



Overcoming Barriers that Prevent You from Building a Secure Mobile App that People Actually Use

AMC Security and Privacy Conference – June 3<sup>rd</sup>, 2019



**Level 1 Trauma Center in Raleigh, NC**

**7 Locations**

**919 Bed System**

**Medical Staff Providers: 1,085**

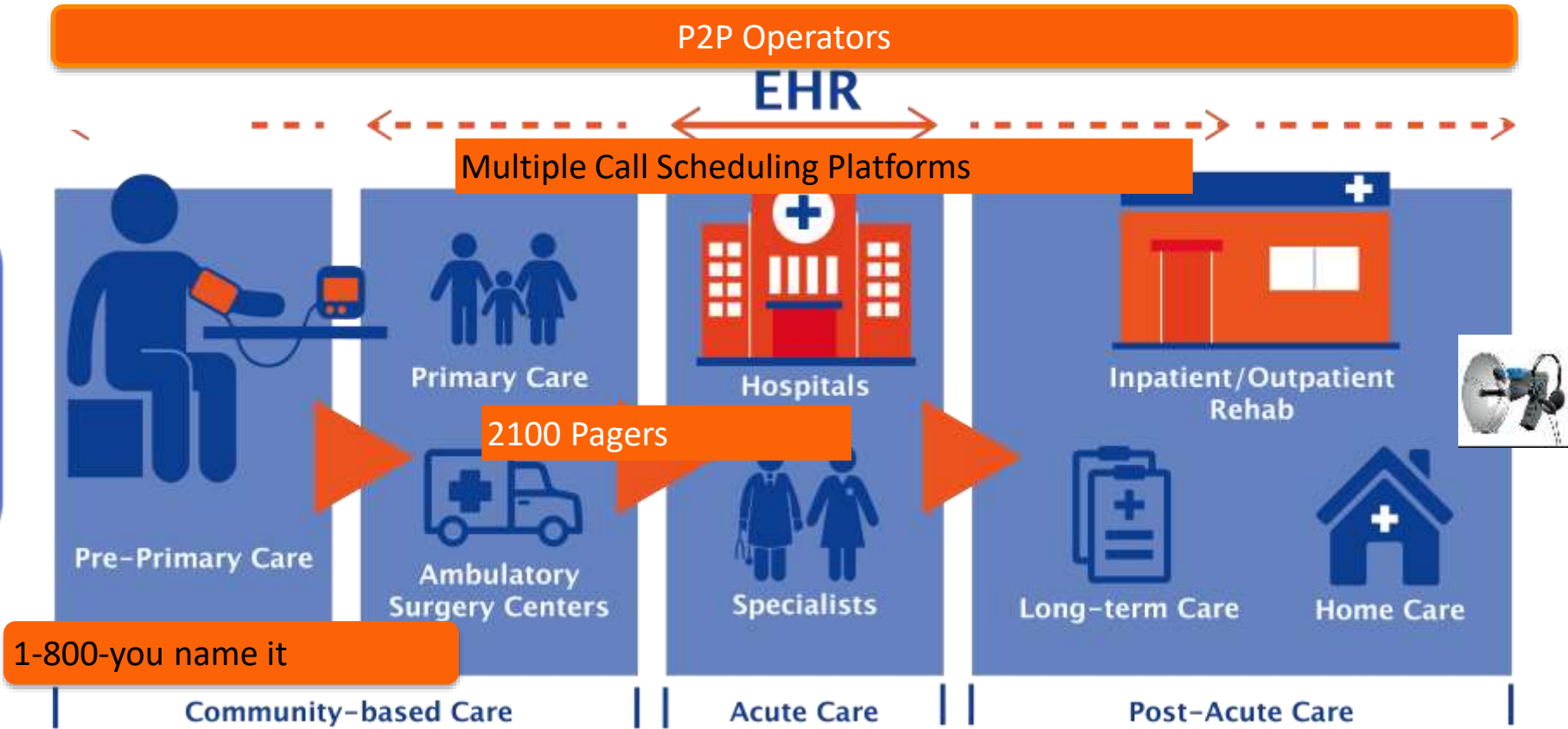
**Children's Hospital: 99 Beds**

**500+ Integrated Physicians (WPP)**

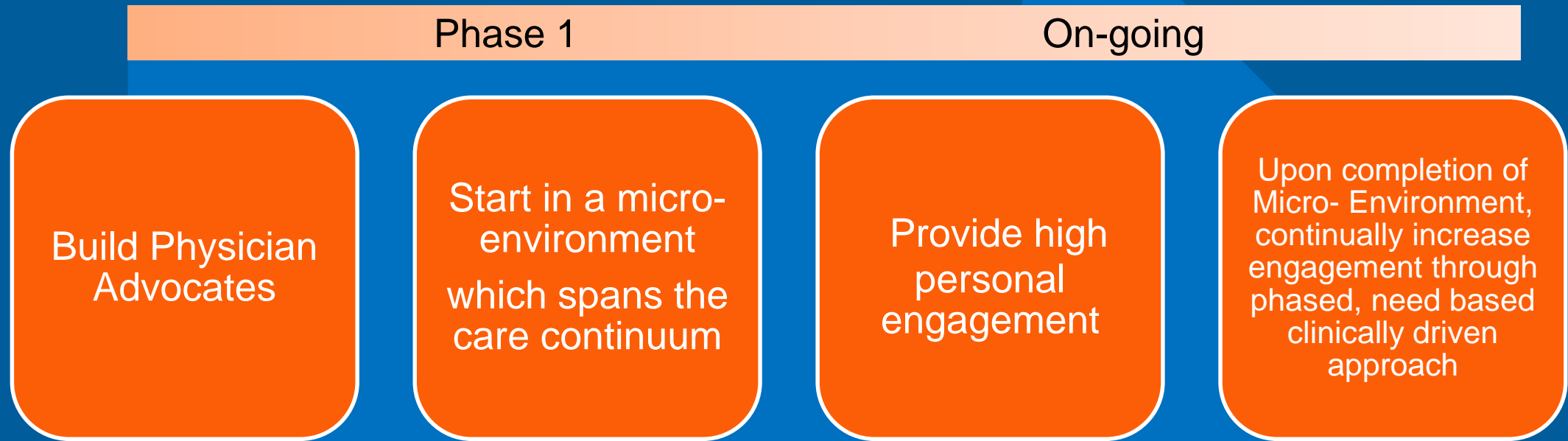
**Residency Program with UNC, Duke, Campbell**

# Case Study: WakeMed 2015

**69%**  
of referring doctors  
indicate they don't know  
the right doctor to reach  
or how to reach them



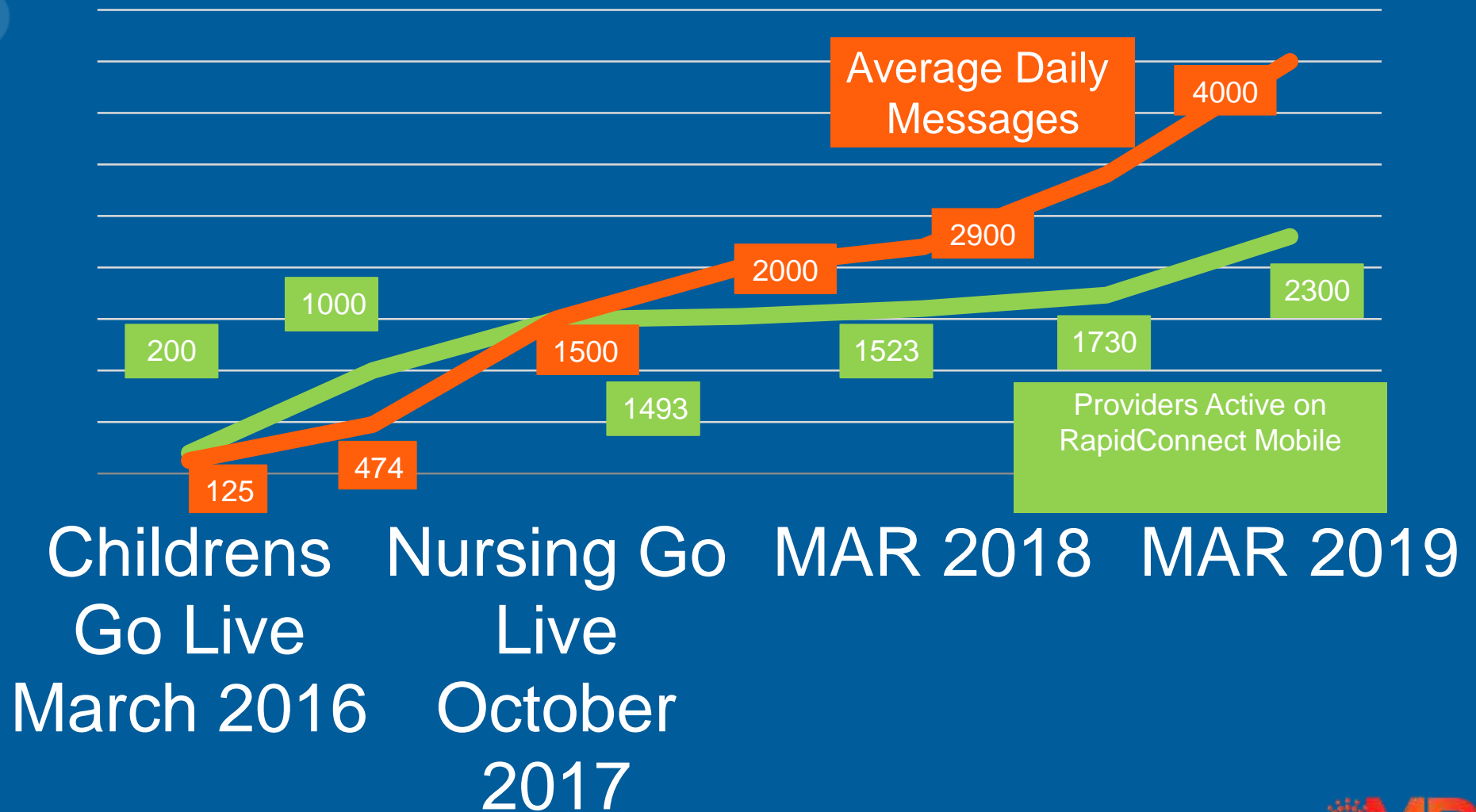
# Implementation Strategy



# Growth and Adoption- Urgent Messaging

## WakeMed Timeline

➤ Plus over 4,800 Web Users (nurses, admins, techs, etc..)



# Case Study: WakeMed Health & Hospitals Today

## OUTCOMES

- Successfully implemented across the care continuum
- Integrated with EHR clinical workflow
- Increased access and patient referrals
- Cornerstone to ACO success
- Preferred method of communication

Physician driven  
solution  
connects more than  
**4,000**  
providers and referring  
physicians

Connecting over  
4500 staff  
**Average 3600**  
**messages a day**

Call center pages reduced by  
more than

**50%**

**<4min**

Response time to messages  
sent to a role

# Presenter Roles In The Project

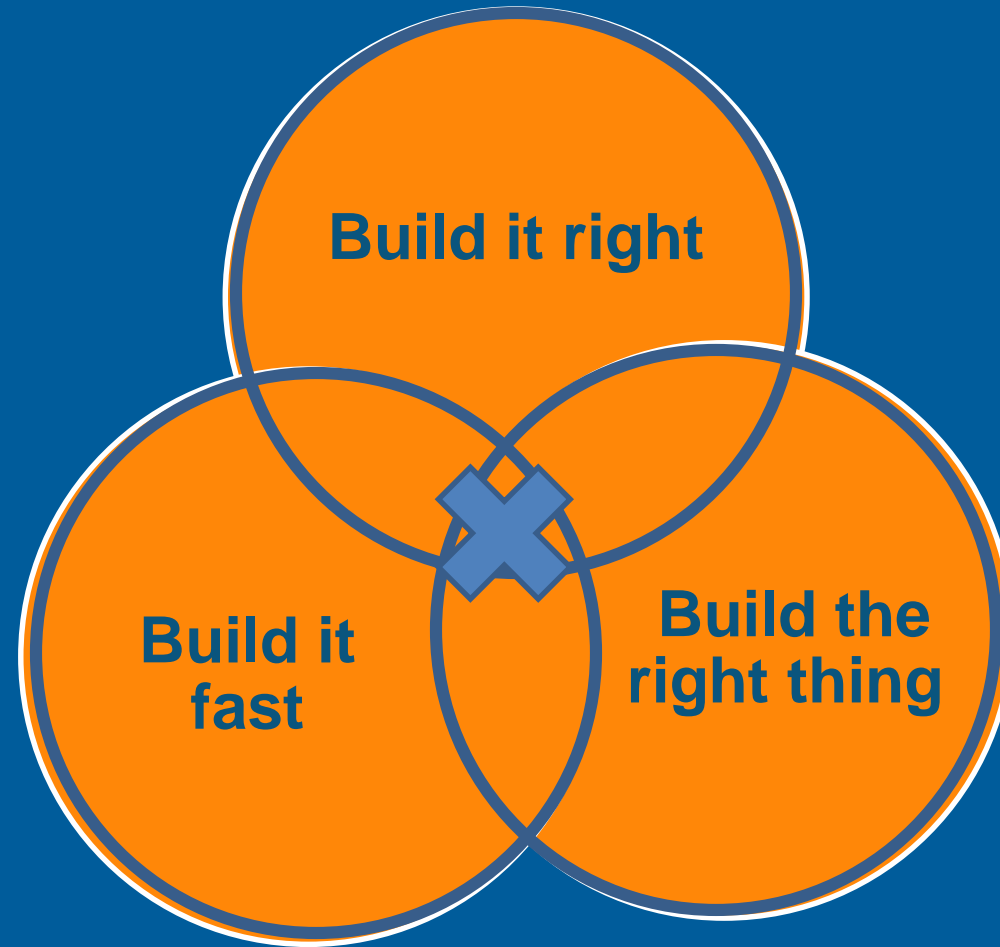
- Allie Lindahl – formerly WakeMed nursing – early collaborator on the project
- Peter Nelson – Stern Security – RapidConnect security testing (multiple audits)
- Jeff Kramer – CTO MD Interconnect – Product & Engineering for RapidConnect

# Technology Landscape

- Users expect your product to be easy to use and solve problems
- Change is constant – your product must ebb and flow with the changes
- Users will do things that you didn't expect them to do with your product



# AGILE Method



## Barrier 1

The engineers who build your application lack in-depth clinical knowledge

# Checklist to Overcome Barrier 1



## **Assemble Passionate Product Team**

Representation from relevant disciplines: IT, nursing , physician leadership, whoever is “doing” this work now, project lead, engineer, UI designer , product manager, security analyst

Consider security requirements up-front



## **Have a disciplined framework for user stories and use it**

As a \_\_\_\_\_ I need to \_\_\_\_\_ so that I can \_\_\_\_\_.

And if I can't then I will \_\_\_\_\_

While I am doing this I am also \_\_\_\_\_



## **Capture key work flows –**

Discover secondary players and take time to gain their trust



## **Mock-up screenshots and sit down with user in their environment, not in a conference room**

Be careful not to give leading information



Ensure developers receive training on HIPAA and related security standards when developing apps for the medical space

## Barrier 2

People giving you valuable and much needed input will try to steer you off course

# Checklist to Overcome Barrier 2



Evaluate requests against your mission statement

Every feature has a cost



Define your critical user and understand impact of any feature request on this user

Does this feature improve my critical user experience or impede it?



Have a simple method of prioritization for Product Team discussions

T- shirt size- S, M, L,XL

Allow for and look for the 3 agile perspectives



Ensure users have access to only the data necessary for their job function/role in the context of the use case



Have a separate deeper process for investment/partnership opportunities

Find resource with business development experience

## Barrier 3

Legacy systems are there and easy for people to fall back on

# Checklist to Overcome Barrier 3



Establish open lines of communication with staff

Clinicians are often too busy to respond directly to you but will give feedback to their administrative staff



Create proactive alerts of poor experiences and a way to respond

Simple is better to begin with



Have a way to gain insight into use of legacy systems to see who has jumped ship



Provide reporting on positive outcomes and experiences

Put this information in hands of champions



Consider average age and technology aptitude of your users

Ideas from your product design team may be lost on your users

## Barrier 4

New and improved infrastructure options come to market everyday leaving yesterday's choices out dated



# Checklist to Overcome Barrier 4

- ✓ Be ready to evolve quickly  
Smaller stories with iterative development and daily communication (< 10 developer hours per card)
- ✓ Schedule yearly security audits to ensure continued compliance
- ✓ Speed is essential to end user experience
- ✓ Bug Fixes  
Gauge number of users affected and impact on your critical users to ascertain urgency

Questions??

Thank you

