Mercy Pulse

July 1976

Cedar Rapids, Iowa
The Hospital in 20 Years

This issue of the Mercy Pulse features one of the newest and oldest to greet life via the delivery rooms of Mercy Hospital, Cedar Rapids, Iowa. The time span for this commonality of experience is nearly 20 years.

The life-giving changes developed during that time span are awe-inspiring, even to those of us who daily work toward their implementation. What futurist could have predicted with slight the number of changes in health care brought into being from the Tom Seabrook to present. A far greater mental exercise will be in the future of hospital/health services during the life of Sara Goslin.

I prefer to avoid flights of fantasy in the play of such a mental effort at taking such giant steps as seventy years into the future limited by constraints of the practical past. Unfortunately, the hold back my imagination are the same as those presently bind the hospital industry — rising costs, limited budgets, and finite resources.

To this reason, I believe it safer to limit prediction to the next twenty years, to the year 2000.

As a member of the American Hospital Association’s Council and Development, I had the opportunity to participate in deliberations on issues that hospitals will be facing in the next twenty years. It is my prediction that the American hospital of the future will be:

— Integrated into a regional network of health care services.
— Providing or participating in the provision of a variety of more complex health care, including a variety of types of care: health maintenance, primary, specialty, restorative, and health-related custodial care.
— A variety of modes of care: outpatient, short- and long-term home care.
— Dependent upon interaction with other health care institutions.
— Complex, expensive, and specialized institutional health care.
— Subject to external constraints on the total amount of resources for institutional health care programs and investment in education and research.
— Much more extensively accountable to a larger but better population group as well as to agencies of government.
— Faced with a more active demand for consumer involvement in institution’s service programs and, as a consequence, more involved in programs of health education to inform the public in health care.
— Increasingly called upon to make moral judgments about medical technology to life and death situations and impending death.

From a personal and more specific point of view, I believe the hospital as the recognized community health center in one word: Where physician offices will be part of the hospital.

Where in the past, hospitals have marshaled their resources to care, I believe we will experience a transition with the hospital becoming the setting for ambulatory care services and primary care services as well.

There is little question that we will continue to see growth at traumatic to some — challenging to others. That challenge hospital enlists the thinking of all health related disciplines together, to shape an improved system of health care delivery.

— Donald W. Dunn,
President, The Iowa Hospital Association

Cover Photo:
Tom Seabrook, the oldest living person born at Mercy, 1906, meets Sara Goslin, Mercy’s Bicentennial baby. Read the July Pulse to see what changes medicine has seen in Tom’s lifetime and what might happen in Sara’s lifetime.

In This Issue . . .
The July Pulse, through interviews with six doctors specializing in different fields, traces medicine from the early 1900’s to the present and tries to predict what the future will bring.
The following doctors are featured in order in the Pulse:
Dr. Gerald Shirk — Obstetrics
Dr. Walter Block — Pediatrics
Dr. David Naden — Orthopaedics
Dr. Thomas McIntosh — Internal Medicine
Dr. John Puk — Ophthalmology
Dr. Curtis Hass — Radiology

Volume 11, Number 7
The Pulse, a publication for Mercy Hospital employees and friends of the hospital, is published monthly by the Mercy Hospital public relations department, 701 10th St. S.E., Cedar Rapids, Iowa 52403.
Hospital Administrator, Sister Mary Frances.
Director of Public Relations, Michael Curt.
Publisher, Pat Peterson.
newest and one of the oldest hospital, Cedar Rapids, has experienced nearly seven decades with one of the oldest people born at Mercy Hospital, (March 20, 1906), and Sara Michele, daughter of Scott and Doreen Goslin, Mercy's Bicentennial baby born July 5, 1976. Appropriately enough, Sara is the granddaughter of Dr. Fred Goslin.

The constant development of medicine and what it has meant to Tom since his birth in 1906 and what unknown developments will mean for Sara in her life-time are what this special issue of the Pulse is all about. Tom, in his lifetime, has seen the introduction of antibiotics, the development of x-rays, wide spread use of anesthesia, transplant operations and total joint replacements.

Will Sara's lifetime bring a bionic person? A cure for cancer? An answer for rheumatoid arthritis? The eradication of how many other diseases? Will these changes improve not only the quantity but the quality of Sara's life?

The answers to some of these questions came from several doctors with whom we spoke about their specialties, where they have been, where they are and projections for the future.

In this Pulse, we are honoring two people: Tom Seabrook, the oldest living person born at Mercy Hospital, (March 20, 1906), and Sara Michele, daughter of Scott and Doreen Goslin, Mercy's Bicentennial baby born July 5, 1976. Appropriately enough, Sara is the granddaughter of Dr. Fred Goslin.

The constant development of medicine and what it has meant to Tom since his birth in 1906 and what unknown developments will mean for Sara in her life-time are what this special issue of the Pulse is all about. Tom, in his lifetime, has seen the introduction of antibiotics, the development of x-rays, wide spread use of anesthesia, transplant operations and total joint replacements.

Will Sara's lifetime bring a bionic person? A cure for cancer? An answer for rheumatoid arthritis? The eradication of how many other diseases? Will these changes improve not only the quantity but the quality of Sara's life?

The answers to some of these questions came from several doctors with whom we spoke about their specialties, where they have been, where they are and projections for the future.

In this Pulse, we are honoring two people: Tom Seabrook, the oldest living person born at Mercy Hospital, (March 20, 1906), and Sara Michele, daughter of Scott and Doreen Goslin, Mercy's Bicentennial baby born July 5, 1976. Appropriately enough, Sara is the granddaughter of Dr. Fred Goslin.

The constant development of medicine and what it has meant to Tom since his birth in 1906 and what unknown developments will mean for Sara in her life-time are what this special issue of the Pulse is all about. Tom, in his lifetime, has seen the introduction of antibiotics, the development of x-rays, wide spread use of anesthesia, transplant operations and total joint replacements.

Will Sara's lifetime bring a bionic person? A cure for cancer? An answer for rheumatoid arthritis? The eradication of how many other diseases? Will these changes improve not only the quantity but the quality of Sara's life?

The answers to some of these questions came from several doctors with whom we spoke about their specialties, where they have been, where they are and projections for the future.

In this Pulse, we are honoring two people: Tom Seabrook, the oldest living person born at Mercy Hospital, (March 20, 1906), and Sara Michele, daughter of Scott and Doreen Goslin, Mercy's Bicentennial baby born July 5, 1976. Appropriately enough, Sara is the granddaughter of Dr. Fred Goslin.

The constant development of medicine and what it has meant to Tom since his birth in 1906 and what unknown developments will mean for Sara in her life-time are what this special issue of the Pulse is all about. Tom, in his lifetime, has seen the introduction of antibiotics, the development of x-rays, wide spread use of anesthesia, transplant operations and total joint replacements.

Will Sara's lifetime bring a bionic person? A cure for cancer? An answer for rheumatoid arthritis? The eradication of how many other diseases? Will these changes improve not only the quantity but the quality of Sara's life?

The answers to some of these questions came from several doctors with whom we spoke about their specialties, where they have been, where they are and projections for the future.
Starting at the beginning — birth — Dr. Gerald Shirk, assistant chief of obstetrics and gynecology at Mercy, says, "The main theme in obstetrics today is the right to be born well." Coincidentally Dr. Shirk delivered Sara Goslin, Mercy's Bicentennial baby.

In the early 1900's the emphasis was placed on the mother's welfare. If the baby survived pregnancy and delivery it was an added bonus. Today if the baby does not live through the pregnancy and delivery it is the exception rather than the rule. "The era when the baby was considered just a passenger and not an active participant in the birth process is gone."

The first step in improving the mortality rates for mother and child was getting mothers into the hospital to have their babies. So many mothers had children at home, some alone, some with the aid of a midwife or a doctor. In the early 1900's hospitals were not the clean, infection free places we think of today.

It was not until the 1930's that the emphasis began to change from focusing just on the mother to expanded care for the baby.

Antibiotics, safe delivery by Cesarean section, blood banks and cross typing of blood improved not only the mother's but also the baby's chances for life.

Today such techniques as amniocentesis (studying the fluid inside the uterus during pregnancy), fetal monitoring, genetic counseling, ultrasonic scanning to get a total picture of the baby and placenta before birth and even urine testing have given babies like Sara a chance for a better start in life.

Dr. Shirk says more emphasis is being placed on what happens to the baby before it is born. The effects of nutrition, drugs and the general health of the mother all have contributed to healthier babies at birth.

Medical science has already discovered what causes the onset of labor and how to stop it if necessary. Tremendous advancements in the treatment of premature babies, the major cause of infant mortality today, are being made.

The future of obstetrics sounds a little like the pages from the book "1984." Cloning (the re-creation of an identical creature from any plant or animal from the DNA contained in the nucleus of any somatic cell), test tube babies, and predetermination of sex all loom on the horizon.

Dr. Shirk says many of these procedures are possible today, but are not in general practice because society has not yet accepted the ideas.

Now that we have seen the changes in obstetrics from the time Tom was born to the time Sara was born and possibly into the time Sara’s children will be born, let's take a look at what has taken place and what there is to look forward to in the field of pediatrics.

Dr. Walter Block, chief of pediatrics at Mercy Hospital, said the profession has come a long way. In the 1940's when he first began practice, the "big thing was figuring formulas for babies."

Gone are the epidemics of diarrhea, the infections and sulfa drugs that Tom's mother probably knew. The advent of antibiotics, according to Dr. Block, changed the entire outlook on the treatment of infectious diseases.

Polio, small pox and whooping cough, three diseases that threatened Tom in his early years, have now been almost eradicated. Sara may never know, except to read in a history book, the devastation these diseases caused.

Dr. Block predicts that with continued immunization programs it will be possible to wipe out other so-called 'childhood' diseases like mumps and both types of measles. It is very possible that Sara's children may never have any of the childhood diseases that many accepted as their lot 20 years ago.
“If there is a new horizon in pediatrics, it is in the area of behavioral and learning problems in children.”

Minimal brain dysfunction and learning disabilities are special areas of concern for Dr. Block. He and Mercy Hospital were instrumental in setting up the Child Evaluation Clinic, now operated by the Grant Wood Area Education Agency.

In the future, Dr. Block sees further work in minimal brain dysfunction and learning disabilities; a possible breakthrough in the causes of malignancy; the possibility of a development of medication to treat virus infections and possibly an answer to Sudden Infant Death Syndrome.

Because healthy children are active children, there’s a pretty good chance Sara will suffer some sort of broken bone during her lifetime.

When Tom was growing up, broken bones were not healed with casts like today. Dr. David Naden, chief of orthopedics at Mercy, says orthopedics in the early 1900’s was quite archaic. There were no plaster of paris bandages for casts, no x-rays to diagnose fractures or anesthesia to deaden the pain of setting a broken bone.

Dr. Naden says doctors in the early 1900’s diagnosed fractures by what they could see, feel and hear. The bones were lined up the best the doctor could, put into an acceptable position, splinted and left to heal. “Some healed, some healed wrong and some did not heal at all.”

Local or regional anesthesia blocks were not used 60 years ago because they were not available. Today, Dr. Naden can be ready to work with a finger or toe five minutes after injecting anesthesia.

Plaster of paris bandages, x-rays, antibiotics and advances in surgical techniques and care are just a few of the great advances in the orthopedic field. Studies are underway to examine the potential of new casting materials such as lightweight fiberglass. But the orthopedic advances in the last 55 years cannot begin to have the effect of the advances in just the past few years.

In the 1960’s British orthopedists completed the first successful total hip replacement surgery. Now, orthopedic surgeons can practically replace any joint in the body. A metal, similar to stainless steel, and plastic are used in the replacement joint and are held in place with a cement-like substance.

What does the future hold for Sara and her children? Dr. Naden thinks, either through genetics or immunology, a treatment for rheumatoid arthritis may be found. He says perhaps some chemicals will be found to prevent the body’s joints from aging and deteriorating.

We’ve all heard of Steve Austin, ABC’s Six Million Dollar Man. Well some of that is not as far-fetched as it may seem. To Tom’s generation it may be — but to Sara’s generation and following generations the future may not be so far out.

Dr. Naden said devices are being researched and fabricated to accomplish fantastic feats of function for the injured muscles and nerves of the body. However they are also very expensive and not being used on a practical level currently.

As Tom has grown older, he and others of his generation have probably developed problems dealing with the heart. The courses of treatment available to doctors in the early 1900’s were extremely limited compared to those available today. When Sara reaches middle age, perhaps the same things will be said of today’s medicine.

Dr. Thomas McIntosh, internist and chairman of the medical education committee of the Mercy Hospital Medical Staff, says the techniques used to study the body, such as x-rays, cardiac catheterization and laboratory medicine have given today’s physician tools early doctors never dreamed of.

Yesterday’s doctors were limited to what they could feel with their hands and learn through the patient’s history. Today, the doctor can look inside the body, study it and then pinpoint the defect and correct the malfunction.
In the early 1950's open heart surgery was introduced. It does not run the risks it did 15 years ago. It is being used to correct degenerative as well as congenital and rheumatic defects.

When you know kidney transplants became standard medical procedure in the 1950's, it's hard to believe that the first heart transplant was done a mere ten years ago in 1966.

The next obstacle, Dr. McIntosh says, in working with transplants is to overcome the body's rejection of foreign tissue. This is a major problem with little practical progress so far in solving it.

The 1940's were milestone years in medicine because of the widespread acceptance and use of antibiotics and practical application of these new wonder drugs.

The 1950's and 1960's were boom years in medical research. Researchers began to describe the hows and whys of many diseases. More aggressive cancer treatment began. Surgery and radiation were the standard tools against cancer, but within the past ten years chemotherapy, treating cancer with drugs, has been added. So far, chemotherapy, surgery and radiation used together have been the newest advances in the treatment of cancer. Dr. McIntosh says.

"Today and tomorrow we are being asked to make medicine a more efficient machine, one that reaches all the people, regardless of their economic background or geographic locations.

We are concerned about how much diagnosis and treatment cost. Since the government pays many of the bills, they have begun to seriously try to decrease the cost. This struggle will occupy us all over the next 20 years."

When Sara reaches middle age, and by then who knows what the definition of middle age will be, ophthalmology may have found an answer to many of the questions that have researchers stymied today.

Dr. John Puk, president of the Mercy Medical Staff and an ophthalmologist for 16 years, says ophthalmology has gone from poking at cataracts with needles 50 to 60 years ago to phacoemulsification, a technique where the cataract is shredded with ultrasonic vibrations and then suctioned off the eye.

Sara's children, if they have diabetes, may not face possible blindness because of the disease which Dr. Puk says is the number one cause of blindness. No one knows the answer to eliminating the problem.

It sounds a bit like science fiction, but there is equipment today whereby a blind person can "see". It is a small television-like machine carried by the person at about stomach level. This machine perceives images, sends the impulses through wires connected to the back of the head where the brain 'sees', and then transmits an impression back to the skin on the person's stomach.

Some of the biggest advancements in medical science in Tom's lifetime have probably been the ways x-rays are used to diagnose and treat cancer and other diseases. According to Dr. Curtis Hass, chief radiologist at the Margaret and Howard Hall Radiation Center, there is no way to predict what will happen in the field by the time Sara is 10, let alone 50 or even 70 years old.

"Considering the advancements in the past three years, there is no way to predict what will happen in the next three years."

He said it was a quirk the x-ray was discovered and much of the advancement in the field has been the same. Most of the progress has been of a secondary nature — other fields have developed a process which was later modified for medical uses.

From the time the x-ray was discovered to the 1950's, the advancements in the field were pretty much limited to improvements and refinements of the equipment.
The advent of nuclear medicine changed all that. Progress in nuclear medicine is probably a direct result of World War II. Dr. Hass said if it had not been for the development of the atomic bomb, “We wouldn’t be where we are today.”

Nuclear medicine really got started with the discovery that an isotope of iodine could be used to get an x-ray image of the thyroid gland. As more isotopes were discovered, more areas of the body were studied.

The x-ray has always, even from the 1890’s, been used as a treatment device, but it was not until 1951 that cobalt treatment was first used to fight cancer.

After the development of cobalt therapy came the linear accelerator. This was invented by the physics department of Stanford University for use in breaking an atom to see what particles it could get out of it. The first accelerator unit was about a mile long, today medical accelerators are about one foot long, making practical application in hospitals possible.

About eight years ago a sub-atomic particle — pi meson — was discovered. Tests are now planned at several places to see if it can be used in the treatment of cancer.

Four years ago, the C.A.T. (Computerized Axial Tomography) scanner was developed. It was invented by an engineer in the computer industry and was later modified and refined for medical use also. It gives the first clear cross section view of the organs of the body. Other x-ray equipment can give a front or back view, but the C.A.T. scanner can give a cross section view.

Dr. Hass says, “we will now go through the development and refinement process with the C.A.T. scanner that we did with the original x-ray equipment.”

Tom’s generation is getting cancer treatment with surgery, radiation and chemotherapy. What will Sara’s generation be treated with? Dr. Hass says we may not even be using radiation to treat cancer by 1985. Perhaps a vaccine will be developed or perhaps the extremely high frequency sound waves of an ultrasound unit producing heat will be the answer.

No one can accurately guess what will happen. We’ve seen tremendous changes in the past 60 years and even more astounding changes are likely to come in the forseeable future. But what the medical world will be like when Sara reaches old age, no one knows. Most agree advancements in medical equipment and technology can only accomplish so much.

The individual himself holds many of the answers. If Sara never smokes, she may never develop lung cancer. If she watches her diet, she may not have a heart attack. If she learns to drive carefully she may never have an accident which requires the services of an orthopedic surgeon.

Education will play an important part in getting Sara to control her own medical and social future.

Tom Seabrock’s generation may not have had the advantages of knowing what caused many of today’s diseases. It did have the advantage of common, everyday medical good sense.

And common sense will play every bit as great a part in making Sara healthy as it did when Tom Seabrock was born. In that, the two, even though separated by generations, are not so different.

It is nice to know that there will be methods and equipment available to speed recovery in the future. It would be nicer to be assured tomorrow’s generations would do what they could to prevent the diseases in the first place.