

b. Selective Chronology:

5:59am

- . Night supervisor Buchanan filling out report and order forms for day shifts.

6:01am Earthquake

- . Three patients in false labor room. One patient non-ambulatory in labor room: I.V. bottles and glass broken. One patient in delivery room about to deliver. These two patients could not be evacuated: glass pushed to one corner and nurse resumes operations.
- . Radiology, significant damage; Surgery buried.
- . Primary power lost.
- . Central Supply decimated; no emergency lighting.
- . Pharmacy & Laboratory: major nonstructural damage.
- . Administration building damaged.
- . I.C.U. remains functional.
- . Kitchen, purchasing office - shambles.
- . Morning shift on way to hospital.
- . Major damage to water systems, boilers, shelving, piping: "leaks all over the place."
- . Telephone service disrupted but remains in some areas.
- . Elevators disabled.
- . Creates nearby industrial explosion, results in critically injured patients coming to emergency room.

Q + few minutes

- . Mrs. Erickson, Radiology Department, arrives, and enters through Emergency Department.
- . Third floor patients taken out of bed, asked to sit in corridor, some given babies to hold.

Q + 20 minutes

- . Alex Virgen, engineering staff, arrives, finds security already set up at entrance, identification required.

Q + 30 minutes

- . Emergency power comes on, but lighting is intermittent. Begins to become light outside.
- . Telephone service goes out.

Q + 45 minutes

- . Mrs. Simmons, Director of Nursing, arrives at hospital, meets with administrator, decides to evacuate nursing area.
- . Power still out, oxygen in question, water supply suspect.

Q + 1 hour

- . Doctors make rounds, request some patients to go back to bed (third level).

Q "after"

- . First emergency activity - secure machinery and shut-off mains and other systems.
- . Remove medical supplies from building.
- . After consultation with L.A. County Director of Emergency Services hospital continues emergency operations.
- . Emergency Room continues to operate.
- . Hospital administrator contacts local radio stations to tell employees to have identification to show at road blocks controlling access to disaster area.
- . Laboratory shuts down.

Q + 2 hours

- . Tray of sandwiches brought to patients on third level, then patients evacuated.

Q + 2-3/4 hours

- . Mrs. Simmons makes rounds, finds most patients still in rooms.

Q + 3-4 hours

- . Ambulances arrive, assist evacuation.

Q + 3-5 hours

- . Supervisors enter building, bring out supplies.

Q + 4 hours

- . Patients evacuating down stairway; the most critical are brought down one elevator that has been repaired.

Q + 4½ hours

- . Evacuation complete.

Q + 3-5 hours

- . Systems checked out, boiler brought back in operation.

Q + 5 hours

- . Staff meeting in Lobby: nurses aides and LVNs let go temporarily, RNs kept on.

Q + 6 hours

- . Employees meet, sign waivers, begin to move equipment to Community Mental Health Center Building.
- . Building services completes clearing debris from hallways.
- . One x-ray machine repaired and operable.

Q + 6-10 hours

- . Ella Gormley (payroll clerk) makes up payroll and takes it to bank.

Q + 10 hours

- . Emergency Room has treated 100 outside patients.
- . Elevators repaired and working.

Q + 48 hours

- . Emergency Room has treated 400 outside patients.

Q + 2-3 days

- . All objects of value have been removed from hospital as precaution against vandalism.

Q + 5 days

- . Mental Health Center is converted to acute care hospital.
- . Tunnel dug to surgery, and surgery re-opened.

Q + 1 week

- . Medical Records relocated next to Business Office in Community Mental Health Building, records transported there in bulk, and begin sorting.
- . Functional laboratory set up in Mental Health Center building.
- . Hospital feeds 75 police three times/day. Also feeds firemen and sends food to Olive View Hospital and Foothill Division of LAPD.
- . Radiology resumes full operation: previously only emergency.

Q + 10 days

- . Area in which kitchen was located condemned by Department of Building and Safety and kitchen evacuated at half hour notice.

Q + 10-24 days

- . Kitchen staff use small stove in Community Mental Health Center in small kitchen space.

Q + 24-64 days

- . Kitchen operates from Film Company Trailer, then kitchen moves back to its original facility in hospital, now reinforced.

Q + 1 month

- . Mobile units moved to site, housing pharmacy, laboratory, physical therapy, and hospital business office.

Q + 2 months

- . Begin demolition of upper 3 floors of nursing tower.

Q + 4-5 months

- . Doctors with offices in Medical Office Building use second floor of Community Mental Health Center while office building is renovated.
- . Fund raising campaign initiated, telethon and dinner.

Q + 5 months

- . Demolition of top 3 floors of nursing tower completed.

Q + 6-8 months

- . Front entrance to Radiology opened, and elevator service resumed.

Q + 1 year

- . Nursing home close to hospital leased as facility for Mental Health Center.
- . Initial bed capacity of Mental Health Center increases to 100 beds, in increments.
- . Charlotte Alpine goes to work to develop additional relief proposals.

Q + 4 years

- . Bank loans called in, 150 people laid off to be able to maintain operations.

Q + 2½ years + 6-8 months + 3 years financing (6 years)

- . Time required for hospital renovation and construction of new building.

Q + 9 years

- . Community Mental Health Center reverts to original occupants.

c. The Experience:

The following picture of the experience at Pacoima Memorial Lutheran Hospital is based on interviews in April 1981 with members of the hospital staff. The first two reports are those of the Hospital Administrator and a member of the engineering staff.

John Simmons is the Chief Executive Officer and the major source of inspiration behind the establishment of Pacoima Memorial Lutheran Hospital. When the earthquake struck at 6:01am there were 109 in-patients in the facility. It was nearly time for the change in shifts so the morning shift was already on its way to the hospital. Telephone service was immediately disrupted, the elevators were disabled, and all of the patients had to be evacuated. This was done by carrying all of the patients down the hospital stairwell. There was some debris in the stairwell but that was not felt to be a major problem in the evacuation. Of those evacuated, 34 of the more critical patients were re-located in the Community Mental Health Center building which had not sustained significant damage. Some were sent to other hospitals. Some of the non-critical patients were placed in homes in the neighborhoods.

After consultation with the L.A. County Director of Emergency Services, the hospital was advised to continue emergency operations, so the Emergency Room continued to operate. The ceiling had to be buttressed up. The Emergency Room served four hundred patients from the outside during the first 48 hours after the earthquake. In the hospital building itself, the surgery, which was located one floor below grade, suffered significant damage as did Radiology and the Laboratory. There were two portable x-ray machines on the nursing floors of the hospital; these pieces of equipment rolled and were damaged. The Medical Office building on the property was rendered inoperable. The hospital also lost its primary power but ancillary power substituted adequately. The water supply was suspect and a friend with a well near Bishop, California hauled water in with a water truck. Emergency food was supplied by another friend who brought in a Warner Bros. catering service truck.

There appears to have been some panic among physicians while other physicians reportedly were concerned over their patients in the hospital. About half of the physicians lived within 5-6 miles of the hospital. The hospital administrator was able to contact local radio stations to announce to their employees that they should have identification with them to show at the road blocks which were set up to control the access to the disaster area.

Alex Virgen is now Plant Engineer at the hospital and in 1971 was on the Engineering Staff. Virgen was home at the time of the earthquake and after seeing that his family was safe, proceeded to the hospital where he arrived at 6:20am. He found that security had already been set up at the main entrance of the hospital and security personnel required staff identification before admitting people to the grounds. The first activity of the engineering staff after the earthquake was to secure machinery and shut-off mains and other systems. At the same time medical supplies were being removed from the building. Building services, meanwhile, cleared debris from the hallways - this took about half a day. It took between 3 and 5 hours to check out the systems and get the boilers back on the line; the major damage as far as engineering was concerned was to water softeners, boilers, shelving, piping; there were leaks all over the place. Many electrical conduits were damaged when stressed by heavy pieces of equipment. The aftershocks caused only minor damage - most of the damage was done by the initial shock.

One major operation after the earthquake was to remove everything of value from the buildings because there was fear of looting and vandalism; this took from between 2 and 3 days. The most important items, that were consequently removed first, were those pieces of equipment that were most essential to the patient care, such as oxygen, I.V. poles, blankets and supplies.

Of all the hospital staff, those closest to the patients on a day-to-day basis are the nurses. The next series of reports comes from a number of the nursing staff who were on duty at the time of the earthquake.

Mrs. Simmons was the Director of Nursing at PMLH at the time of the earthquake. She was at her home in Sun Valley, preparing to leave for the morning shift. She proceeded to the hospital and arrived there at 6:45am. Upon arriving she found the atmosphere chaotic. She quickly made rounds and found most of the patients were still in their rooms. She felt that the patients were somewhat apprehensive and indicated that a number of the patients did not want to be moved out of their rooms because they felt that their medical care would be interrupted, and they would lose their doctor. The counseling of nursing staff convinced them that care would not be interrupted. She then went to Administration to meet with the administrators, where they concluded that evacuation of the nursing floors was necessary. At that time there were no elevators functioning, no electricity, and the condition of the hospital's oxygen supply was in question. Mrs. Simmons' initial feeling was one of disbelief. Some of the general areas of damage that she noted were: blown out windows, beds thrown up against the wall, mounted televisions in the patient's rooms had catapulted off their mountings, some having fallen sideways and some forward.

On the first level the Central Supply Area was totally decimated. This area also had no emergency lighting, which made recovery of supplies difficult. The Pharmacy and the Laboratory, both located on the second level, sustained major nonstructural damage - all bottles were thrown from the shelves, and many were broken. In at least half of the north side of the nursing tower all of the exterior windows were broken. The Intensive Care Unit, which was located on the fourth level, remained functional. The Administration Area on the second floor of the hospital was badly damaged. An operation area and a basic communication area were set up in the Lobby of the Hospital, which was on the second floor level.

When it was decided to evacuate, the elevators were not working so it was necessary to use a stairway. Some patients were able to walk; others were carried down the stairs in wheelchairs or on mattresses. This continued until about 10:00am when the engineering department decided that one of the elevators was safe and the more critical patients were then evacuated by means of this elevator. As patients were brought down to the lobby level, the Communications Center was attempting to contact ambulance companies. Patients

for whom ambulances were not available were taken to the Community Health Center located next to the hospital. While this was going on the Communications Center also received calls from other hospitals who were trying to evacuate their patients.

Accounts were obtained from three other nurses who arrived at the hospital at about 6:30am. One of them reported that upon arrival she found that the front door of the building located on the second level of the building was jammed and cracked. It was also reported that the back stairs, which were at the Southeast corner of the building, had pulled out from the wall and there was a separation: there were cracks in the landing. However, the stairs were still usable, and were shored up that morning. There was also broken glass on the third floor corridor, coming from the interior viewing windows of the nursery. In the nursery itself the storage cabinet would have fallen on one of the cribs had not the nurse on duty pushed the crib out of the way in time. The same nurse then pushed the incubators of the four babies in the nursery in a row and put her body over them to protect them. It was reported that it was difficult to keep track of the incubators because they tended to roll this way and that. Later on, this nurse doubled up the babies, two in each incubator, and removed them from the nursery. In the nursing station for this level, which was located just down the corridor from the nursery, a doorless medicine cabinet was destroyed. However, all charts were left intact.

There were 15 to 18 patients on this floor at the time of the earthquake. Immediately afterwards all the patients were taken out of bed; fortunately most patients could walk. The patients were asked to sit in the corridor on chairs, and some were given babies to hold.

At approximately 7:00am, some of the doctors made rounds and requested that some patients be put back into bed. It is not clear what the response of the nursing staff was to this recommendation. At 8:00am a tray of sandwiches was brought to these patients on the third level. When the evacuation of this level was finally undertaken, patients were transported or made their own way down the back stairway, which was located on the eastern end of the nursing tower.



Some staff members and patients remained in the Labor and Delivery areas of the third level after the evacuation of patients. At the time of the earthquake there were 3 patients in the False Labor Room, and it is believed that those patients were released and evacuated. There was one patient in one of the Labor Rooms and one patient in the Delivery Room. However, one of these patients was about to deliver and the other was non-ambulatory so the nursing staff could not evacuate this unit when the evacuation of the rest of the floor occurred. In this area the nitrous tank had tipped over but remained usable. In the Labor area I.V. bottles and other glass materials had broken. After the earthquake the nurse in charge pushed all the glass into one of the corners and resumed operations.

The Delivery Area was a real mess; everything was on the floor, including I.V. fluid and debris. There was no water, so there was no way to clean up after the delivery; occasionally someone from plant engineering would come through and the nurse would remind that person that they were still up there.

An interesting comment about lighting was made by one of the nurses, who noted that in the period following the earthquake the regular lights and the emergency lights were alternatively off and on. This suggests that regular power was not immediately cut-off but was intermittent, resulting in periods of darkness between the time the regular lights went off and the emergency lights flicked on and vice versa. It appears that telephone service to the hospital was intermittent as well.

In the Pediatrics ward, which was located on the fourth floor of the hospital, a number of partitions fell over and were damaged. Pediatrics patients were then moved to a lounge on the second level of the hospital where mattresses had been spread out for them.

As the hospital patients were being moved down into the lobby, the Administrator and Mrs. Simmons had acquired a master census of the hospital population, and they attempted to group patients by geographical location. Groups of six patients were assigned in this manner to drivers who had come in from the outside, and in this way patients who could be discharged were delivered to their homes. Other patients were evacuated by ambulances which

arrived between 9:00am and 10:00am. Patients that could not be discharged or evacuated by ambulance were moved to the lobby; they were then taken off beds and put on mattresses and dragged through the lobby to the adjacent building, the Community Mental Health Center. The children who had been moved from Pediatrics to the lounge were sent across the street where they were put in a home that was owned by the hospital. By 10:30am the hospital had been completely evacuated and is allegedly the first hospital in the area to complete the evacuation. The Intensive Care area was immediately set up in the Community Mental Health Center building.

Carmen Rodriguez was the Nursing Office Secretary at the time of the earthquake. She arrived at the hospital at about 7:30am. Upon arrival she found that all the files and books in the Nursing Office, consisting of nursing records and schedules, were on the floor and that the desks had jammed together. Other files and records were kept in the basement; these were destroyed by the earthquake, but were inactive files and their loss did not present a problem. Her first activity was to go up into the Nursing Units and make sure that the patients took their morning medication. Mrs. Rodriguez then met with payroll personnel and assisted in assembling the payroll. She reports that in the afternoon the hospital laid off all of their employees except the RNs. It appears that the RNs were kept because the hospital was planning to open up again on a limited basis several days later in the Community Mental Health Center facility and also because competition for RNs in the area was so strong that the hospital was afraid that if it let them go it would not get them back. Most of the aides and LVNs were hired back later as the hospital approached normal operations.

That day Mrs. Rodriguez solicited volunteers to scrub beds which had plaster dust all over them. These beds were then moved one at a time, between aftershocks, from the ground floor of the building to the Community Mental Health Center. On the days following the earthquake the staff returned into the closed building to get things. The order of importance was: medication, records, and beds which were removed during the day of the earthquake. The following day, machine stands and other equipment were removed. There was some moving of hospital equipment - mostly typewriters.

Nurses Stallworth, Evans and Benavides were on duty at the hospital when the shaking started and Nurse Geismar arrived at the hospital that morning. When the earthquake occurred, Evans was collecting work for the Laboratory, Stallworth was changing beds in the surgical ward located on the top level of the hospital and Benavides was in the Intensive Care Unit on the same level; she was charting at the time.

In the Intensive Care Unit, Benavides was thrown to her knees by the initial shock of the earthquake, and continued to crawl around during the shaking. There was lots of glass on the floor and her knees were cut by it. At that time there were three patients in the ICU, only one of whom was conscious. This patient became concerned for his safety and asked to be placed in a wheelchair, which Benavides did, and an I.V. solution was rigged. Most I.V. solutions in the ICU fell to the floor and broke; most supplies were destroyed and all supply rooms were damaged. Benavides reported that the beds in ICU were lighter than the other hospital beds so that they moved more easily.

Stallworth reports that the initial earthquake sounded like a bomb; she heard an explosion and saw a flash out of the window. This might have been a gas line, located nearby, which exploded. Her first action was to go to the Pediatrics Wards and put all of the children in one room. The children were combined into cribs, sometimes two or three in a crib. In the Nurses Station in Pediatrics all of the drawers had emptied onto the floor, baby food had fallen off the shelves and was everywhere. Later on, psychiatric patients who had been on the main floor of the hospital were requested to transport the babies out of Pediatrics and out of the hospital.

Evans reports that many patients were frightened when the TV sets fell off the walls in the patient rooms. She immediately went up the back stairwell, which was still in commission even though it had many cracks and was separating from the wall, to the hospital's third floor to check on patients in the surgical ward.

Power was out for about 1/2 hour after the earthquake. The environment was totally dark at first; however nursing supervisors brought

around flashlights and gave them to the nursing staff. Later, after about 1/2 hour, the emergency generator became operational and artificial lighting was intermittent afterwards, but about that time it had begun to get light outside so there was visibility in the corridors and stairwells.

Telephone service remained for about 1/2 hour after the earthquake and members of the nursing staff were able to call their homes; in fact, Benavides' husband was able to call back into the hospital. After 1/2 hour however, telephone service went out.

Initially, Pacoima Memorial Lutheran Hospital had been designated as an evacuation center for the casualties from the VA hospital that was close by; however, it was soon discovered that this hospital had also been disabled and the VA casualties were routed elsewhere.

Immediately after the earthquake the day shift arrived at the hospital and the night shift stayed around to help with the evacuation. Some parents arrived almost immediately after the earthquake to pick up children, and were able to go upstairs to the Pediatrics Department to do so. Families arrived to pick up patients. All able-bodied men, mostly from the housekeeping staff, were assigned to help with the evacuation. The evacuation from the Nursing Tower proceeded in the following manner: all ambulatory patients were evacuated first; these patients walked down the rear stairway, in which there were large cracks. After ambulatory patients, wheelchair patients were taken down the stairwell by two people, one in the front and one in the rear. Finally patients were transported down the stairwell on litters and mattresses; the front stairwell was completely disabled, and the elevators, as it turned out, were damaged but could still work. They were dependent on the intermittent generation of power from the emergency generator. Labor and Delivery patients were evacuated down one of the elevators, the staff praying that the elevator would not stop and trap people between floors. After the evacuation power was shut down and so were the elevators.

The ambulatory patients were brought through the Lobby to a side entrance on the north side of the building, as well as to the main entrance. They went to the parking lot where they were picked up by families and taken home,

transported to other hospitals, or brought to a house that the hospital owned across the street from the facility. Labor and Delivery patients were evacuated through the emergency room entrance on the ground floor and picked up by ambulances. Those patients that were not immediately transported were carried to the Community Mental Health building, adjacent to the hospital, to await evacuation.

It was reported that one of the doctors was sleeping in the Doctor's Lounge located in the Labor and Delivery area on the second floor of the hospital. He became trapped when a locker fell against the door and jammed it. The door eventually had to be broken down to free him. In another incident, a woman arrived at the Community Mental Health Center facility to deliver her baby; the delivery took place in one of the offices in the Mental Health Facility. After a quick clean-up the Emergency Room located on the ground floor was put into operation; this Emergency Room served a steady stream of injured from the surrounding community. A rudimentary triage was set up in the parking lot outside the Emergency Room; those who required stitches or surgery were treated, and those whose injuries were minor were asked to go home.

The Operating Room Suite was located almost adjacent to the Emergency Room. In the Suite, OP rooms #2 and #4 were shut off and not reopened until sometime after the earthquake. OP #1 and the Recovery Room were put into service after plaster debris had been removed. There was an exterior walkway from the Emergency Room loading dock to the cafeteria, which was adjacent to the Emergency Room. The cafeteria was set up as a way station for food and coffee distribution and for police, fire and rescue workers and volunteers from the surrounding community.

Most of patients had been evacuated by 9:00am. The night shift stayed on until about 12:00pm to aid in the evacuation and to help bring out supplies from the damaged facility. Between 9:00am and 11:00am supervisors went into the building and took out food, water, patients' valuables and supplies for medical treatment, which was continuing in the Emergency Room in the Community Mental Health Center building.

Central Supply was completely destroyed, as was the Pharmacy. Fortunately, there were sliding door cabinets in the Operating Room and in the Delivery Room, and in these places the supplies were left intact. The supplies that were intact, such as linen packs which contained sheets and towels, were used to dress wounds. There were also disposable supplies which were not destroyed. Some medications were also housed in the patient cubicles, and these were salvageable. The medications that seemed to suffer least damage were those stored in plastic containers. All medications stored in glass containers were destroyed.

A considerable amount of damage to the evacuated facility occurred after the initial earthquake as a result of severe aftershocks. During one night the windows on the northern edge of the building exploded and glass fell on the parking lot. Some sinks were also pulled out of the walls by the aftershocks. The steam pipes on metal carriers were shaken loose and fell, and water service was curtailed.

Shirley Buchanan was the Charge Nurse for the night shift. Prior to the earthquake, she was standing at the end of the desk in the nursing station on the third level of the hospital. She reports that she heard the sound of the earthquake before she felt the shock waves. The noise was like thunder; she then felt a thrusting movement like something was shoving against the north side of the building. The motion stopped momentarily and she was able to walk to the entrance to the nursing station; then it started again. Another nurse who was also on duty had been thrown to the floor by the initial waves and grabbed Buchanan by the ankles. In the medicine area of the nursing station, the ceiling height doors of the cupboard opened and I.V. solution spilled out onto the floor, breaking the bottles. The hinged windows at the rear of the nursing station were flung open by the earthquake.

After the initial shaking ceased, Buchanan began to make rounds of the building. She first went up the back stairway to the fourth floor where Catherine Ofcharik was on duty. Ofcharik was in a private room at the northwest corner of the nursing tower, where a window had broken. Buchanan reports that there were broken glass and I.V. bottles everywhere on the floor; patients were pulling out their I.V. tubes and wanted to leave.

Buchanan next descended the back stairwell to the ground floor. She was aware of the impending arrival of casualties from the outside so she went to the Emergency Room, got a number of 4x4 dressings, tape, antiseptic solution and brought these to the dining room where a secondary treatment area was later set up. Edith Verna arrived at the Emergency Room about 1/2 hour after the earthquake to help with treating in-coming patients. Buchanan then went to Central Supply which was completely devastated, with broken glass everywhere. The lights were out and the flashlight she had obtained somewhere did not work, but she was able to grope and salvage some dressings. She also confirms the report that in the Nursery a nurse put three babies in each of two bassinets and stabilized them.

Evidently the Emergency Room had not been badly damaged and it could be put into commission fairly quickly with a little bit of cleaning up.

Buchanan mentioned that the night clerk in the hospital office had not typed up the census of those in the hospital, so one of her first activities after making rounds was to sit down and type up the census from reports from each of the floors. This was then used as a basis to designate where people were sent. When the pediatrics patients were moved to a house owned by the hospital, located across the street from the hospital, some of them had taken off their I.D. bands, and there was a tremendous problem in identifying the new born infants.

Buchanan reports that Pastor Simmons organized the evacuation. He sent one person to organize the evacuation of the second floor and another to organize the evacuation of the third floor. There were lots of ceiling tiles, dust, broken glass and other debris on the nursing unit floors, but Buchanan reports that these did not prevent movement. She feels that the staff really 'winged it', and performed very well. The fire class held earlier, prior to the earthquake, helped in the actual evacuation of patients. She mentioned that she used the rear stairwell a number of times before noticing that there was a large chunk of concrete precariously perched between the second and third levels.

Mrs. O'Neil was on the nursing staff at Pacoima Memorial Lutheran Hospital on the morning of the earthquake. When the earthquake occurred Mrs. O'Neil and a nurses' aide were changing a dressing on a patient in the south-west corner of the second level of the nursing tower. The nurses' aide was knocked down by the earthquake and slid to the door; O'Neil was able to hang on to one side rail which was still up on the bed; she remembers the I.V. on the pole swinging. The patient was in a very critical state at the time of the earthquake and was too ill to care.

She also remembers that the window in the room cracked. After the initial shock, O'Neil made rounds of the second level, and there she found many patients shaken up but not injured. In the Medicine Room on the second level most of the I.V.s were knocked off the shelf and broken. The Medicine Room was described as a 'cubby hole' and the shelves in the Medicine Room did not tip over. She reports that she could hardly get into the Medicine Room because the windows had broken and had been pushed in. The Medicine Room is located on the north side of the second level of the nursing tower, at about the mid-point.

One of Mrs. O'Neil's activities after she made rounds was to try and straighten out the Utility Room, which had suffered nonstructural damage in the earthquake. The Utility Room was located next to the Nurses Station and Medicine Room. Other than that O'Neil didn't recall much of the earthquake and what happened immediately afterwards. She left the hospital about noon to attend to her own home, which was also located in the area.

Reports from personnel who were not part of the nursing staff contribute to the picture of what occurred during the earthquake, and the steps that were taken after it, to create some order out of the frightening chaos.

Helen Erickson worked in the Radiology Department, which was located in the south-east corner of the building, at the first level. Mrs. Erickson lived about 6.5 miles from the hospital and arrived there at around a little after 6:00am on the morning of the earthquake. On arrival she entered the hospital through the Emergency Room Entrance; she commented that she could hardly get through the Lobby and that the floor had dropped. She found the Radiology Department in a shambles; all of the file cabinets had tipped over



and all the Radiology equipment had been damaged. The developer fixer in the darkroom had splashed all over, and most supplies had fallen from open shelves; there was debris and glass all over the floor of the Department. The major pieces of radiology equipment had been moved by the earthquake.

Initial energy was directed at cleaning up the debris and getting one x-ray room operating. A repairman arrived later that morning and one x-ray machine was made operable for use by emergency room patients. A successful attempt was made to get the developer working; the developer had become contaminated when the hospital water supply had been shut off. The Reception area had been wiped out and operations were moved back into the corridor of the Radiology Department. Files were moved into the corridor and eventually a secretary and a clerk were set up in this area.

The full staff complement for the Radiology Department was 10 people. However, after the earthquake the Department operated with five people. It took about a week before the Department resumed full scale operations, and in the meantime only emergency procedures were carried out. On the day of the earthquake people waiting for x-rays, who had been treated in the Emergency Room, waited in the cafeteria.

The Reception Area in the front of Radiology had been wiped out, and the area adjacent to it had suffered a lot of damage, so that the entrance to the Radiology Department was blocked off. A door was cut in the rear of the Radiology Department which also connected to the outside, and the Emergency Room was eventually moved to a location directly below Radiology; this enabled people to have access from the outside. People in wheelchairs, who needed to go to Radiology, had to go outside and through the Community Mental Health Center; this was especially inconvenient because it was during the rainy season. It was about 6-8 months before the front entrance to Radiology was opened and elevator service was resumed.

Mrs. Erickson also mentioned that the hospital staff had just undergone a compulsory fire class which was very helpful. The housekeeping and engineering staff used the techniques they learned for transporting patients, and the non-ambulatory patients were carried to the Community Mental Health Center and

were placed 3 or 4 in a room waiting for the distribution to other locations.

Mrs. North was in charge of the Medical Records Department at the time of the earthquake. Medical Records was located in the second level of the facility just off the Lobby. Mrs. North arrived at the hospital at about 6:00am. She found that it was hard to tell from the outside that considerable damage had occurred but that it was immediately obvious on going into the building. Upon entering she went directly to the Medical Records Department where she found everything in a pile in the middle of the floor. The records had been stored on metal shelves which were not bolted to the wall and the earthquake had caused the shelves to tip forward and spill off. Fortunately, no records were lost. All of the typewriters, desks and adding machines in the Medical Records Department had tipped over or fallen to the floor and were damaged beyond repair.

Mrs. North forgot about medical records until the next day; she was busy helping to evacuate patients. As noted previously some records were used to assist to determine where patients would be sent; however, these were records that were held in the nursing units, not in the Medical Records Department, since it would have been impossible to find anything in Medical Records itself. During the next week after the disaster, the Medical Records Department was located in a space next to the Business Office in the Community Mental Health building. Mrs. North felt that the hospital's master plan was very ineffective in responding to this emergency because the night shift was on and the people who had been assigned to do special things were not on the scene at the time of the earthquake, and so people had to improvise.

Mary Munson, the hospital's Public Relations Director, arrived at the hospital soon after the earthquake. She was assigned to the Emergency Room triage office. By 7:00am that morning the Emergency Room was very active, and during the day of the earthquake treated about 400 people, mostly for cuts and lacerations. She reports that in the Emergency Room many things were out of place, there was broken glass on the floor, and there was a trail of blood. The hospital's water supply had been decommissioned so the Emergency Room used distilled water from a reserve tank in Central Supply, which had remained intact. A triage was set up in the Corridor outside the Emergency Room and some beds were set up in the Cafeteria which was adjacent to the Emergency

Room area. Munson reports that patients arriving at Emergency were comforted when they could see that others were in the same plight. Munson notes that when she arrived at the hospital the switchboard had fallen off its mounting and was sitting in the middle of the Lobby.

Munson reported that the Purchasing Department was put of commission, the Laboratory was covered with sticky "goo;" elevators were down; conveyors looked like pieces of spaghetti. At 12:00 noon on the first day, after the hospital had been evacuated, the employees met and signed waivers as a safety precaution and then proceeded to move equipment and supplies to the Community Mental Health Center building.

As patients were evacuated to other hospitals, each was accompanied by a nurse and by the patient's chart so that continuity of care could be maintained. In some cases the nurses were paid by the respective hospitals to which they were sent. Munson felt that this had a major effect in calming the patients who were being evacuated.

D. Wilson was on dietary staff of Pacoima Memorial Lutheran Hospital at the time of the earthquake. She was not in the hospital during the earthquake but arrived soon after. She reports that everything in Dietary was in a mess. All of the dishes and glassware were broken, juice was all over the floor, the ovens were moved off foundations, and there was a crack in the brick wall in the cafeteria. Both the deep freeze and the milk box went out when the hospital lost power; this ruined both the milk and also the meat supplies.

The kitchen staff cleaned up the area and continued to operate in the kitchen space; mostly sandwiches were prepared. During the first week after the earthquake the hospital had fed 75 policemen, 3 times a day, and produced between 700-900 sandwiches a day. Firemen were also fed, and extra food was sent to Olive View Hospital and to the Foothill Division of the Los Angeles Police Department. A week after the earthquake the hospital resumed some normal operations in the adjacent Community Mental Health Center; however, the kitchen remained in its original area until 10 days after the earthquake, when that part of the building was condemned by the Department of Building and Safety and the kitchen staff was given one hour to vacate the building. For

about two weeks after that the kitchen staff operated in the small kitchen space in the Community Mental Health Center, using a small stove.

Afterwards a trailer that was used by film companies for feeding on location was brought in. Kitchen staff operated out of this trailer for approximately 3 months after the earthquake. The kitchen staff put together full-scale meals in this unit, which unfortunately was not adapted for that kind of use. There was no air-conditioning and the mobile unit was being used during the summer; staff were fainting right and left. Later a requirement was placed on the staff that they could only stay in the mobile unit 50 minutes at a time; the kitchen staff consumed lots of salt pills during this period.

After about 3 months the upper stories of the hospital had been demolished and the other two floors which contained the original location of the kitchen and the cafeteria had been reinforced, so that the kitchen was able to move back to its original facility. During the time when the facility had been evacuated a number of things had happened; aftershocks had caused a crack; there was water damage everywhere, and cooking utensils, the electric baking oven, and all the wires in the kitchen were rusted.

Dr. Bailey worked in the Emergency Room on the day of the earthquake. He was at home during the shock and arrived at the hospital at about 7:00am. He found electricity out, and many people waiting to be sewn up. Most of the more serious injuries were cut feet which had been sustained by people walking on broken glass in their homes. The Emergency Room soon ran out of sterile set-ups - these are suture sets - so the ones they had were washed off in soap and water and in an alcohol solution. Bailey reports that there was one severe head injury that had to be treated. The x-ray was out, the ceiling in the corridor outside of the Emergency Room was out of kilter, and the building creaked and groaned as aftershocks rippled through.

Bailey reported that many of the people in the Emergency Room were hysterical; he felt that a lot of people who had chronic problems became acute at that time. He felt the Emergency Room was pretty well supplied; there were several staff doctors that came in and helped during the day. There were one or two new admittals, and these were sent to Valley Presbyterian Hospital.

The rest of the minor surgery done that day was performed in the Emergency Room.

When the earthquake struck, Dr. Dubrow, who was the hospital pathologist, was in Puerto Rico and was not able to get a flight back for several days. However, he reports that the laboratory was heavily damaged and shut-down immediately after the earthquake. Dubrow arrived back in Los Angeles on Thursday, and on Friday met with Reverend Simmons who announced that the hospital would be opening on a limited basis early Monday morning at the Community Mental Health Center and requested Dubrow to set up a functioning laboratory in a space of two days over the weekend. About 10 people helped Dubrow move salvaged equipment from the old building into the CMHC and set up the laboratory.

Dubrow was very surprised to find little breakage among the major pieces of laboratory equipment. Things like lenses were broken, but in general the major portions of the equipment remained intact. He felt that this was just a freak accident. The laboratory, however, was in a shambles, with glass all over the place.

At the time of the earthquake the laboratory was very small and primitive in its standards, and when it moved into the CMHC it only took up two patient rooms. Dubrow was happy to find that all of the employees except one showed up for work. These in turn were hired back, but due to limited operations were employed in a split-time basis, so everyone continued to work, but they did not work as many hours per week.

Ella Gormley handled payroll at the Pacoima Memorial Lutheran Hospital at the time of earthquake. She arrived at the hospital at 8:30am; her drive was pretty normal and she did not hear anything on the radio about the earthquake damage to the hospital. The first thing she did was to check in with Reverend Simmons, who assigned her to go to the third floor of the nursing tower and check each room. Afterwards she manned a desk set up in the corridor, in order to relay verbal and written instructions to various areas of the hospital. Gormley reported that the patients in general appeared very calm. Late in the morning she decided to take care of her payroll work. She found the payroll office a mess; there was a file cabinet on top of her desk

with its double door closed on the desk. The table top xerox machine had fallen and blocked the doorway and it took several people to move this; the machine was damaged beyond repair. The adding machines were on the floor, and the records were in disarray. However, the Bank of America handled the payroll for the office at that time and were able to extract needed information.

Gormley set up operations in one of the conference rooms, which she shared with Carmen Rodriguez. She spent the afternoon doing the payroll and then took it to the bank.

Gormley reported that the Purchasing Department had been located in the basement and there were blank checks all over the space. Medical records were stored on open shelves; they were filed in numerical order and had to be sifted through. There was also difficulty in finding staff timecards. One of the first things that Gormley did in resuming payroll operations was to call the state to find out what sort of pay period she should absorb for people who were being laid off, and they suggested a two-week period which would include vacation and sick leave. As people were rehired by the hospital they were brought back in on labor contracts. Everyone lost at least one weeks pay, but there was only one workers compensation case.

d. The Repair and Reconstruction:

1) The Strategy for Continuation:

Pacoima Memorial Lutheran Hospital was put out of action in the San Fernando earthquake, and all its 109 patients were evacuated. To maintain emergency service to the community PMLH continued to provide 24 hour emergency service in the Emergency Room, after a quick clean-up, and was able to serve a steady stream of injured from the surrounding community.

A strategy for the continued operation of the hospital was developed over the next few days. In reliance upon federal law, which would provide funds for reconstruction, the Board decided to rebuild the hospital, to provide all the services that it contained on the day of the earthquake, and to upgrade the hospital as requested by State and Federal Law. In addition to reconstructing the hospital as it existed prior to the earthquake, the PMLH Board arranged separate financing for certain improvements to PMLH which did not exist at the time of the earthquake.

In order to continue service, the only practical and available interim measure that could be taken was to maintain some acute general hospital services and facilities at PMLH in that small portion of the building that was not seriously damaged, and in portable facilities. For in-patient facilities the adjacent Golden State Community Mental Health Center building, which was almost completed but not occupied, would be converted to an acute general hospital providing 92-95 beds. To do this, facilities had to be found to continue the mental health services and operate 28 in-patient beds, provide out-patient services for adults and children, and maintain other services required and approved by the National Institute of Medical Health.

An institution providing mental health services must be adjacent to a general hospital. A newly completed not yet occupied convalescent facility, housed in a one story wood frame structure located approximately 500 feet from the PMLH property, was leased to provide the mental health services; this property became known as the 'annex.'

One other facility entered into the financial and operational negotiations that would follow the earthquake. The Lutheran Medical Center was a two story medical office building that was wholly owned by Pacoima Memorial Lutheran Hospital, and was partially occupied by staff physicians who rendered services to PMLH; in addition the building housed out-patient clinics, PMLH staff, and provided other services to the hospital. The hospital claimed that 30.52% of the building was used as part of the hospital facility: the remainder was leased by others.

The strategy for the continuation of PMLH, then, involved four facilities: the hospital itself, the conversion of the Mental Health Center to a general hospital facility, the conversion of the annex to serve as the community health center, and the continued use of the Lutheran Medical Center by staff physicians, out-patients, and other staff.

2) The Time and The Cost:

This strategy was quickly developed in the first weeks after the earthquake: the administration could not anticipate that it would be six years before the hospital renovation and reconstruction would be complete, and it would be nine years before the Community Mental Health Center building would revert back to its original use; and that only after ten and a half years would the financial negotiations with the Federal Government for the payment of costs be completed.

By July 1972 almost all of the necessary work to implement the above strategy had been done; reconstruction of the main building, however, was limited to emergency repair necessary to maintain the function of that part of the building that would be retained. The scope of the work and costs were as follows:

The Community Mental Health Center was converted into a temporary general hospital with 59 general beds, 9 intensive care beds, 20 maternity beds, 19 pediatric beds, and 17 nursing cribs.



The work to be done included extensive additions and alterations to all services, and extensive additions to partitions. A new 1000 sq. ft. ICU was added and new patient toilet and shower facilities provided at second and third floor levels. The cost of this work, as bid, totalled \$448,857. A rough breakdown allocated \$30,000 to the addition, \$37,000 to the new toilets and \$343,200 (31,200 sq. ft. @ \$11.00) to alterations. Earthquake repairs were estimated at \$31,200.

The cost of minor modifications to the Annex (29,500 sq. ft.) was estimated at \$20,160, with an additional \$3,370 for repair of earthquake damage.

The Medical Center Building had been completed in April 1966 at a cost of \$609,000: the two story structure contained 22,000 sq. ft. Earthquake damage was extensive, and structural repairs were necessary to most of the exterior plywood shear panels and to some of the roof framing members. In addition, there was extensive nonstructural damage caused by the inherent flexibility of the steel and wood frame structure which allowed much movement and racking. The repair costs were \$208,245, of which 30.52%, or \$65,515, were claimed by the hospital as applicable to its costs of continuing operation.

The costs of emergency repairs to the main hospital at this time totalled \$424,221. The cost of reconstruction of the hospital to their existing standards was estimated by PMLH administration to be \$6,991,754 for a building of 95,170 sq. ft. compared with the 68,225 gross sq. ft. of the pre-disaster facility. The discrepancy in size was accounted for by improved space standards in force by the time the hospital was to be reconstructed. However, the Federal Office of Emergency Preparedness only approved an amount of \$4,693,590 leaving a deficit for the hospital of \$2,298,164, which figure was asked for in appeal in March of 1973. At this time, also, the hospital noted that this sum did not include additional structural costs which might be required by code, and did not include costs for the replacement of equipment.

Financial negotiations between PMLH and the Federal Government continued for another 5 years. In November of 1978 the hospital submitted a supplemental application to the Federal Disaster Assistance Administration, noting that the reconstruction of the hospital was completed and the actual costs could now be determined. PMLH asked for reimbursements that would "reflect the intent of the United States Congress and the actual costs incurred by PMLH for rebuilding the hospital."

PMLH pointed out that as a result of FDAA cutbacks in prior PMLH applications the hospital was forced to obtain financing for more than two million dollars, which would not have been required had the FDAA approved the full amount of funding required by PMLH. At that time virtually all that debt remained unpaid, and it was highly doubtful that PMLH would have the ability to repay their obligations out of operating revenues. Furthermore, mechanics liens had been filed against PMLH by contractors involved in the construction of the building for unpaid claims in excess of \$1,000,000. Unless these claims could be satisfied there was a substantial possibility that PMLH would be forced to close and terminate its operations.

Accordingly, PMLH submitted a request for additional reimbursement which was modified during 1979 and finally resulted in the following pattern of claims and approvals.

<u>Item</u>	<u>Claimed</u>	<u>Previously Approved And Paid</u>	<u>Difference</u>
A. Completed Work			
1. Restoration of Hospital			
a. Construction Costs	6,529,900	4,866,544	1,662,456
b. A/E Fees	520,104	369,807	150,297
c. OAC Structural Rev.	35,679	32,358	3,321
d. Soils Analysis	14,301	5,000	9,301
e. Proj. Management	80,611	0	80,611
f. Moveable Equip.	132,800	0	132,800
2. Repairs of Lutheran Medical Center	208,250	63,558	144,692

<u>Item</u>	<u>Claimed</u>	<u>Previously Approved And Paid</u>	<u>Difference</u>
3. Community Mental Health Center			
a. Conversion to interim hospital	446,877	446,877	0
b. Annex	387,409	0	387,409
c. Reconversion to CMHC	173,263	0	173,263
4. Other Emergency Work	<u>389,318</u>	<u>389,318</u>	<u>0</u>
TOTALS	8,918,512	6,173,462	2,744,150
B. Uncompleted Work			
1. Demolition	8,000	0	8,000
C. Duplication of Benefits			
1. Medicare	133,525	133,525	<u>0</u>
			8,000

In April 1980 the Federal Emergency Management Agency responded to the PMLH appeal. Its review of eligible space revealed that an additional 6,975 gross sq. ft. (above that of the pre-disaster hospital) would be required for the facility to meet current codes and standards. This would result in an eligible square footage of 75,230 gross sq. ft. which was, however, 2,960 sq. ft. less than the amount already approved by FDAA, resulting in a construction cost of \$4,682,315 or \$184,229 less than that already approved. FEMA allowed another \$4,778 for A/E fees, \$417 additional for structural review, and \$9,301 for soils analysis which had been claimed by PMLH. Of the project management claim of \$80,611, \$32,200 was allowed.

The claim for the total amount of repairs to LMC was disallowed, on the grounds that if physicians signed leases and occupied specific offices the facility could not qualify as an out-patient facility.

The costs of converting the Community Mental Health Center and the temporary repair of the hospital, so that service could continue, amounted to \$922,000, of which \$899,000 was paid by FEMA. However, since CMHC was

unoccupied at the time of the earthquake and no services were being provided, FEMA disallowed the PMLH claim for funds for the 'annex' to provide mental health services.

After the PMLH facility was completed the Mental Health Center was reconverted back to its original purpose. Of these costs of \$173,263 FEMA approved \$128,881 as being necessary to return the building to its pre-disaster design and condition.

The cost of demolition of the old structure was approved as being in the public interest.

The Medicare Act provided for reimbursement of actual costs incurred by hospitals in providing services to medicare recipients. These costs include depreciation allowances to assist hospitals in replacing assets which have been damaged or destroyed. PMLH claimed and received \$133,525 in depreciation allowance, which FEMA construed as a duplication of benefits which must be repaid.

The outcome of the entire PMLH claim for \$2,752,150 then, was that FEMA allowed only the additional \$80,000 for demolition, and allowed an extension of time to October 1, 1981 for the work to be done. However, FEMA funds could not be obtained for this payment until the \$133,525 of Medicare Funds was repaid to FEMA. As a result the hospital's cash position was seriously affected and it was necessary to provide a bond issue. The new hospital was finally completed six years after the earthquake (Figure 6).



Figure 6: The new Pacoima Memorial Lutheran Hospital