Francis Hospital, Honolulu, Hawaii
1954-56 Lecturer, University of Hawaii School of Nursing, Honolulu, Hawaii
1954-56 Staff, Department of Medicine, Internal Medicine, Kuakini Medical Center, Honolulu, Hawaii
1955-57 Consultant in Hematology, St. Francis Hospital, Honolulu, Hawaii
1956-58 Director, Territorial Alcoholism Clinic, Honolulu, Hawaii
1957-58 Medical Advisory Committee on Intern and Resident Program, St. Francis Hospital, Honolulu, Hawaii
1958-69 Medical Advisory Committee on Intern and Resident Program, Queen’s Hospital, Honolulu, Hawaii
1961-64 Attending Staff, Neurology, Queen’s Hospital, Honolulu, Hawaii
1961-64 Lecturer in Medicine, University of Hawaii, East-West Center, Honolulu, Hawaii
1963-1991 Medical Director, Straub Medical Research Institute (Name changed to Pacific Health Research Institute in 1973), Honolulu, Hawaii
1967-69 Associate Clinical Professor of Medicine, University of Hawaii, School of Medicine, Honolulu, Hawaii
1967-71 Chief of Medicine, Queen’s Hospital, Honolulu, Hawaii
1969-72 Chairman, Department of Community Medicine, Straub Clinic & Hospital, Honolulu, Hawaii
1969-95 Professor of Public Health, Department of Community Medicine, Schools of Public Health & Medicine, University of Hawaii, Honolulu, Hawaii
1979-95 Nuclear Physicist, Department of Nuclear Medicine, Straub Clinic & Hospital, Honolulu, Hawaii
1985-86 Acting Director, Cancer Control, Cancer Research Center, Honolulu, Hawaii
1986-90 Clinical Professor, Department of Public Health Sciences, School of Public Health, University of Hawaii
1989-95 Clinical Researcher, Cancer Research Center of Hawaii, University of Hawaii
1989-90 Consulting Medical Staff, Kuakini Geriatric Care, Inc.
1990-95 Director, Health Services Research and Policy Program, Professor, John A. Burns School of Medicine, University of Hawaii
1991-95 Principal Investigator, Pacific Health Research Institute, Honolulu, Hawaii
1993 Chief, Department of Nuclear Medicine, Straub Clinic & Hospital, Honolulu, Hawaii

Membership in Professional Organizations
1950 Hawaii Medical Association
1951-52 Diabetes Committee
1951-52 Scientific Works Committee
1951-54 Committee on Chronic Illness
1952-53 Chairman, Scientific Works Committee
1953-54 Health Education Committee
1953-55 Postgraduate Committee
1954-64 Editorial Board, HMA Journal
1954-55 Chairman, Committee on Chronic Illness
1955-56 Chairman, Committee on Tuberculosis
1956-58 Scientific Work Committee
1956-59 Committee on Chronic Illness
1957-58 Advisory Committee on Summer Medical Conference
1957-58 Scientific Program Committee
1957-58 Chairman, Committee on Tuberculosis
1958-59 Committee on Tuberculosis
1958-59 Medical Education Committee
1958-59 Scientific Program Committee
1959-60 Public Relations Committee
1959-61 Heart Committee
1970-71 Hospital Committee
1970-71 Public Relations Committee
1971-73 Health Manpower Committee
1973-74 Commissioner, Health Affairs
1973-74 Chairman, Committee on Health Services and Care
1977-79 Cancer Committee
1950 American Medical Association
1952 American Association for the Advancement of Science
1952 American Association of Medical Clinics
1952 Member, Prepaid Medical Care Committee
1953-95 Honolulu County Medical Society
1953 Alternate Delegate to the HMA
1953 Postgraduate Committee
1954 Alternate Delegate to the HMA
1954 Postgraduate Committee
1955-56 Delegate to the HMA
1955-57 Medical Practice Committee
1955-95 American College of Physicians
1957-95 Hawaii Society of Internal Medicine
1959 American Society of Internal Medicine
1959 Hawaii Heart Association
1959 President
1965-66 Board
1966 Community Service Committee
1970 Hawaii Academy of Science
1969-74 Hawaii Academy of Science
1974-75 Hawaii Academy of Science
1969-75 Chairman, Health Technology Committee
1960 Hawaii Academy of Science
1960 Hawaii Academy of Science
1969-72 Hawaii Academy of Science
1973-74 Hawaii Academy of Science
1974-75 Hawaii Academy of Science
1975-76 Hawaii Academy of Science
1976-85 Hawaii Academy of Science
1980 Hawaii Academy of Science
1981-83 Hawaii Academy of Science
1992 Royal Society of Medicine, Clinical Division

Service Contributions
1950 Founder, Pleasant Hills Medical Center, Concord, California
1951-59 Examiner, National Board of Medical Examiners
1952-66 Member, Board of Directors, Oahu Tuberculosis and Health Association
1953-54 Mental Health Association, Maunalani Hospital, Governor’s and Mayor’s Advisory committee
1953 Chairman, Health Education Committee, Oahu Health Council, Honolulu, Hawaii
1955 Chairman, Health Exhibit for Oahu Health Council, Territorial Fair
1955-56 Board of Directors, Hawaii Committee on Alcoholism
1955-56 Director, Territorial Alcoholism Clinic
1955 Chairman, Case Detection Program, Tuberculosis Association
1955 Chairman, Health Maintenance Section on Aging
1956-70 Executive Committee and Board of Directors, Hawaii Heart Association
1956 Chairman, Minimum Standards for Cardiovascular Clinics of Hawaii
1957 Chairman, Hawaii Medical Library Committee
1957-75 Member of the Editorial Board, Clinical Engineering
Research Activities [Since 1967]

1967-75 NHLI, Cooperative Study of Drugs & Coronary Heart Disease, (NHLI Grant #HL4348), Principal Investigator

1968-71 NIH Periodic Examination of the Apparently Well Individual, (NHI Grant #99021), Principal Investigator

1968-70 Riker Clinical Pharmacology Unit, Principal Investigator

1970-73 Medidata Diagnostic Assist Program, Director

1971-73 HSMHA, Use of Allied Health Personnel in Management of Chronic Diseases, (HSMHA Contract HSMDI-71-182), Project Director

1972 C. Brewer Investigation of Various Alternatives to Provide Medical Care to Hilo Coast Plantations, Principal Investigator

1973-79 NCI, Breast Cancer Detection Demonstration Project, (NCI/ACS Contract #NCH-CN-45046), Project Director

1975-78 Dept. of Health, State of Hi Breast Cancer Detection Demonstration Project, Principal Investigator

1975 C. Brewer, Kau Health Services Study, Principal Investigator

1975 NCI, Planning for a Cervical Cancer Screening Program, (NCI Contract #NCI-C055156-03), Co-Principal Investigator

1975 NCI, Community Based Cancer Control Program, (NCI Contract NO1-CN-55257), Director of Technical Services

1979 NCI, Kauai Breast Cancer Screening Project, (NCI Contract NO1-CN-75399), Consultant

1979 Osteoporosis Project funded by the Upjohn Company, Principal Investigator

1979-82 25-HCC for the Prophylaxis of Post-Menopausal Osteoporosis funded by The Upjohn Company, Principal Investigator

1980-85 NCI, Long Term Follow-up of the Hawaii BCDDP Participants, Principal Investigator

1980 Virginia Mason Research Center, Predictive Value of Wofe Classification in BCDDP, Principal Investigator

1980 Wainoku Dispensary, Inc., Planning of Outpatient Facilities Adjacent to Kauai Veterans Hospital, Consultant


1982-94 ACS Grant, A Biostatistical Analysis of Breast Cancer & Benign Breast Disease Data From Four BCDDP Programs, Project Director

1982-84 EBI Grant, PEMF Application in Osteoporotic Elderly Women, Co-Principal Investigator

1983-86 Solaco, Inc. Grant, Assay Phase of the Study of Solaco Liquid Purified Protein Derivative (PPD) Tuberculin, Principal Investigator

1983-86 Straub Trust, Optimum Treatment Dose of I-131 in Hyperthyroidism and Subacute Thyroiditis: its Manifestations and Clinical Course, Co-Principal Investigator

1983-86 Straub Trust, Screening Mammography, Reasons for Under-Utilization, Principal Investigator

1984-91 NHLBI, Systolic Hypertension in the Elderly Program, (NHI Contract NO1-HV-45894), Co-Investigator

1984 Blood Pressure in Survivors of Myocardial Infarction, The Coronary Drug Project Research Group, Principal Investigator

1985 Solaco, Inc. Grant, Verification Phase of the Study of Solaco Liquid Purified Protein Derivative (PPD) Tuberculin, Principal Investigator

1985-95 SCl Nuclear Medicine, Data Analysis in Nuclear Medicine, Principal Investigator

1986-96 Cancer Research Center of HI and Pacific Foundation for Cancer Research, Study of Possible Causes of Ethnic Differences in Cancer (1) Wailaua Coast Comprehensive Health Center (2) Kaiser Mail Clinic, Principal Investigator

1986-95 Strauss Trust, Bone Loss in the Elderly, Co-Principal Investigator

1987-95 Straub Trust, Critical Decision Points in Evaluation and Management of Patients for Presence of Significant Coronary Artery Disease, Co-Principal Investigator

1987-99 Straub Foundation, Comparison of Thyroid Function Tests, Co-Principal Investigator

1987-91 Straub Trust, Evaluation of a Model System for Coronary Risk Screening - Heartbeat, Co-Principal Investigator

1987-90 Discretionary Fund, The Influence of Variations in Medical Practice on the Cost and Quality of Patient Outcomes, Principal Investigator

1988-89 Solaco, Inc., Two Year Stability Study of Solaco Liquid Tuberculin Purified Protein Derivative (PPD), Principal Investigator

1989-90 Solaco, Inc., Solaco PPDOS Phase I and II, Principal Investigator

1989-92 Straub Trust, Who is the Primary Care Physician and What Are His or Her Responsibilities?, Principal Investigator

1989-90 Research Corp. of the University of Hawaii, Development of a Directory of Adolescent Health Data Sets (DOH Adolescent), Principal Investigator

1990-95 Black Memorial Trust, Improving the Quality of Hospital Care Through the Formation of a Districtwide Hospital Consortium, Principal Investigator

1990 University of Kentucky Research Foundation, Clinical Characterization of a New Standard Tuberculin Purified Protein Derivative-S2, Principal Investigator

1990 Health Care Financing Administration, Edit of Pneumococcal Disease Initiative Data, Principal Investigator

1991 Straub and Black Memorial Trusts, Mechanism of Thiazide Action on Bone Metabolism, Co-Investigator

1991 Cancer Research Center of Hawaii, Cancer Research Consortium of Hawaii, Co-Investigator

1991 Straub Trust/Black Trust, Physician Practice Variation in the Treatment of Graves' Disease and Its Impact on the Cost and Quality of Care, A Model Co-Investigator

1992-95 AHCRP, Hawaii Asian Pacific Island (HAPI) Medical Treatment Effectiveness (MEDTEP) Research Center, Principal Investigator

1992-95 NCI, Prostate, Lung, Colorectal, and Ovarian (PLCO) Cancer Screening Trial - Screening Centers, Principal Investigator

1993-94 NCI, Studies of Cancer Etiology and Early Markers of Disease in the PLCO Trial, Principal Investigator

1994 State of Hawaii Department of Health, DOH Cardiovascular/Diabetes Project, Principal Investigator

1994-95 AHCRP, Substance Abuse: Needs Assessment for Hawaii, Principal Investigator

Lectures/Papers/Conferences


- Fifth World Conference on General Practice, Melbourne, Australia, October 1-7, 1972. "Data Collected by Nurses and Allied Health Personnel".

- Seventh Annual Meeting of the Association for the Advancement of Medical Instrumentation, Las Vegas, Nevada, April 24-28, 1972. "Multiphasic Health Testing".


- Pacific Coast Health Association Meeting, Honolulu, November 26, 1975. "Breast Cancer".


- Preceptorship Conference, University of Hawaii School of Medicine, Ala Moana Hotel, Honolulu, December 1975. MCSA Conference on The Changing Health Care Team—Improving Effectiveness in Patient Care, Kauai, Hawaii, February 1976. "Share-Care Clinics" (with Dr Robert A. Nordyke).
Growing With the Community
3 Locations
Providing Quality Health Care
24 Hours a Day . . .
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Publications


HMA Council Highlights

May 5, 1995
Roger T. Kimura MD

The HMA Council meeting was called to order by President Frederick C. Holschuh MD at 5:45 pm.

Present were C. Lehman, President-elect, R. Kimura, Secretary, J. Spangler, Treasurer, A. Don, Immediate Past President; AMA Delegates R. Stodd, A. Kunimoto; Speaker of the House L. Howard; Vice Speaker H. K. W. Chinn; Component Society Presidents: D. Canete of Honolulu, E. Bade of Hawaii, Councilors T. Au, P. Chinn, R. Hollison, S. Sundahl, M. Shirasu, K. Thorburn, J. Betwee, B. Shitamoto, C. Kadooka, A. Bairos; Past Presidents W. Dang, G. Goto, J. McDonnell, S. Wallach; HMA Alliance President L. Nishi; Medical student delegate to the AMA S. Chang.


1) Drs Norman Goldstein, Hawaii Medical Journal editor, and S. Y. Tan, guest editor for the April issue of the HMJ on Medicine, Law and Bioethics were applauded for their work on a fine issue of which the HMA can be very proud. HMA staff were thanked for their hard work in putting this fine Journal together.

2) Dr Holschuh reported that Drs Steve Wallach and Jack Lewin were roasters from the HMA when Marvin Hall was roasted during the Distinguished Medical Reporting Awards Banquet. More than 200 people attended the fun-filled event, with Billy Sage serving as the emcee. Dr Holschuh said that he had received a letter from Marvin Hall thanking HMA for a wonderful evening.

The Long Range Planning Committee had its initial meeting to review the recommendations and referrals charged to the committee from the last annual meeting.

Morning breakfast meetings have been reactivated under the charge of the HMA. Representatives from HMSA, Kaiser, the Nurses’ Association, Health Care Association, HMA, and the Hawaii director of health are invited to attend.

Mrs Lillian Nishi, HMA Alliance President, reported that the HMAA took out a two-page ad for Doctors’ Day and met with Governor Cayetano and Mayor Harris for the Proclamation of Doctors’ Day. First-aid kits were distributed at the Legislature. Mrs Nishi asked HMA physicians to become more active in the legislative process next year. She pointed out that HMA physicians need a unified voice if they want to be heard and make an impact on the issues.

For Action

1) A motion was passed that 50% of the shares of the Independent Physician Network, Inc be sold to PMAG for the express intent of beginning discussions, with the option of buying back the shares at a predetermined price should the negotiations fail.

2) A motion was presented to support the Pennsylvania resolution to the AMA and adopt Dr Kaim’s resolution to be introduced by the Hawaii Delegation at the AMA meeting in June. The resolutions recommend that the AMA assist all states with the issues of independent nurse practices by collecting the report data from each state and disseminating to all states.

3) A motion was passed that the HMA fund $1 per HMA member (approximately $1,853) for the joint venture of the AMA/State Medical Society Litigation Center.

4) A motion was passed that the HMA support the Medical Student Section resolution and it be included in the appropriate Medical Student Section at the AMA meeting in June. The resolution would include Native Hawaiians in the Association of American Medical Colleges category of underrepresented minorities.

5) Council approved the Membership Benefits Committee’s recommendations (1) To contract with the Waikiki Gallery for art shows; (2) to hold the following seminars: “Financial Planning and Asset Protection Strategies Under the New Tax Law” and “Tax-free Investing.”

6) A motion was passed that letters be sent asking for a veto of the workers’ compensation and no-fault legislation.

7) A motion was passed that the HMA place a one-eighth page ad for $475 in the Tripler Army Medical Center Directory and Guide.

8) A motion was passed to support the Hawaii Health Information Corp (HHIC) with a pledge of $5000 this year and to support the appointment of Sharon Vitousek MD as HHIC medical director.

9) Tom Tranel MD was approved as HMA Resident Physician Delegate at the AMA meeting. Dr Tranel won a Burroughs Wellcome leadership award that provides the total cost of the meeting.

Component Society Reports

West Hawaii.—Dr Bairos reported that Neighbor Island physicians cannot always use the HMA membership benefits and believes that if HMA would discount dues for these physicians, HMA membership would increase. The Long Range Planning Committee will discuss the issue.

Hawaii.—Dr Bade reported the last county meeting was held on April 24 and a consultant from the Mainland spoke about managed care and capitation. Dr Bade said he is dismayed to see how many delinquent dues payments there are from Hilo and he will make an effort to contact physicians.

Mau.—Dr Shitamoto reported that Dr Schlesinger and his wife will talk to the county society on May 11 about the HMA Committee on Physicians’ Health. Dr Holschuh will visit Maui in the future.

Honolulu.—Dr Canete reported that the HCMS board met with Bob Hiam and Bob Nichols of HMSA. They discussed the future of medicine; how the practice of medicine is likely to change, and who will be peer reviewing doctors. Dr Canete said he had offered the peer review services of the HMA.

Although the Vision 2000 legislation did not pass, the meeting will be scheduled for September 8 and 9. On May 12 there will be a meeting to discuss whether Vision 2000 will proceed in a privatized form. The corporations might not support this project any more.

Component Society Reports

Smoke Free HMA Building.—A response letter from the managing agent of the HMA Development Company was distributed at the meeting. The HMA Development Board will meet to discuss the issue and will send a follow-up letter to Council. Dr John McDonnell was satisfied to see that the issue is being studied.

Managed Care Educational Session.—Dr Kimura reported that it was not possible for a representative from the AMA to attend a meeting in May. The earliest would be July.

The meeting was adjourned at 9:30 pm.
“Our moral responsibility is not to stop the future, but to shape it... to channel our destiny in humane directions and to ease the trauma of transition.”

These words by noted futurist Alvin Toffler aptly describe the life of Dr. Fred I. Gilbert, Jr. His decades of service to his fellow man and his chosen profession are certainly worthy of celebration. The men and women of Queen's -- physicians and staff alike -- are proud to join his family and peers in honoring Dr. Gilbert's lifelong commitment to advancing medical care for the people of Hawaii.
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...when a great man dies, for years beyond our ken, the light he leaves behind him lies upon the paths of men."

—Henry Wadsworth Longfellow

Fred I. Gilbert Jr., M.D.
1920 - 1995

You've honored us.
And blessed the world we live in.
We will miss you.