A Community Health Center which integrates "not for profit" health services with "for profit" services

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A Community Health Center

which integrates “not for profit” health services with “for profit” services
A Community Health Center

WHICH INTEGRATES "NOT FOR PROFIT" HEALTH SERVICES WITH "FOR PROFIT" SERVICES

A Satellite Facility in Mount Pleasant, S.C.
For Roper Hospital in Charleston, S.C.

JOHN BELL HINES
DECEMBER 1983

A terminal project submitted to the Faculty of the College of Architecture, Clemson University in partial fulfillment of the requirements for the degree of MASTER OF ARCHITECTURE

Committee Chairman
Major Advisor
Committee Member
Head, Department of Architectural Studies
Committee Member
Committee Member
Dean, College of Architecture
To Kate
Acknowledgements

I would like to express my sincere appreciation to those who have contributed their knowledge and time to this project.

To the Terminal Project Committee
- Kenneth Russo for his personal interest and support
- Gayland Witherspoon for his encouragement
- Priscilla Ramsey, R.N. for her enthusiasm and professional interest
- Special thanks to Professor George C. Means, Jr., FAIA for his genius, dedication, and personal courage.

To the members of the Health Care Facilities and Design Studio for their great help in the final preparation of this project
- Robert Wulburn - Robert Wulburn
- Molly Scanlon
- Harry Forehand - Bob Salas
- Roy Smith - Steve Davis
- Mike Moores - Steve Davis
- Fletcher MacNeil
- Todd Reichard

To Harlan E. McClure, FAIA, for his determination to provide an outstanding educational environment.

To my parents for their ever present support and encouragement.
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Abstract
This project explores the architectural potential of integrating "not for profit" health services with "for profit" services. This is an idea which is currently being experimented with and promises to have an important impact on the delivery and financing methods of health care. To demonstrate this potential such a facility was designed on a selected site in Mt. Pleasant, S. C. The proposed environment provides a built-in methodology for financing the needed eleemosynary health services and most importantly it is an environment which reinforces the practice of family health care.

Most traditional health care facilities are not appropriate for the practice of family health care because they deal only with the extreme acute levels of the health spectrum. Most people fear these acute levels of health care and for this reason the associated facilities are usually separated from the more everyday commercial activities.

The project proposes an alternative to this practice of isolation. By combining a wide range of services which provoke both fear and fun, the proposed facility creates an environment with the variety and excitement needed for the successful practice of family health care.
The closest emergency care to Mount Pleasant, S. C. is located in Charleston, S. C. The only way to reach this emergency care in Charleston is by way of Highway 17 across the Cooper River Bridge. This is an unpredictable emergency route because the bridge frequently becomes jammed with traffic for a variety of reasons, including rush-hour traffic, accidents, and mechanical failures.

Roper Hospital in Charleston, S. C. would like to build an emergency care center in Mt. Pleasant. Eventually Roper would like to provide a broader range of health services which may include additional Diagnostic and Treatment Services and a Wellness Center which would be primarily for adult day care. Because of the rapid growth of Mt. Pleasant, Roper must also consider the possibility of eventually building a community hospital on an adjacent site.

The problem involved with providing these services is primarily an economic problem of generating enough money to pay for the proposed eleemosynary services. This is not a problem unique to Roper Hospital but a problem which most "not for profit" hospitals are having nationwide. The problem of paying for eleemosynary services is increasingly acute because of the rising cost of health care services and the challenge from large "for profit" hospital corporations.
PROJECTED INCREASE IN PRIVATE GIVING VS. INCREASE NEEDED TO OFFSET FEDERAL BUDGET REDUCTIONS IN FIVE AREAS* 1
1982-1984

*Health, Education, Welfare, Environment, Arts
DUKE UNIVERSITY HOSPITAL
FREE WORK (REVENUE ADJUSTMENTS)
AS A PERCENTAGE OF CROSS PATIENT REVENUE

Charity Care

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>17.3%</td>
<td>14.1%</td>
<td>12.5%</td>
<td>15.4%</td>
</tr>
</tbody>
</table>

Medicaid

Medicare
If Roper Hospital does not provide these services to Mt. Pleasant then a large "for profit" hospital corporation will. The disadvantage of a "for profit" hospital chain is that they must minimize non-profitable and eleemosynary services in order to repay the invested capital and needed profit. This in turn minimizes the health care to those who cannot afford it and who frequently need it the most. This type of system threatens the tradition of equal health care and proposes a two tier health system in its place. In two tier systems, there is one level of care for those who can afford it and a different, much lower, level of care for those who cannot afford it.

This type of two tiered health care has tremendous repercussions and most health care professionals feel it is an unreasonable and dangerous alternative.
The pressures have set off a veritable revolution in the delivery and financing of health services with horizontal and vertical, the IPA's, the PCP's, the HMO's, and a variety of other forms of practice.

Currently a wide variety of innovative financing methods are being explored to eliminate the need for a two tiered health system. A variety of such funding methods were explored at a "Health Planning Seminar" sponsored by Duke Endowment in May 1983 in Charlotte, N. C.

The most promising method of avoiding a two tier system was presented by a delegation from Roanoke Hospital in Roanoke, Va. This funding method involved the restructuring of their corporate structure to accommodate money-making ventures. The money made from these ventures is pumped back to the parent corporation. The parent corporation is then able to use this money to provide needed health services which cannot financially support themselves.

Also there is a need to make health care services more accessible and to broaden its base:

The natural trend is to utilize nearby rather than distant services or perhaps the "Doc in the Box" installed in a shopping center. Greater use of convenience practice setting is emerging. Decentralized suburban units of major health care providers. Changes in demand for care produced by public education.
We need to broaden the perimeter of health because what you can prevent by genetic counseling, by environmental factors, by changing lifestyles, is going to cut down significantly on the impact of the dollars when the patient becomes sick. 6
The concept of family practice health care has been reborn in recent times across the country because of a new emphasis on accessibility and continuity of health care. These two qualities of health care are currently considered essential to increasing the quality of care available in a given community.

The concept of combining "not for profit" and "for profit" services into a single complex offers a great opportunity to create an environment which will reinforce the practice of family health care. This concept has the potential of satisfying both Roper Hospital's desire to provide quality health care to Mt. Pleasant and a methodology of financing many of the needed eleemosynary services.
FAMILY HEALTH CARE is the treatment of the family COLLECTIVELY and INDIVIDUALLY.

Rational - the health of ONE effects the health of the WHOLE group.
A FAMILY typically uses three types of health care in three separate locations.

The separation of these services increases the problems of accessibility and continuity of care.
The HEALTH CARE SYSTEM may be divided into THREE types of health care.
THE COMMUNITY HEALTH CENTER combines the three major components of the total health care system.

COMMERCIAL SERVICES (primary)

HOSPITAL SERVICES (secondary)

WELLNESS SERVICES (tertiary)

COMMUNITY HEALTH CENTER (total system)
Objective

To explore the possibilities of the stated concept is the objective of this project. To do this a facility had to be designed in Mt. Pleasant on a site owned by Roper Hospital. The need to explore the possibilities of such a concept needs to be emphasized because a facility of this nature has never been built before and therefore no case studies exist to set a precedent.
To substantiate the economic aspect of this concept, a building had to be designed on the given site. From this building the gross and net square footages could be calculated. From these square footages the cost and potential revenue could be estimated. Finally, the ability to finance the facility could be calculated. These calculations were made and can be found in the program section of this manuscript.
Location

The site chosen for the facility is located in Mt. Pleasant and is presently owned by Roper Hospital. It is a 17.8 acre site on the corner of Highway 17 By-pass and Bowman Road. This particular site was chosen because of its access to: 1) existing physician offices across Bowman Road, 2) growing residential areas to the northeast along Highway 17, and 3) Roper Hospital in Charleston by way of Highway 17.
MAP OF SOUTH CAROLINA
(showing Health Service Areas)
MAP OF CHARLESTON AND MOUNT PLEASANT
LOCATOR MAP (from aerial photograph)
1) The approach to the site from the Cooper River Bridge (Charleston) is about three miles along Highway 17 By-pass. Highway 17 By-pass is a four-lane divided highway with a frontage road on either side. The route from Cooper River Bridge is growing into a familiar commercial strip type of development. The businesses along this route are presently small clusters of stores facing Highway 17 with parking in front. (As yet there is no large shopping mall in the area.) The site may be seen from Highway 17, but the only natural access is from Bowman Road. Presently only a stoplight and a McDonald's marks the intersection of Highway 17 and Bowman Road.

2) The approach to the site from the northeast along Highway 17 is very similar as the approach from the south except it is presently less developed. Again the site may be seen from Highway 17, but the only natural entrance is off of Bowman Road.

3) The site may also be approached from the north on Bowman Road. Bowman Road is presently a small two-lane road that serves a wide variety of land uses including: 1) single family residences, 2) multi-family residences, 3) commercial, 4) institutional (nursing homes), 5) physician offices, and 6) public (fire station).
There are plans to add an additional lane onto Bowman to accommodate the additional traffic generated by its strategic location between Highway 17 and Mathis Ferry Road and its continued development.
Analysis

Vegetation and Approach Views ........................................ 27
  Public
  Emergency
  Service

Topography and Drainage .............................................. 28
  Height Restrictions
  Flood Zones
  Drainage

Surrounding Land Use/Circulation ................................. 29
  Fire EMS
  Offices
  Future Expansion
SITE ANALYSIS - LAND US. / CIRC.

- Residential - Single Family
- Residential - Multiple Use
- Retail Commercial
- Office & Clinics
- Utilities
- Public

(SITE)
Program
The Community Health Center accommodates three basic types of services in seven different identifiable buildings.

I. **Hospital Services** (all eleemosynary) are in the northernmost building "A".

II. **Commercial Services** (all "for profit") are in the five most central buildings: B, C, D, E, & F.

   - "B" Physician Offices
   - "C" Large Commercial
   - "D" Central Commercial
   - "E" Physical Fitness
   - "F" Small Commercial

III. **Wellness Services** (half eleemosynary and half "for profit") are in the southernmost building "G".

\[ A + B + C + D + E + F + G = 225,500 \text{ SF} \]
Cost / Revenue Program
A - HOSPITAL BUILDING

<table>
<thead>
<tr>
<th>LEVEL DESCRIPTION</th>
<th>Gross SF</th>
<th>Cost/SF</th>
<th>COST</th>
<th>Net SF</th>
<th>Revenue/SF</th>
<th>REVENUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - Diagnostic &amp; Treatment</td>
<td>24,000</td>
<td>$75.00</td>
<td>$1,800,000</td>
<td></td>
<td></td>
<td>(no revenue calculated)</td>
</tr>
<tr>
<td>2 - Mechanical Equipment</td>
<td>24,000</td>
<td>25.00</td>
<td>600,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equipment</td>
<td>24,000</td>
<td>50.00</td>
<td>1,200,000</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Cost & Revenue estimated in '82 dollars)
**B - OFFICE BUILDING**

---

(Cost & Revenue estimated in '82 dollars)

<table>
<thead>
<tr>
<th>LEVEL DESCRIPTION</th>
<th>Gross SF</th>
<th>Cost/SF</th>
<th>COST</th>
<th>Net SF</th>
<th>Revenue/SF</th>
<th>REVENUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - Commercial</td>
<td>13,000</td>
<td>$50.00</td>
<td>$650,000</td>
<td>9,000</td>
<td>$12.00</td>
<td>$108,000</td>
</tr>
<tr>
<td>2-3 - Physician Office</td>
<td>40,000</td>
<td>50.00</td>
<td>2,000,000</td>
<td>30,000</td>
<td>10.00</td>
<td>300,000</td>
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</table>
## C - LARGE COMMERCIAL

(Cost & Revenue estimated in '82 dollars)

<table>
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<tr>
<th>LEVEL DESCRIPTION</th>
<th>Gross SF</th>
<th>Cost/SF</th>
<th>COST</th>
<th>Net SF</th>
<th>Revenue/SF</th>
<th>REVENUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2-3 - Commercial</td>
<td>38,000</td>
<td>$50.00</td>
<td>$1,885,000</td>
<td>38,000</td>
<td>$15.00</td>
<td>$565,000</td>
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D - CENTER COMMERCIAL

(Cost & Revenue estimated in '82 dollars)

<table>
<thead>
<tr>
<th>LEVEL DESCRIPTION</th>
<th>Gross SF</th>
<th>Cost/SF</th>
<th>COST</th>
<th>Net SF</th>
<th>Revenue/SF</th>
<th>REVENUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-3 - Commercial</td>
<td>33,000</td>
<td>$50.00</td>
<td>$1,650,000</td>
<td>12,000</td>
<td>$20.00</td>
<td>$240,000</td>
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<tr>
<td>LEVEL DESCRIPTION</td>
<td>Gross SF</td>
<td>Cost/SF</td>
<td>COST</td>
<td>Net SF</td>
<td>Revenue/SF</td>
<td>REVENUE</td>
</tr>
<tr>
<td>-------------------</td>
<td>----------</td>
<td>---------</td>
<td>-------</td>
<td>--------</td>
<td>------------</td>
<td>----------</td>
</tr>
<tr>
<td>1-2-3 - Physical Fitness</td>
<td>33,000</td>
<td>$50.00</td>
<td>$1,650,000</td>
<td>12,000</td>
<td>$20.00</td>
<td>$240,000</td>
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</table>

(Cost & Revenue estimated in '82 dollars)
F - SMALL COMMERCIAL

<table>
<thead>
<tr>
<th>LEVEL DESCRIPTION</th>
<th>Gross SF</th>
<th>Cost/SF</th>
<th>COST</th>
<th>Net SF</th>
<th>Revenue/SF</th>
<th>REVENUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2-3 - Commercial</td>
<td>31,900</td>
<td>$50.00</td>
<td>$1,595,000</td>
<td>21,000</td>
<td>$12.00</td>
<td>$252,000</td>
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(Cost & Revenue estimated in '82 dollars)
## G - WELLNESS CENTER

(Cost & Revenue estimated in '82 dollars)

<table>
<thead>
<tr>
<th>LEVEL DESCRIPTION</th>
<th>Gross SF</th>
<th>Cost/SF</th>
<th>COST</th>
<th>Net SF</th>
<th>Revenue/SF</th>
<th>REVENUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 &amp; 2 - Wellness Services</td>
<td>31,000</td>
<td>$50.00</td>
<td>$1,540,000</td>
<td>15,000</td>
<td>$12.00</td>
<td>$185,800</td>
</tr>
<tr>
<td>Equipment</td>
<td>31,000</td>
<td>10.00</td>
<td>308,000</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
(Cost & Revenue estimated in '82 dollars)

<table>
<thead>
<tr>
<th>LEVEL DESCRIPTION</th>
<th>Gross SF</th>
<th>Cost/SF</th>
<th>COST</th>
<th>Net SF</th>
<th>Revenue/SF</th>
<th>REVENUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+B+C+D+E+F+G</td>
<td></td>
<td></td>
<td>$15,628,000</td>
<td></td>
<td></td>
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<tr>
<td>Parking (274)</td>
<td>82,200</td>
<td>$25.00</td>
<td>2,055,000</td>
<td></td>
<td>$25.00</td>
<td>2,055,000</td>
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<tr>
<td>Land</td>
<td>17.8 acres</td>
<td>$10,000/ac</td>
<td>178,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Circulation/Mechanical</td>
<td>28,000</td>
<td>$12.50</td>
<td>350,000</td>
<td></td>
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</tbody>
</table>
Estimated Revenue/Month @ 75% Occupancy

Loan Payments (90% initial cost + 14% interest over 12 years) $260,000

Maintenance Fee (15% of monthly revenue 75%) 245,000

Return on Investment (downpayment (10%) plus 12% interest over 12 years) 26,000

Operation Cost and Contingency Fee (10% of revenue) 164,000

Operation Cost for Eleemosynary Services (12% of revenue) 196,000

Energy Cost (10% of cost of 169,000

Estimated Cost/Month 1,060,000

Estimated Income for Hospital/Month $576,000
Economic Conclusion

The "for profit" areas will generate enough revenue/month to pay for all the costs/month plus an income for Roper Hospital/month.

Revenue/month = Costs/month + Income for Roper Hospital/month.
A COMMUNITY HEALTH CENTER
WHICH INTEGRATES NOT-FOR PROFIT HEALTH SERVICES WITH FOR PROFIT SERVICES

A TERMINAL PROJECT SUBMITTED TO THE FACULTY OF THE COLLEGE OF ARCHITECTURE, CLEMSON UNIVERSITY IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF ARCHITECTURE, FALL SEMESTER, 1983
SECTIONS
STRUCTURAL CONCEPT

ALL PRECAST CONCRETE CONSTRUCTION SYSTEM COMPRIS ED OF:

- 4 FT DOUBLE TIE BEAMS (PRESTRESSED)
- TEXTURED FACE AND WALL PANELS
- PRECAST COLUMNS TYPICALLY FROM 2'-0" X 2'-0"
- DOUBLE PRECAST SPIDER SYSTEM
- On-grade slab
- Grade beam between columns
- Spread column foundation (using plans where needed)

MECHANICAL CONCEPT

IN ALL ME ALL ELECTRIC HEAT PUMP SYSTEM, HEATING, COOLING, AND AIRHANDLER UNITS ARE COMBINED IN
MECHANICAL, PACKAGED, LOCATED ON TOP OF
VERTICAL CIRCULATION AND MECHANICAL CORES.

STRUCTURE & MECHANICAL
Resources
Footnotes


2 Ibid.

3 Ibid.


6 Ibid.

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