

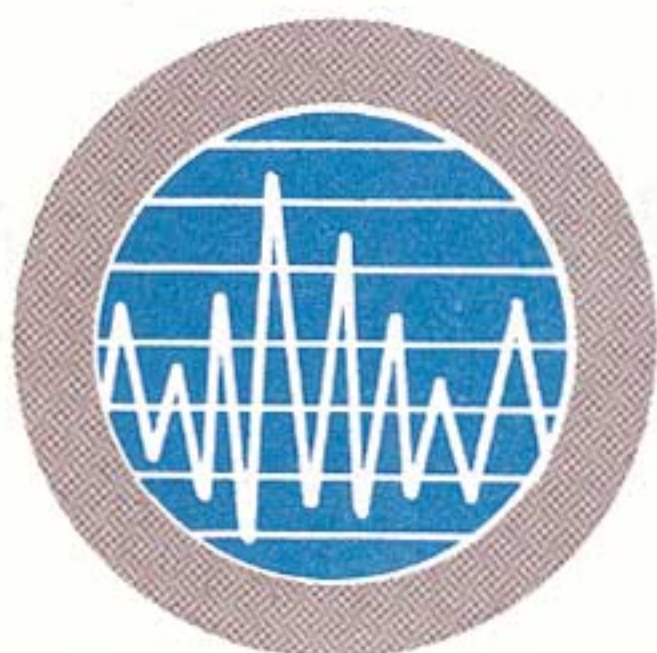
THE ATOMEDIC HOSPITAL



Food



Sterilization



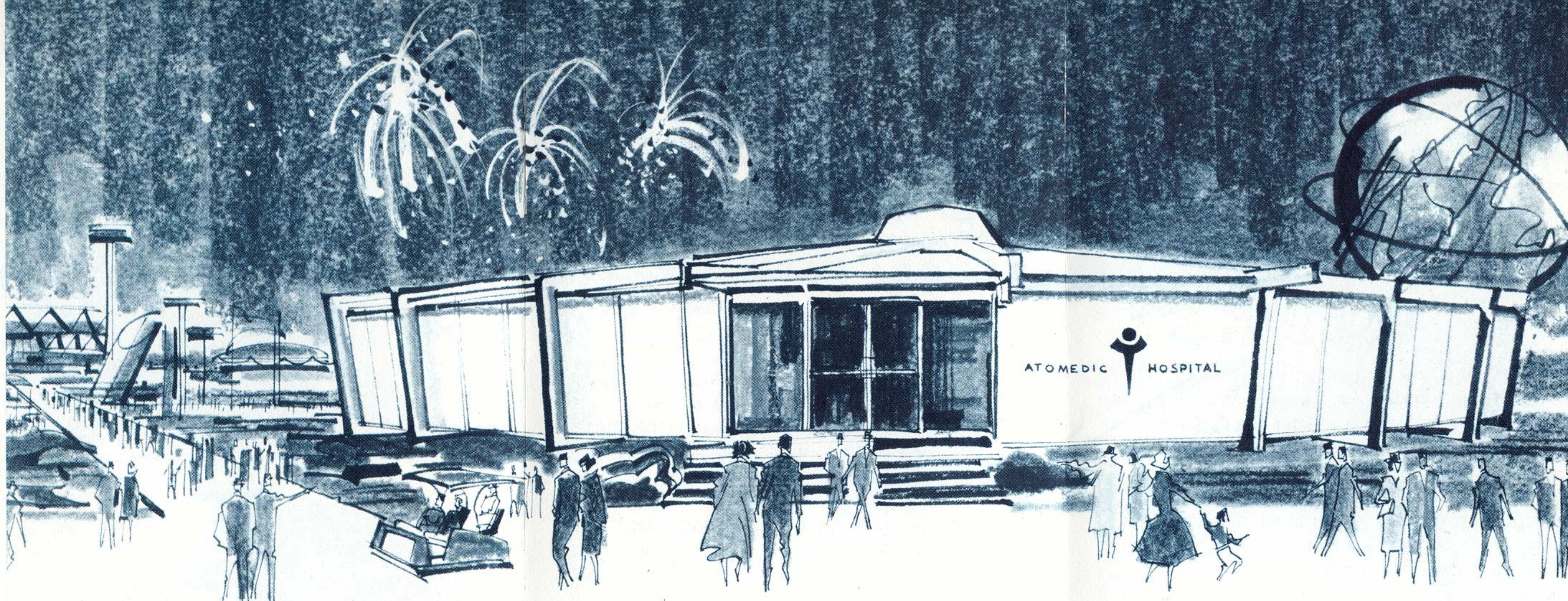
Communications



Laboratory

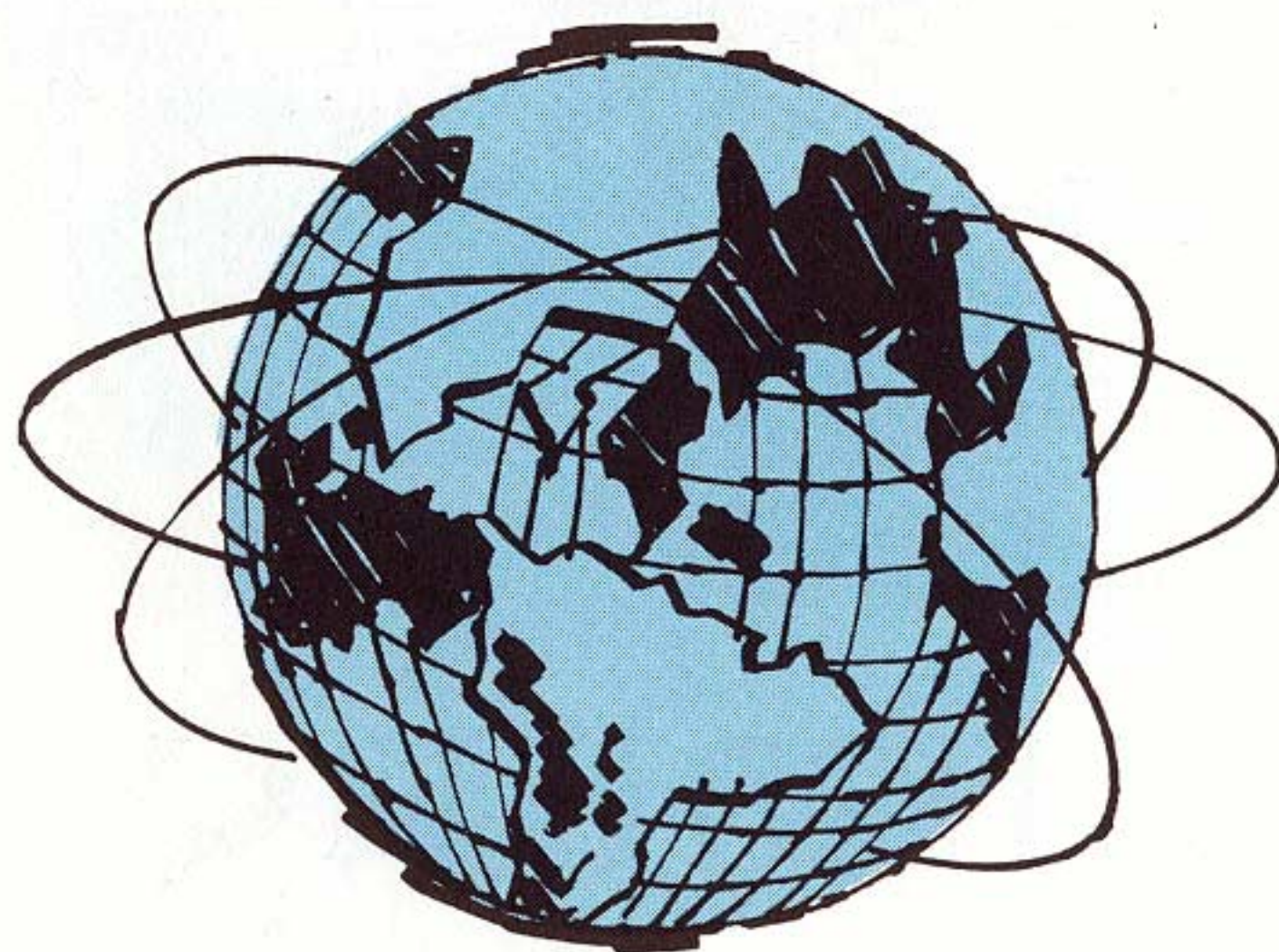
Almost wholly automatic and incorporating the latest scientific and medical electronics, space and medical techniques, the Atomedic Hospital will serve as the official emergency hospital for the Fair's anticipated eighty million visitors.

The round, futuristic hospital is 100 ft. in diameter, uniquely designed to provide for a center activity core, encircled by 22 rooms which could serve forty (40) patients and ringed with an exterior corridor. A windowless structure, Atomedic is built primarily of light-weight Alply Aluminum panels. All structural elements and equipment are designed in units to allow for easy transportation, assembly and minimum maintenance.



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Chief Medical Officer

NEW YORK WORLD'S FAIR 1964-1965 CORPORATION



The World's Fair structure is the second Atomedic Hospital prototype. The first Atomedic is in Montgomery, Alabama, home of its founder, Dr. Hugh C. MacGuire. Motivated by a desire to provide better medical care at a lower cost, Dr. MacGuire, nationally known pediatric surgeon and son of a Canadian minister, conceived of Atomedics 8 years ago. Dr. MacGuire's dream was transformed into reality through the cooperation of a team of the nation's leading industries ranging in size from America's biggest industries, all combining their time, efforts, and money for the creation of these Atomedic Hospitals. The group joined hands with the Fair personnel to construct the dream hospital for the millions of Fair visitors to see.

It is anticipated that the initial construction cost of these Atomedic Hospitals will be less than 50% of the cost of a comparably equipped hospital of conventional design. The average cost per bed of the

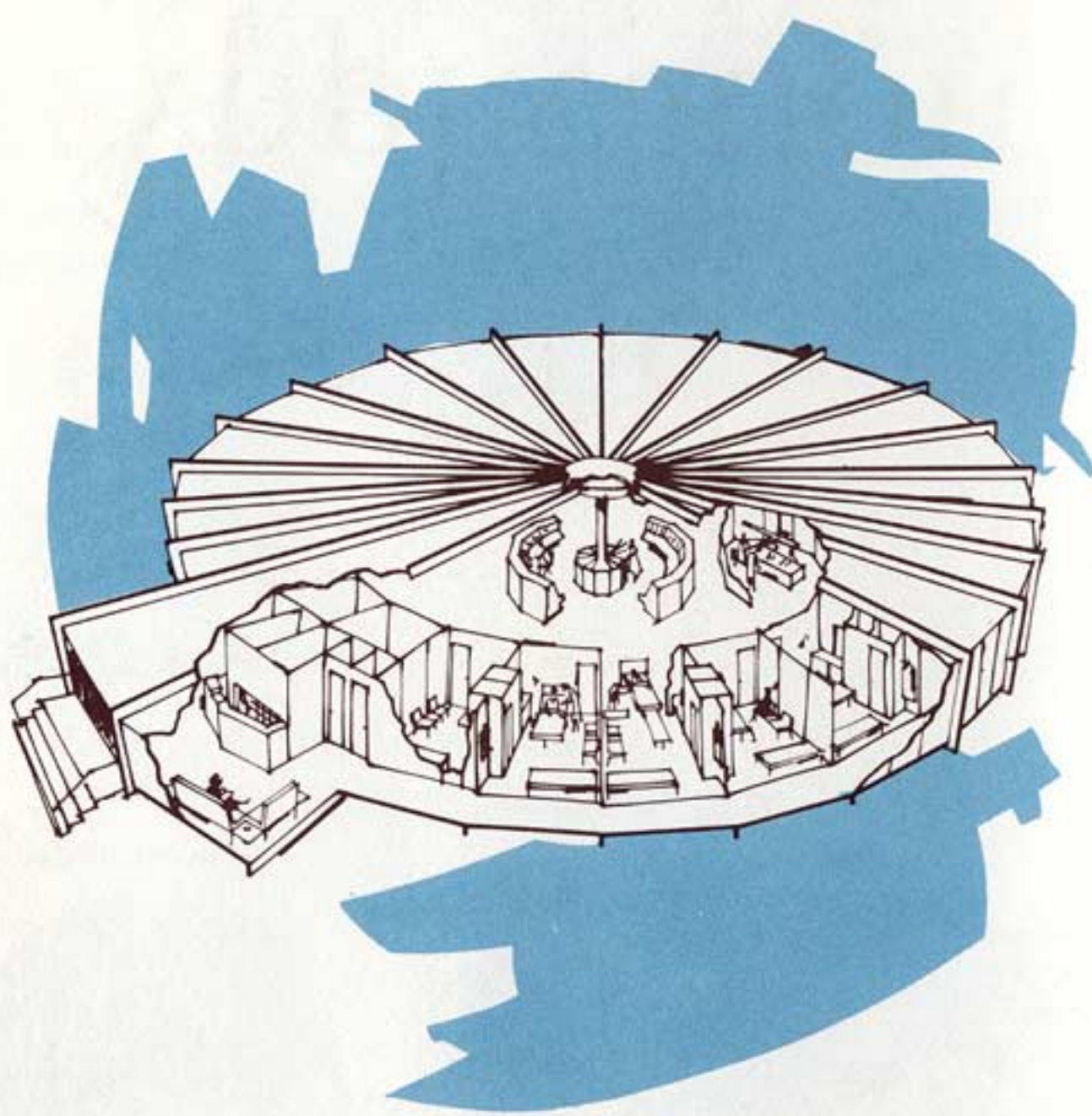
conventional hospital is \$30,000.00.

The World's Fair prototype will differ a little from the Montgomery model, since time did not allow for major changes. Some improvements, such as the rearrangement of some storage space and the addition of the doctor's office, have already proved feasible through the Montgomery operation. Future hospitals will incorporate these, as well as the suggestions of the World's Fair Atomedic Hospital evaluating team.

Studies of the Montgomery prototype have already shown that the Atomedic Hospitals are a practical solution to progressive care in medicine.

Atomedic's nurses feel that it would be very difficult to return to conventional hospitals after serving at Atomedics. The saving of steps, the accessibility to patients, the extreme cleanliness, the simplicity of routine—all have freed them from "drudgery in one channel of service," and allowed them more time with their patients.

Structure



A windowless structure, Atomedic is built primarily of light-weight Alply Aluminum panels, enamelled white on the outside, covered with a textured plastic on the inside. Between the two aluminum skins are sandwiched insulating foam plastic.

Both fluorescent and incandescent fixtures provide lighting that is engineered to the specific needs of the different parts of the hospital.

The center and corridor floors are covered with a soft-to-the-step vinyl, the rooms with vinyl-pile carpets, whose very property resists the growth of bacteria.

The design of these low-maintenance structural units allows for mass production and quick erection. The prototype proved that a few men could construct the entire hospital in a fraction of the time which is required for conventional structures.

The hospital equipment is designed in modular units to allow for easy "plug in" installation, and also for simple and inexpensive replacement necessitated by the giant steps of today's scientific progress. The men of Atomedics want to further the modernization of medicine—free from cumbersome structures and inflexible designs, which increase cost without benefit to patient care, and to facilitate acceptance of progressive scientific medical instrumentation.

For the first time, the disciplines can be isolated. Rooms have built-in showers and water closets with lavatories, bedside dressing tables, service consoles and multi-duty light fixtures which the patient can control easily from his bed. This unit also houses an

inter-communication relay section, patient TV monitoring pickup, room phone, storage area, room radio, oxygen and respiratory outlets, an I.V. stand arm, and remote control for TV.

The wall panel between the center core area and each room is movable, so that the patient can be moved on their bed into the clean area for surgery, post-operative care and intensive treatment. The two operating rooms in the core are portable and set up only as needed, freeing the space for other use.

The Atomedic Air Conditioning System has been designed to insure maximum temperature and humidity control year round with air distribution arranged to insure a draftless atmosphere. The total air entering the patient room areas will be positively exhausted to the outside. All functions of the air conditioning system, temperature, humidity, and contamination have been coordinated to insure a constant comfort level.

The contamination control system uses high efficiency collection and electronic air neutralization. This air neutralization greatly reduces electrical space charge within the Atomedic Hospital to eliminate the deposition of unwanted airborne matter on patients, equipment and surfaces.

The Atomedic Hospital is a complete and self-sufficient plant, having its own generating system. The Montgomery prototype plugs into the city utility much as one would plug in a coffee pot, it generates for emergency use only. If constructed in an underdeveloped area, however, the circular hospital could operate efficiently with periodic refueling.

Equipment



Many of the adaptations and innovations in equipment have come to Atomedics through the efforts of manufacturers of beds, operating tables, electronic recording and monitoring devices, sterilizers, X-ray and laboratory equipment, telephone systems, computers, cabinet work and building materials. Many devices used by our astronauts in space travel are now applied to the general practice of medicine with this concept.

electronic monitoring system. Signals, picked up by tiny transducers, sensitive measuring instruments which are taped on the patient like band-aids, are radioed to a unit located in the central core. Here the physiological data is recorded to be read by the doctors and fed to a computer for permanent records. The monitoring device includes an alarm which alerts the nurse when the patient needs attention.

Closed-circuit television maintains a constant nurse-to-patient communication, both visual and verbal, which is reassuring to the patient and insures better supervision by the nurse.

With the central center core and its space age equipment comes freedom from drudgery for doctors, nurses and hospital administrators. All equipment consoles are below eye level and personnel can see in one sweeping glance around the area whether any patient needs assistance. For doctors, automation means an abundance of accurate, explicit physiological data, stored for future reference in a computer. The necessity for laborious record taking is gone. For nurses, freedom from unnecessary steps and dreary bookkeeping! Automation gives her back her profession . . . the time to spend with the patient.

With the standardization method of recording and classification of medical knowledge, and the availability of mass sampling, doctors everywhere will have an objective diagnostic procedure. All information will be instantly available to doctors throughout the nation by modern communication methods. Aided by computers, consultations will have the benefit of recorded knowledge and experience. The patient need no longer be sent from specialist to tweek doctor, nurse and patient will be easier to maintain. The necessity for extra personnel will be limited.

And there need be no kitchen, no laundry, no bulky sterilizing equipment.

Prepackaged frozen foods (tailored to the diet requirements of each patient) are electronically heated at meal time, with all the buying and preparation done outside the hospital. The need for a laundry is obviated by the use of plastics, paper and cotton substitutes for bed linens, cubicle curtains, uniforms, gowns and drapes.

Disposables are used so extensively that surgical packs and instruments are the only items needing sterilization. A small sterilization console adequately serves in the Atomedic Hospital. The sterilization console also houses an ultrasonic cleaner which removes material from the smallest crevice prior to sterilization.

The elimination of unnecessary effort through automation means that a greater economy can be affected by the reduction of the personnel to patient ratio. Today hospitals must provide 2.3 to 2.8 persons not including physicians for care for a single patient. The Atomedic Hospital requires .9 to 1 person for comparable care of one patient.

Use and Application

Today 800,000 new hospital beds are needed in this country and in view of increased longevity and birth rate the projected need is for 80,000 additional beds per year. With the number of doctors and nurses decreasing alarmingly, the value of the Atomedic Hospital becomes clear.

Ideally suited for use in suburban areas and small communities now without a hospital, Atomedic hospitals also can serve as a valuable adjunct to established hospitals, as specialized centers working in conjunction with the great teaching institutions. Groupings of the hospitals can provide a medical center for several specialized fields (Atomedics,

etc.). Atomedics envisions a cloverleaf arrangement with a surgical hospital in the center, flanked by four hospitals designated: children, obstetrics, diagnosis and general. Projected costs of a complex based on the progressive care system promises extensive savings in cost and operations while giving a true separation of functions so desirable to different types of medical care.

In view of its self-sufficient nature the Atomedic Hospital is adaptable to any of the less privileged, developing areas of the world. Atomedic has unlimited potential for the benefit of people everywhere.

Medical Research



Lack of known constants (standard measurements and tests that could be universally applied) and the inability to catalog and correlate all the information that has been accumulated by medical practitioners and researchers over the world have been major deterrents in clinical medical research.

With the systems approach, standardized instruments, and use of computers incorporated in the Atomedic concept, medicine would have at its disposal for the first time the weapons with which to attack this ungainly bulk of case histories and medical information.

The subjective approach to medicine, often necessarily based on information and misinformation given by the patient . . . sometimes colored by the physician's own reaction . . . will be displaced by the opportunity to use the classic scientific method, objectivity and inductive logic.

The Atomedic Research Center is dedicated to a study of health, whereas most prior research has focused on disease. Until the general laws of health are discovered, significant deviations can go virtually unnoticed.

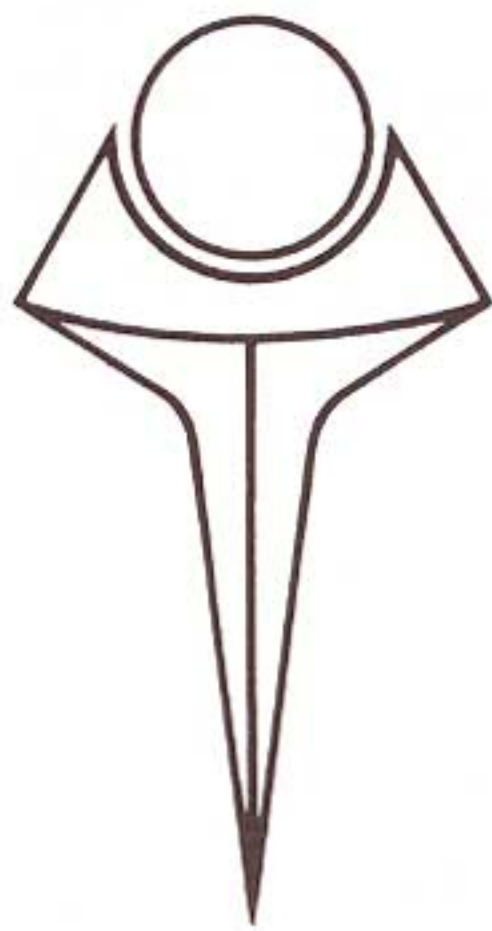
When sufficient facts have been taped by the physiological transducer and other bio-physical instruments, transmitted and stored in the computer, objective standards of "normal" health on which to base diagnosis and treatment will emerge. Then doctors can begin in earnest to build preventive medicine.

Today, when medicine crosses national borders, it sometimes finds striking contradictions of accepted theories of causative factors.

For example, coronary heart disease, often found among people in the U. S. with high fat diets, is also found frequently among Indian peasants who eat relatively little fat. As medical research is extended into more areas of the world, it is likely that more contradictions may appear. In attempting to resolve these through the Atomedic systems approach, medicine may answer some baffling questions.

In an effort to establish a factual objective definition of health, Atomedic Research Center will set up a time study on people of all ages, beginning in infancy and continuing throughout life. Formerly, the mind of man was not capable of keeping all the many variables involved in such a study; now with the computer he can begin to arrange the data in manageable form.

In view of the international nature of disease, the international medical center, taping scientific talent from around the world, is considered a necessary complement to the research and production centers.



Future



Numerous new techniques and devices are in experimental and developmental stages, and, when proven practical, will be incorporated in the Atomedic hospitals.

Use of a new method of operating with the patient in an inflated plastic tent is being studied for all isolation techniques. The tent covers the portable operating room, insuring aseptic conditions. Plastic gloves are built into the walls of the tent, so that the surgeon works outside the isolette and the patient alone is in the sterile area.

Eventually, radioactive isotopes may be used as a power source for X-rays and double for use in cold sterilization of instruments and other equipment, eliminating the steam bath and sterilizing more efficiently as well as more economically.

Atomic power, now too costly, will probably some day be the source of energy for the entire hospital.

In the future, Atomedics expects closed-circuit television, used in conjunction with electronically recorded physiological data, to be the accepted method of consulting with far-away medical specialists. Doctors will perform operations under the televised consultation of an experienced, though perhaps distant, surgeon.

Atomedics, created by science, industry and medicine in the American way, will continue to explore medical innovations which may further reduce the cost of fine medical care. In addition, Atomedics can point a new course in assistance to developing nations who must first be healthy before helping themselves.

"Everyone agrees that we have to start somewhere," Atomedics contends, "and it seems to us that the best place to start is to bring the doctors, physicists, biologists, pathologists, anthropologists, computer people, industrial engineers, sociologists—and all others—to a research center where they will have a chance to live and work together and understand one another as they never can as long as each group continues to work separately."

It is through such a cooperative effort, with each field of endeavor dropping its own cherished pair of binoculars to gaze through one giant telescope, that the Atomedic Hospital in Montgomery was built.

For further information, please address all inquiries to Atomedics Research Center, Industry Coordinating Committee Representative, Atomedic Hospital, New York World's Fair, 1964 - 1965 Corporation, Flushing, Meadow Park, New York.