IPRO 340 Spring 2008
Improving Health Care for the Uninsured and Underinsured
Problem

About Two Million People of Metropolitan Chicago are uninsured or underinsured and can receive more efficient, effective quality health care.

Why is this a problem?
Her mom gets cancer.
They find the tumor early.
Her mom is OK.

< or >

Her mom gets cancer.
She’s diagnosed too late.
Her mom is gone.
His dad has heart trouble.
His dad gets the care he needs.
His dad is OK.

<or>

His dad has heart trouble.
His dad can’t afford the treatment he needs.
His dad is gone.
OBJECTIVE

To design a green (sustainable) community health center that employs state of the art technology and LEAN process design principles for the uninsured and underinsured communities of Chicago
Semester Deliverables

Process maps from research, observations, and interviews.

Research on emerging technology and technology trends.

A Design of a community health center that optimizes process flow and employs these emerging Technologies
**PROCESS MAPPING**  
Larissa Groszko**, Corina Abrudan, Dan Tian, Jeremy Moore, Jessica Patera  
150 hours, $100.00 (Travel)

**STATE OF THE ART**  
Alex Bauer**, Ryan Strand, Christopher Heppel, Christine Ly, Rafal Stawarz  
120 hours, $20.00 (printing)

**INITIAL DESIGN**  
Programs, diagrams, flow charts, design principles  
Groups of two each group including an Architecture Student  
200 hours $0.00

**FINAL DESIGN**  
300 hours $150.00 (Models, printing)

**HOTDOG**  
Rafal Stawarz**, Christine Ly, Corina Abrudan, Dan Tian, Jessica Patera Alex Bauer

**HAMBURGER**  
Larissa Groszko**, Ryan Strand, Christopher Heppel, Jeremy Moore
Access Community Health Network

- Founded in Chicago, in 1991
- Serves uninsured and underserved communities in the Chicago region
- Access focuses on primary ambulatory care for all
- Serves more than 210,000 Patients in Chicagoland annually
- A staff of over 850, including 250 primary care providers
- 1/3 of patients uninsured, majority on Medicare or Medicaid
- 51% of Board of Directors are Access patients
- 50 facilities
- Each facility has their own range of patients based on age, gender, and ethnicity.
Process Mapping

Larissa Groszko, Corina Abrudan, Dan Tian, Jeremy Moore, Jessica Patera

Objective
Analyze the existing processes at healthcare facilities (Registration, Examination, Discharge, Laboratory, Referrals)

Deliverables
1. Process Maps for each of the five processes to visualize the flow and duties of patients and staff
2. An ideal process map for each of the five processes.
Sites Visited

- Booker Family Health Center
- Hawthorne Family Health Center
- Brandon Family Health Center
- Genesis Center for Health and Empowerment
Process Mapping

Research:
• Observations from site visits
• Speaking with Bessie Harris from Access whom deals with performance improvement and system redesign
• LEAN principles
Objective
Research and discover current and emerging technologies in the field of community health care. (Sustainable technology, Medical technology, Infection control, Information technology)

Deliverables
A presentation with the pro’s and con’s of each chosen technology and an explanation of how it works in a Health Care facility.
Medical Technology

Medicine delivery through HP Patches

Aerosol Vaccines

Disease recognition through the use of a breathalyzer
Information Technology

Identification chips to recognize patients and equipment location

Electronic Health Record

Tablet PC’s
Sustainable Technologies

Reduce Energy Use Through Daylighting

Geothermal Heating/Cooling

Active Lighting
Infection Control

Avoid disease spread though the use of touchless fixtures

Room Sanitizer
Facility Design

Objectives:

• Create a floor plan for a community healthcare facility
• Fulfill the nine design principles of a future health center into the design

Deliverables:

• Final floor plan with assumptions and objectives clearly noted
• 3d Computer animation and physical models
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**PROGRAM**

Hamburger

Hotdog
9 Design Principles

1. Open Communication
2. Healing Environment
3. Scalability of Design
4. Pediatric/Geriatric Care
5. State of the Art Technology
6. Sustainability
7. Privacy
8. Security
9. LEAN Principles
Open Communication

Healing Environment
Pediatric/Geriatric Care

State of the Art Technology
Sustainability
Privacy

Patient privacy

Private consultation rooms
LEAN Principles
IPRO 340

Design of a Green Community Health Center of the Future
TEAM

Corina Abrudan
Civil Engineering
Alex Bauer
Civil Engineering
Larissa Groszko
Architecture
Chris Heppel
Architecture
Christine Ly
Architecture
Jeremy Moore
Architecture
Jessica Patera
Architecture
Rafal Stawarz
Architecture
Ryan Strand
Computer Engineering
Dan Tian
Biomedical Engineering

Steven Glass
Chief Information officer/ Performance Improvement officer
Bessie Harris
Director, Performance Improvement and Systems Redesign

Matthew Miller, AIA
Architect

Daniel Ferguson
Professor
Questions and Comments?