Interweaving Design and Medical Research Paradigms Through Participatory Collaboration

What happens when **medical students collaborate with design students** with seemingly different worldviews to conduct a qualitative form of research?

Paradigms intersect, boundaries get transcended, and innovation happens through co-creation! ✨

Part 1

Interweaving Design and Medical Research Paradigms

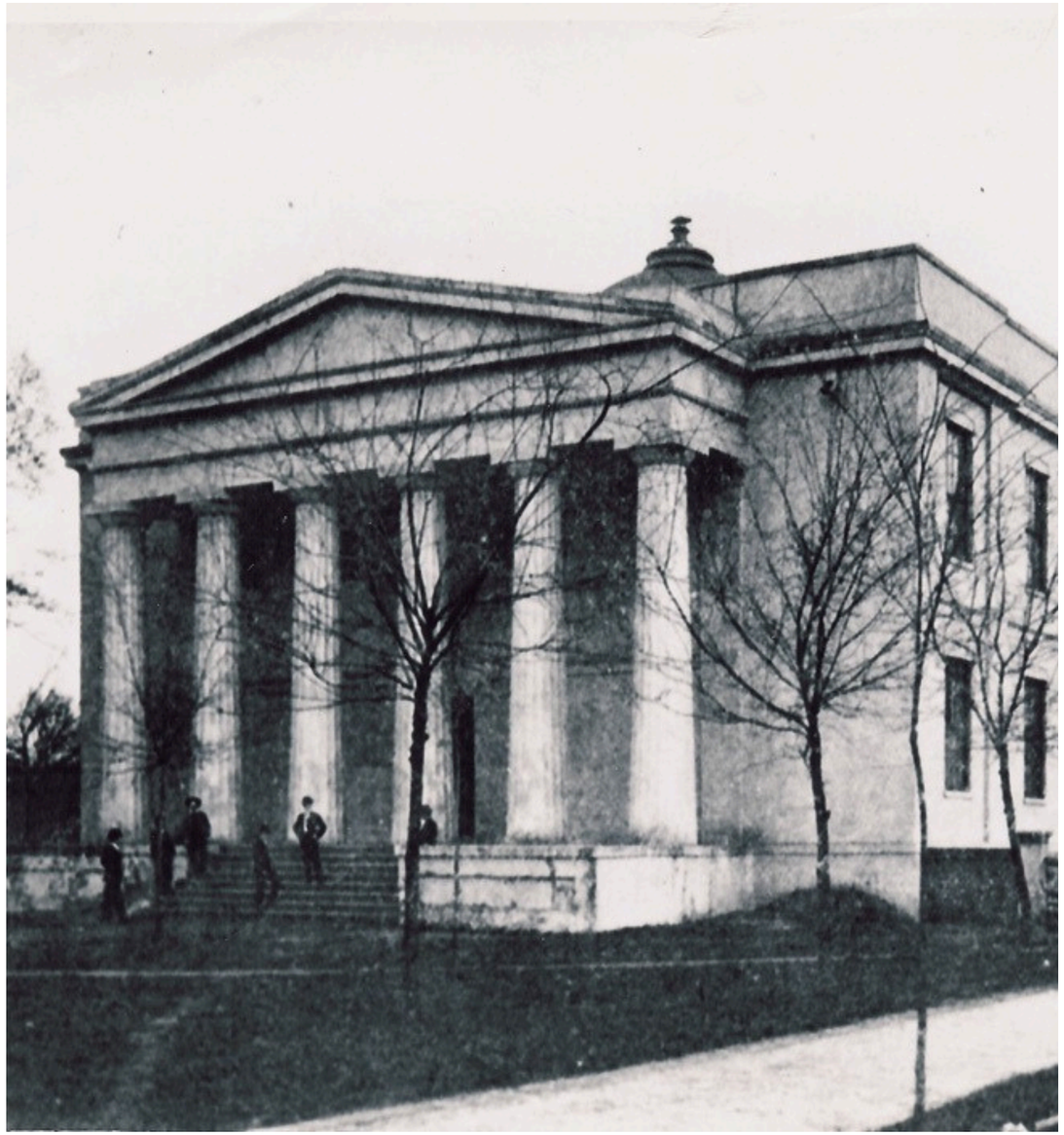
Introduction

In a pioneering interdisciplinary endeavour, the students of SCAD and MCG embarked on a project to dissect and comprehend each other's research processes.

Through structured workshops, creative methodologies, and collaborative design, the teams identified potential avenues to enhance the user experience for medical students executing community-based research.

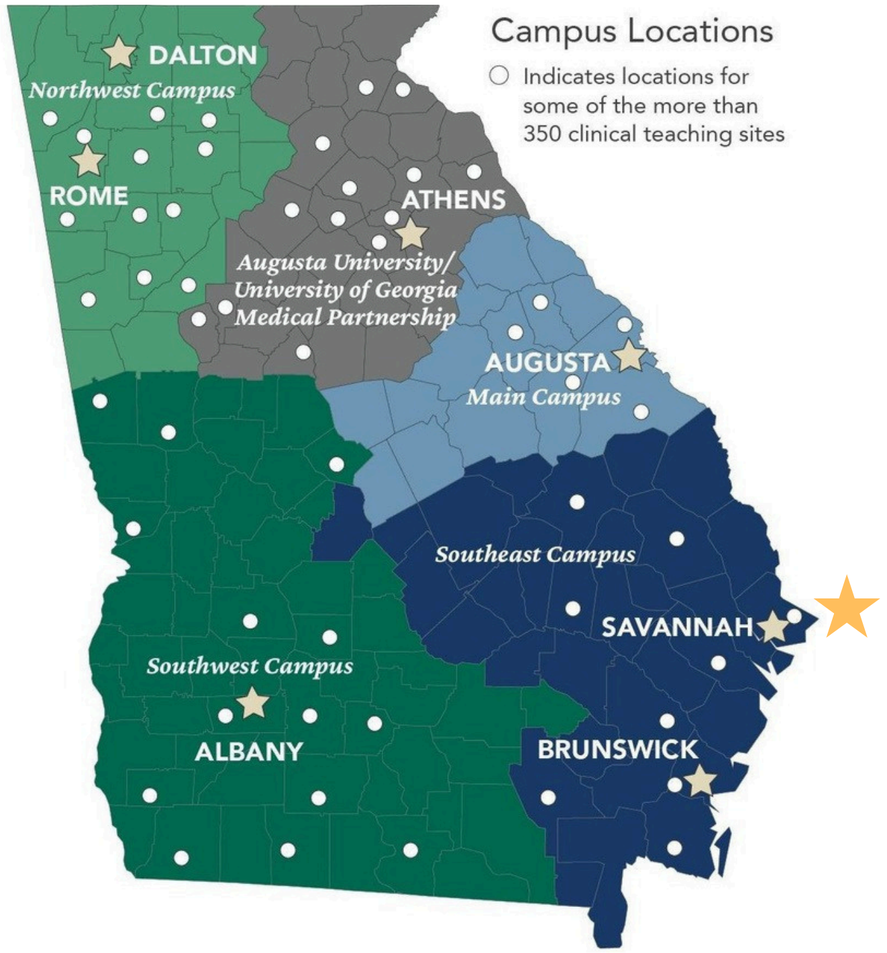
Medical College of Georgia

The Medical College of Georgia has a long and pioneering history in medical education. Founded in 1828 as **one of the USA’s first medical schools**, MCG has been educating physicians and advancing health care for nearly 200 years.



Medical College of Georgia

In order to promote service in rural and underserved areas, **MCG redesigned its core 4 year MD program to an accelerated 3+ year program** to provide flexibility, enable students to graduate early and join a residency program in Georgia.



When thinking of Medical Research, what comes to your mind?

Community Based Research

MCG, committing to creating more research opportunities and improving the quality of the output of its students seeks to develop **an innovative non traditional Community-Based approach to research.**

Community Based Research

Community Based Projects are collaborative, change oriented, and inclusive. The interventions created requires multifaceted participation and the projects are responsive to the community's needs.

NIH CBPR/PAN Canada

3D Printed Family
Portraits For The Blind

Community-Based Vision
Screening in Savannah

The Effects of Uninsurance
on Patient Health

Exploring the Stigma
Around Family Medicine

SCAD X MCG

DR. CHRIS MILLER
Mentor/ Professor

CHANDHANARAO LINGAMPALLY
MFA | Design Management

SUSWARA MOOLA
MFA | Design Management

Tanvi Deshpande
MA | Design Management

CHONGYUAN YIN
MFA | Service Design

Tirath Singh Puni
MFA | Service Design

Qian Wan (Quinn)
MA | Industrial Design

Alexa M. Ghulam
Interventional Radiology

Gabrielle Siddiqui
Pre-Med Student

Hisham Kashif
Anesthesiology

Jack Xhemali
Undecided Specialty

Stephanie Parris
Family Medicine

Tommy Bui
Ophthalmology

12 students • 5 projects • 2 Disciplines

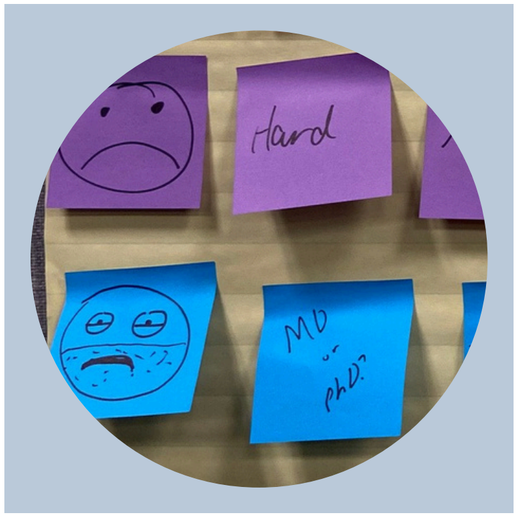
Approach

What contributions can SCAD design students make to enrich MCG student research practice and experience?

Approach

Two to One Collaboration

Project Level



Diagnostic Workshop

Group Level

Co-Creation Workshop

Institutional Level

Approach

Two to One Collaboration

Project Level

Two design students paired up with one medical student each to closely understand their project. This allowed us to not only look at the them **closely from multiple angles**, but also correlate our insights with all groups.

Approach

Diagnostic Workshop

Group Level

We adapted activities from Modmentum's Brand Diagnostic Toolkit and IBM's enterprise Design Thinking Toolkit to **uncover the research process, the needs, and challenges** faced by medical students as a body of students.

Approach

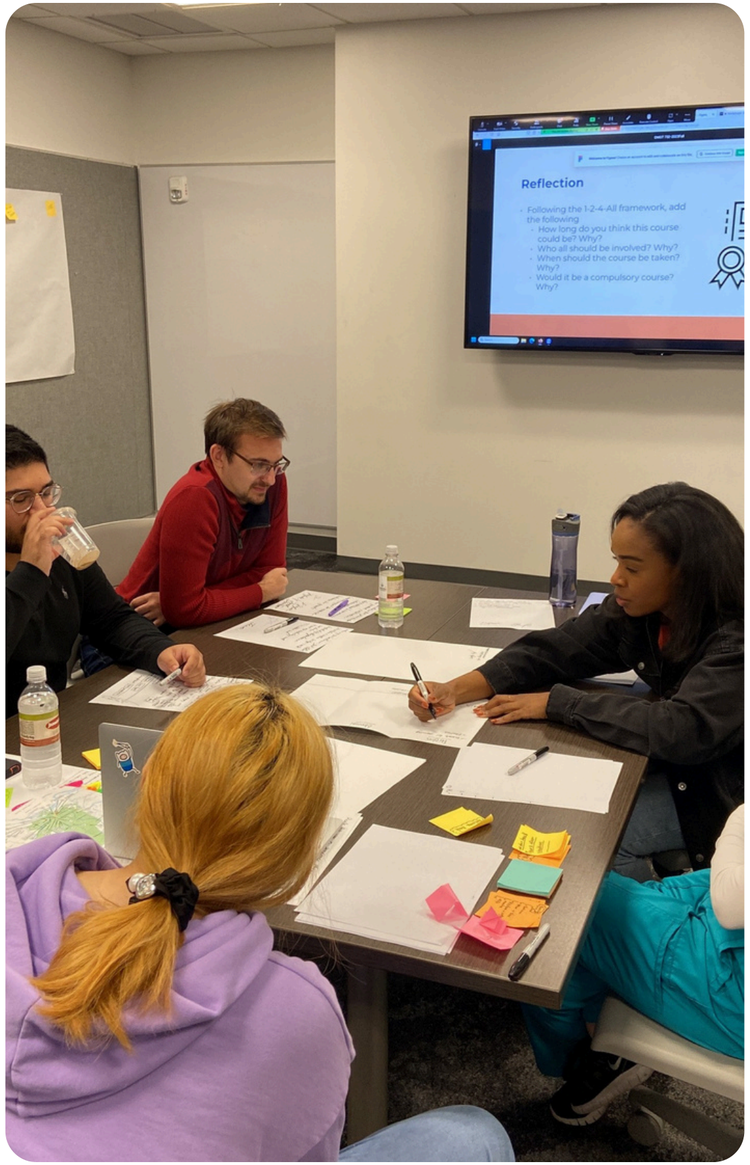
Co-Creation Workshop

Institutional Level

Enabled the medical students **to creatively reflect on their process and introduce ethnographic tools** to be adopted at an institutional level. We used the Liberating Structures created by Henri Lipmanowicz and Keith McCandless to design the workshop.

DREAMS
NIGHTMARES

PROJECT
DNA


Reflection
- Following the 1-2-4-All framework, add the following
- How long do you think this course could be? Why?
- Who all should be involved? Why?
- When should the course be taken? Why?
- Would it be a compulsory course? Why?

Part 2

Paradigms in Action. Learnings from the collaboration.

Challenging one’s Worldview

Communicating the Value

Thinking Holistically

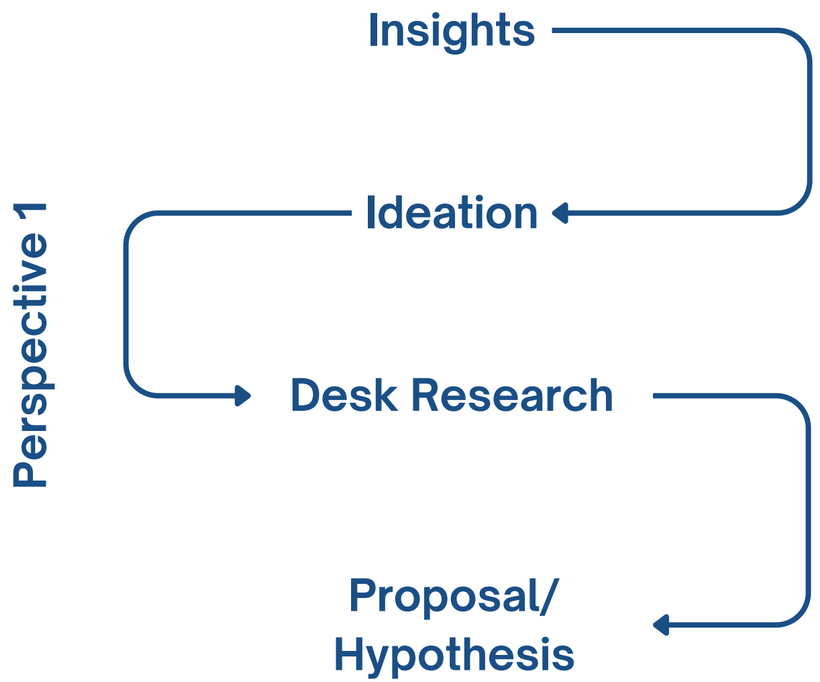
Learnings

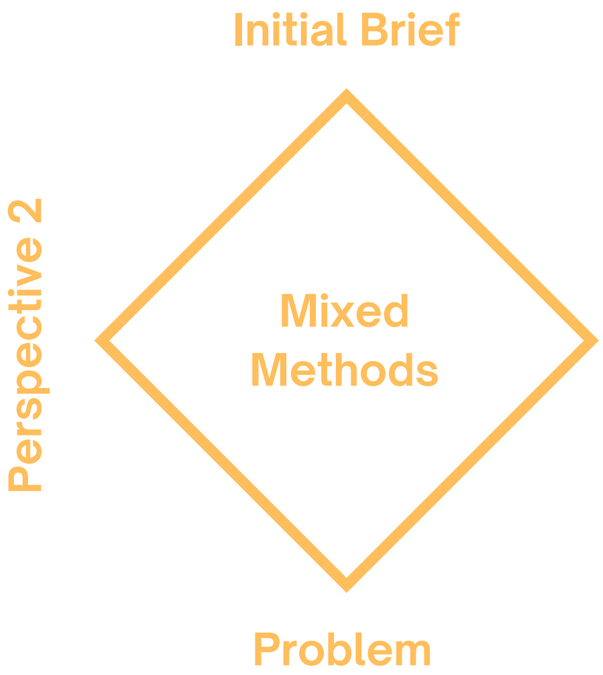
We observed that the medical students applied a very **quantitative approach to understand very qualitative phenomenons!**

Consider this:
a project to evaluate emotional responses of visually impaired people to 3D printed portraits

LinkedIn/Jack Xhemali

Learnings





We wanted to first investigate the experience of visually impaired people to understand their challenges!

So how do we challenge the worldview?

Through role-playing!

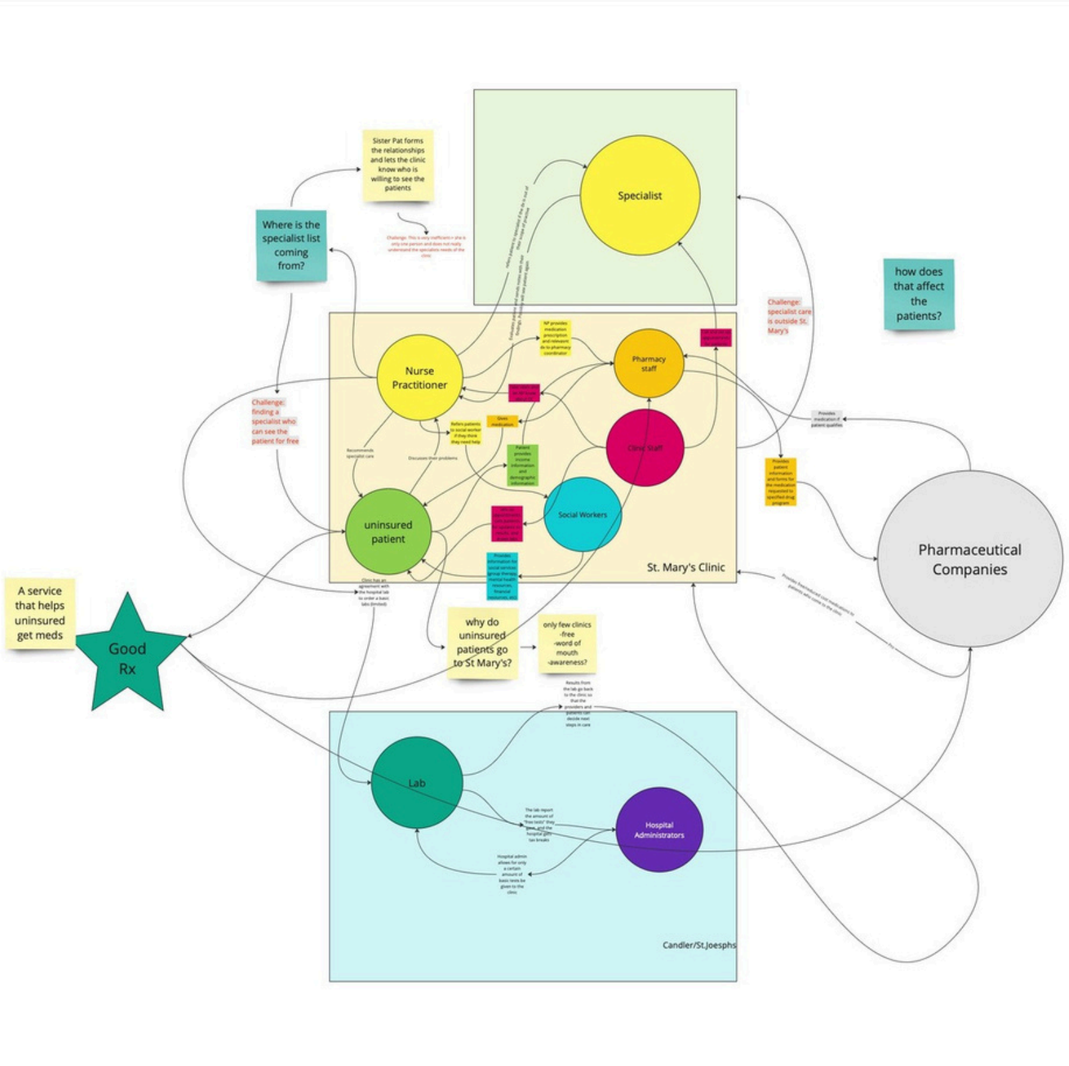
We **introduced the tool of roleplaying** to put oneself in the shoes of the users and imagine a day in their lives!

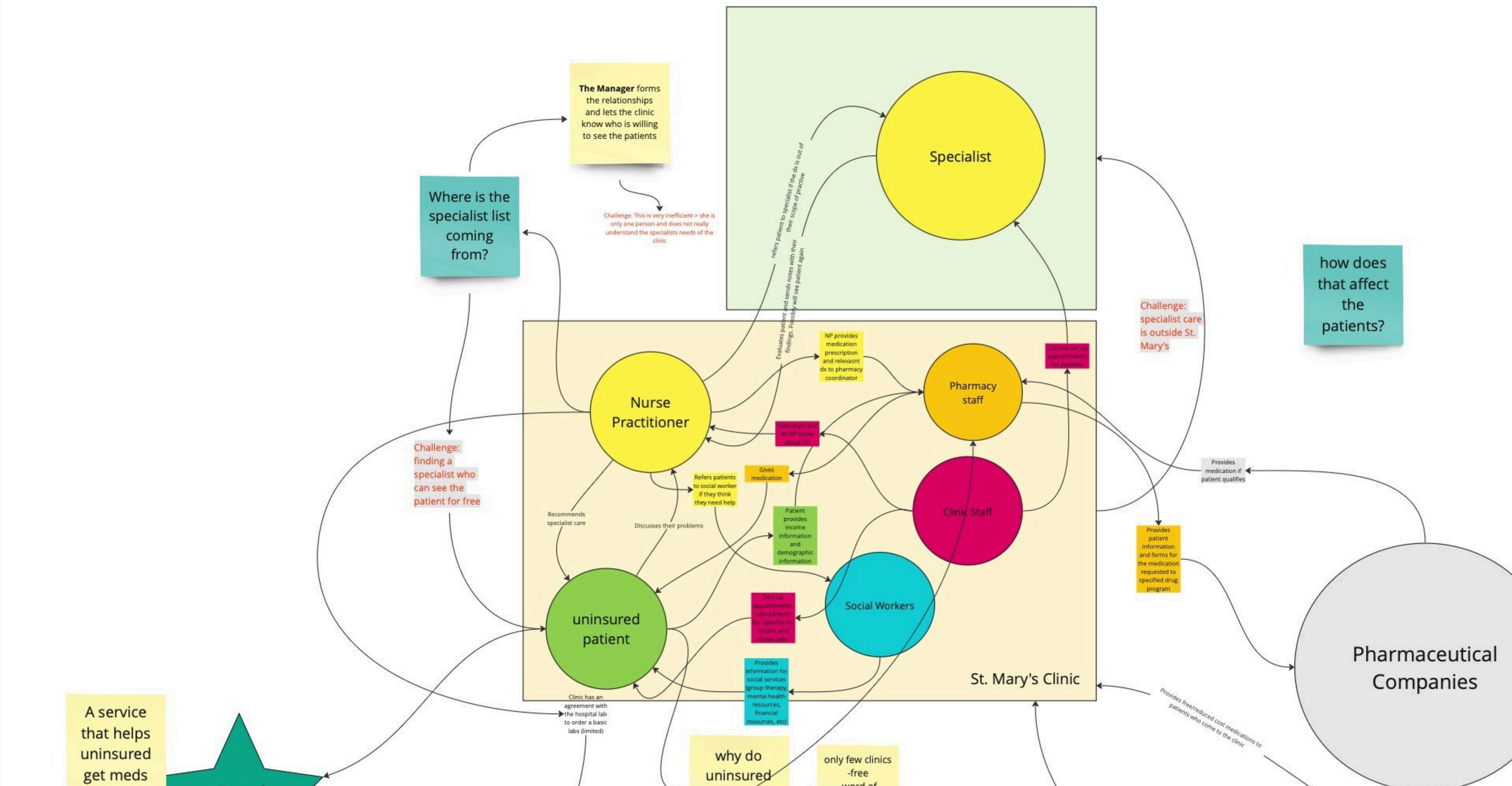
We gave the student objects to identify to see if they feel any better and then **suprised him with the comfort of a human touch!**

Communicating the Value

Part of the challenge was also to show the value **qualitative methods and an abductive logic** brought to finding the root causes of behaviour of the people in the communities.

Applying the service design approach of ecosystem mapping uncovered deeper connections!

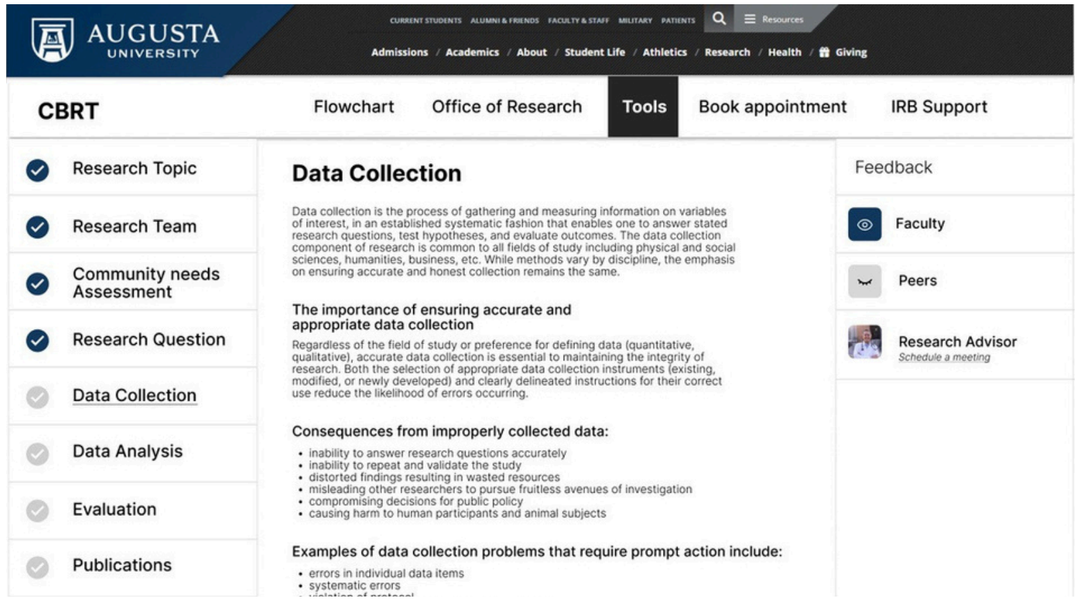


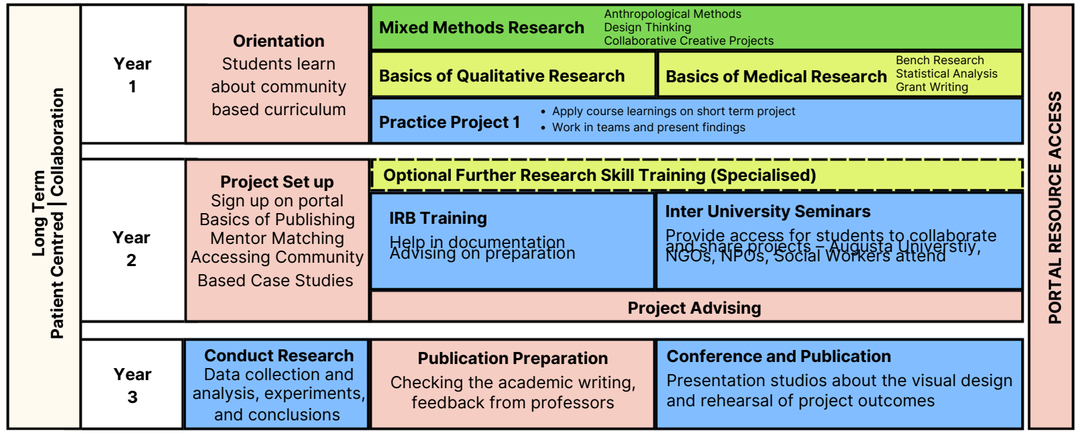

The Manager forms the relationships and lets the clinic know who is willing to see the patients
Challenge: This is very inefficient -> she is only one person and does not really understand the specialists needs of the clinic
Where is the specialist list coming from?
Specialist
Refers patient to specialist if the dx is out of their scope of practive
Evaluates patient and sends notes with their findings. Possibly will see patient again
how does that affect the patients?
Challenge: specialist care is outside St. Mary's
NP provides medication prescription and relevasnt dx to pharmacy coordinator
Call and set up appointments for patients
Nurse Practitioner
Pharmacy staff
take vitals and lets NP know about CC
Challenge: finding a specialist who can see the patient for free
Gives medication
Refers patients to social worker if they think they need help
Provides medication if patient qualifies
Clinic Staff
Recommends specialist care
Discusses their problems
Patient provides income information and demographic information
Provides patient information and forms for the medication requested to specified drug program
Sets up appointments, calls patients for updates on results, and draws labs
Social Workers
uninsured patient
Pharmaceutical Companies
Provides information for social services (group therapy, mental health resources, financial resources, etc)
St. Mary's Clinic
Clinic has an agreement with the hospital lab to order a basic labs (limited)
Provides free/reduced cost medications to patients who come to the clinic
A service that helps uninsured get meds
why do uninsured
only few clinics -free

Holistic Thinking

After understanding the needs of the students, we provided a range of suggestions **to holistically incorporate qualitative approaches** to conduct Community Based Research.

The interventions ranged from an ethnographic research toolkit, a research portal as well as changes to the curriculum.





“This is one of the great virtues of encountering someone or some place that is radically different from what we know. We see the contrast between how we do things and how they do things, and we can then see ourselves in a new light.”

Michael Wesch