Optimizing Patient Experience Using Human-Centered Design Thinking
A Creative Way to Problem Solving

Shaun Wahab¹,², Craig Vogel¹, Shari Lecky², Bruce Mahoney¹,², Mary Gaskill-Shipley¹,², Erica Washburn², Kimberly Lambrinides², Robert Schwartz³, Mary Mahoney¹,², Achala Vagal¹,²

¹University of Cincinnati, Cincinnati, OH; ²UC Health, Cincinnati, OH; ³General Electric Healthcare, Waukesha, WI
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Collaborators/Stakeholders

UC Health Radiology Administration
- Radiology Chair
- Radiology Vice Chairs
- Radiology Section Chiefs
- Radiologists
- Department Directors
- Business Managers
- MRI Technologists
- CT Technologists
- RNs
- Quality Coordinator
- Patient Experience and Service

UC Health Stakeholders
- President of UC Health
- Chief Admin Officer
- Chief Marketing Officer

UC Health Specialists & Referring Physicians
- Surgery
- Primary Care
- Emergency Medicine
- Thoracic Surgery
- Surgical Oncology
- Nephrology
- Neurology

Design Team

Live Well Collaborative
- Associate Dean of College of Design, Architecture, Art, and Planning
- PhD Architecture
- Masters of Design
- Industrial Design
- Graphic Communication Design
- Fashion Design

GE Healthcare
- Global Design
- Global Research
- Commercial
Purpose

- Design thinking is a creative problem-solving technique borrowed from the business world. Our objective was to identify innovative opportunities towards optimizing the outpatient CT and MRI patient experience using human-centered design thinking.
A creative, human-centered problem solving approach that leverages empathy, collective idea generation, rapid prototyping, and continuous testing to tackle complex challenges.

<table>
<thead>
<tr>
<th>FRAME A QUESTION</th>
<th>GATHER INSPIRATION</th>
<th>GENERATE IDEAS</th>
<th>MAKE IDEAS TANGIBLE</th>
<th>TEST TO LEARN</th>
<th>SHARE THE STORY</th>
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<tbody>
<tr>
<td>Identify a driving question that inspires others to search for creative solutions.</td>
<td>Inspire new thinking by discovering what people really need.</td>
<td>Push past obvious solutions to get to breakthrough ideas.</td>
<td>Build rough prototypes to learn how to make ideas better.</td>
<td>Refine ideas by gathering feedback and experimenting forward.</td>
<td>Craft a human story to inspire others toward action.</td>
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“We ask what can we do to change things? That question leads us to design which is the act of changing existing situations into preferred ones.”

- Herb Simon, Nobel Prize in Economics 1978
Design Thinking Process

Design Thinking is a process broken down into five distinct phases. This process focused on phases 1-3.

1. Research
   Understand
2. Ideate
   Conceptualize
3. Refine
   Detail
4. Next Steps
   Continue

5. Identify
   Lead-In
Our Design Thinking Journey

Research
- Stakeholder Interviews
- Qualitative Data Synthesis
- Trend Forecasting and Benchmarking

Ideation
- Conceptualizing Research
- Stakeholder Co-creation Sessions

Refinement
- Develop Project Opportunities
- Test Concepts with Stakeholders
- Create Project Pipeline
- Present Ideal Patient Journey

Stakeholder Co-creation Sessions

Develop Project Opportunities

Test Concepts with Stakeholders

Create Project Pipeline

Present Ideal Patient Journey
Phase 1 Research: Patient Journey and Learnings in Outpatient CT and MRI

1. High Variability
   There are no clear patterns for patient types. Staff will encounter different characteristics and behaviors for each patient.

2. Education Differences
   Throughout the process, patients and staff are interacting with people with various levels of education, health literacy, and comprehension of the process.

3. Invisible Doctor
   The Radiologist plays a seemingly invisible role to the patients. Patients have a misconception of radiology, Radiologists, and their role in the process.
Phase 1 Research: Additional Learnings

1. Referral
   - Patient Engagement in Personal Health
   - Schedulers Help Calm Patients
   - Digestible and Accurate Information
   - Unreliable Resources
   - Accessible Information

2. Arrival
   - Anticipating Challenges
   - Past Testimonials
   - Social Support
   - Pre-appointment Challenges

3. Check-in
   - Awareness of Personal Medical History
   - Social Support
   - Patient Communication
   - Health Literacy
   - Patient Support Network

4. Imaging
   - Power of Connection
   - Thorough Conversation
   - Unexpected Needs
   - Delays

5. Leaving Radiology
   - Timeliness
   - Compassion
   - Navigation
   - Setbacks Impact Multiple Stakeholders
   - Immediate Anxiety
   - Unanswered Questions

6. Results
   - Quick Connections
   - Physician to Physician Accessibility
   - In-person Clarity
   - Inadequate Explanations
   - Cost Effective vs. Affordability
Phase 2 Ideation: Innovation Focus Areas

1. **Patient Action Plan**
   Provides assistance from staff members that help patients navigate their day at UC Health, including other appointments and procedures.

2. **Educational Tool**
   Provides unbiased information that educates the patient and prepares them for their clinical experience with a focus on the imaging process.

3. **Connected Care**
   Provides assistance to the Staff to be connected and share the same level of information in order to know how to deliver better patient care.

**KEEPING IN MIND**
Phase 2 Ideation: Project Opportunity Spaces
Phase 3 Refinement: Visualizing the Ideal Patient Journey
### Phase 3 Refinement: Stakeholder Feedback (Patient and Staff)

#### Clinician & Staff Feedback - Focus Pyramid

- **Immediate need**
  - Redefining the Experience
  - Humanizing the Process
  - Process Tracker

- **Distant need**
  - Patient Hub
  - Interactive Imaging
  - Art of Radiology
  - Executing Mindfulness

- **Reach out/Retain**
  - Patient Outreach
  - Virtual Simulation

#### Patient Feedback - Qualitative Weighted Matrix

<table>
<thead>
<tr>
<th>Overall Score</th>
<th>Weight</th>
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<tr>
<td>83</td>
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- **Educational Tool**
  - Health engagement x2
  - Calming x2
  - Digestible information x3
  - Reliable source x1
  - All health literacy levels x2
  - Clarity of information x3

- **Connected Care**
  - Additional needs x1
  - Relationships with staff x2
  - Staff compassion x2
  - Unanswered questions x2
  - Effortless to use x3

- **Patient Action Plan**
  - Social support person x1
  - Patient communication x2
  - Communicate delays x2
  - Navigation x2
  - Relieve anxiety x3

### Key Metrics
- Overall Score: 83
- Weighted scores for various categories are shown in the matrix.

#### Scoring System
- 1 - Never
- 2 - Sometimes
- 3 - Always
# Evaluative Metrics: Press Ganey Metrics with Potential Design Thinking Projects

**Registration**

- Helpfulness of the person at the registration desk: 1
- Ease of the registration process: 1, 2, 3
- Waiting time in registration: 3, 4
- Comfort of the waiting area: 1, 6
- Ease of finding your way around: 2
- Cleanliness of the facility: 1

**Facility**

- Friendliness/courtesy of the staff who provided your test or treatment: 1, 4
- Explanations from the staff about what would happen during your test or treatment: 1, 2, 4, 5
- Skill of the staff who provided your test or treatment: 4
- Staff’s concern for your comfort: 8, 10
- Staff’s concern for your questions and worries: 2, 7, 9
- Our concern of your privacy: 1
- Our sensitivity to your needs: 1, 7, 9
- Response to concerns/complaints made during your visit: 1, 2

**Test or Treatment**

- How well staff worked together to provide care: 2, 4, 7
- Overall rating of care received during your visit: 1, 2, 3, 4, 5, 6, 8, 10
- Likelihood of your recommending our facility to others: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

**Overall Assessment**

**Legend**

- 1: Redefining the Experience
- 2: Patient Hub
- 3: Process Tracker
- 4: Humanizing the Process
- 5: Video Series
- 6: Art of Radiology
- 7: Reach Out/Retain Campaign
- 8: Interactive Imaging
- 9: Patient Outreach
- 10: Virtual Simulation
Conclusions

- Through the empathic lens of design thinking, a novel vision of human-centered radiology care can be created to map the ideal patient journey.

- A design thinking project pipeline can be created in order to address pain points/areas of improvement and help promote sustained departmental and institutional momentum.

- Collaborators can use the co-design process to find new and creative solutions to common problems in a way that makes thinking outside the box the new norm.

Next Steps

- To create and test a deliverable, feasible, functional prototype of an ideal outpatient journey (from referral to result delivery).

- To translate our insights into interventions and solutions that will be refined using the co-design method.

- To continue this incredible design thinking journey by focusing and prioritizing our efforts.