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Improving Throughput and Decreasing Length of Stay: A Davies Story

Session #116 March 7, 2018

The LVHN Daily Huddle March 7, 2018

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Paperless Registration

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COMMITMENT

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Conflict of Interest Disclosure

- **Kim Jordan, DNP, MHA, RN, NE-BC**
- **Jan Wilson, MS, RN, CPHMS**
- **Dana Ostrow**

Have no real or apparent conflicts of interest to report.

Learning Objectives

- **Apply root-cause analysis to identify opportunities for improving patient flow and develop technology and process for realizing results.**
- **Identify result-driven deficiency benchmarks and tools to develop techniques for driving positive improvement.**
- **Detail processes of a daily leadership huddle that utilizes embedded electronic health record analytics and real-time dashboard reports.**
- **Describe the guiding principles NYU Langone used to select the appropriate interface and workflow to engage patients in the paperless registration process.**
- **Discuss the mechanism by which NYU utilized to measure process improvement.**

The LVHN Daily Huddle

The Problem

Background

- **LVHN Facility Overview**
 - **Cedar Crest site has 686 staffed beds**
 - 7 high level units
 - 16 medical surgical and low level units
 - 6 pediatric and perinatal units
 - **Average Movement**
 - 80 Adult and pediatric operating room patients
 - 90 ED admits
 - 100-160 discharges
 - 50 transfers between units
 - 230 beds cleaned
- **LVHN Huddle Background**
 - **Response to increased length of stay (LOS)**
 - **Challenge of constant patient movement**
 - **Ambulances being directed to other hospitals**
 - **Over 1300 diversion hours for FY 2015**
 - **Admitted patients being held in ED**

Purpose

- **What is the LVHN huddle?**
 - **Purpose: enhance patient flow and improve patient experience**
 - **Challenges:**
 - **Consistent occupancy greater than 90%**
 - **Balance competing demands**
 - **Strategy: daily huddle with leadership from across the facility**
 - **Focus on patient flow and metrics**
 - **Transparency of data**
 - **Real-time problem solving**
 - **Huddle Members:**
 - **Clinical unit leadership**
 - **Physician leadership**
 - **Departments: Case management, radiology, respiratory, engineering, clinical engineering, environmental services, security**

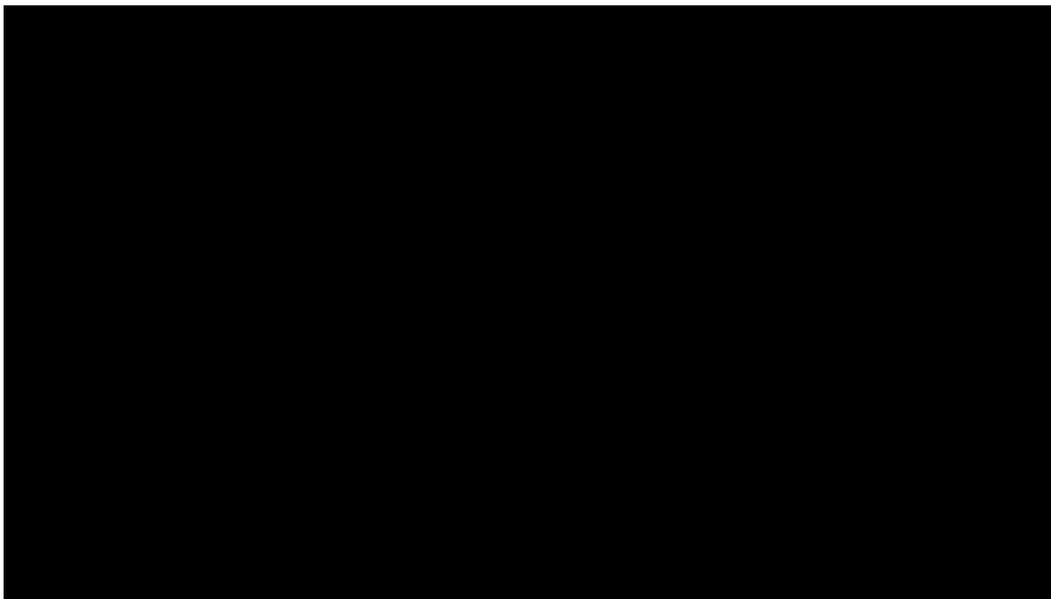
“Before” Manual and Paper-Based

- **Before electronic dashboard**
 - “Bedboard” huddle with units to review census
 - Manually collected data
- **Leadership huddle without an electronic dashboard**
 - FY 2016 decrease diversion 80%
 - All data manually gathered
 - Transcribed into software for trending
 - No real time details

Automated, System-Enabled Huddle

- **Leadership huddle using electronic dashboard**
 - **Significantly less manual preparation**
 - **One system: occupancy, ED, OBV patients**
 - **Review of yesterday – discharges, admits, transfers**
 - **Status of today – patients awaiting beds in ED, OR schedule**
 - **Real time throughout day - Detail and trending reports**

Daily Huddle Video

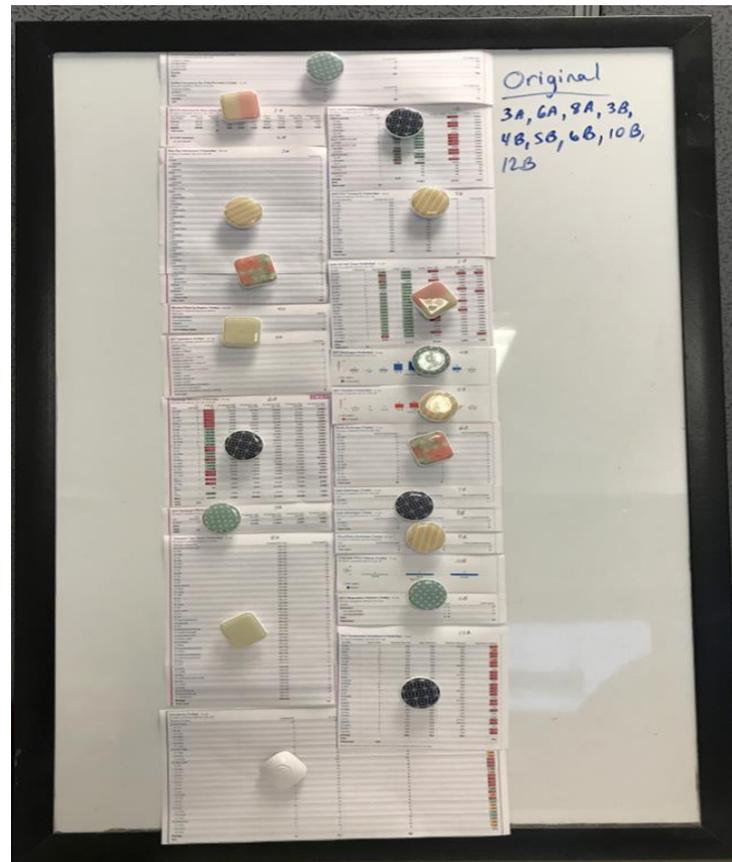


Design and Implementation

- **Identify and engage key stakeholders**
 - **Hospital Leadership with executive sponsors, coincided with other access projects and network goals**
- **Utilize existing software foundation**
 - **Foundation dashboard used as framework and expanded in cooperation with vendor**
- **Organize dashboard to workflow and key metrics**
 - **Start with foundational metrics**
 - **Modify as dashboard use increases**
 - **Continue modification to meet additional needs**
 - **Focus on priority metrics and workflow**

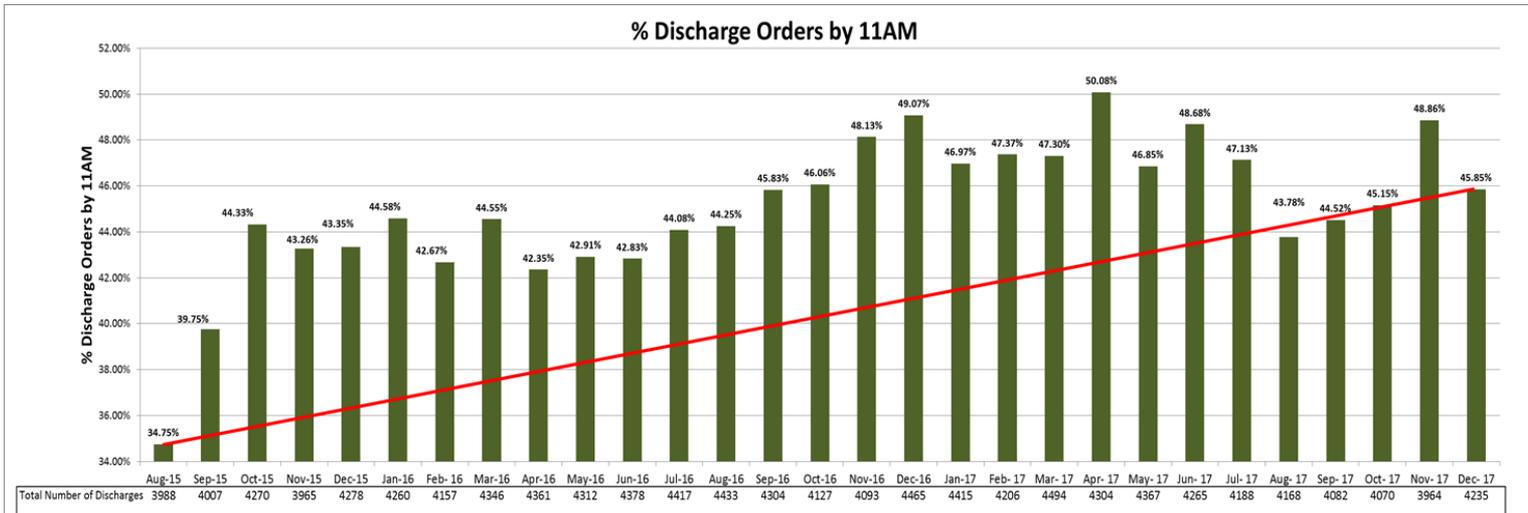
Dashboard Mock-Up

- Clinical leadership organized and prioritized the dashboard metrics
- Aligned design with workflow and report out
- Sample reports designed by Enterprise Analytics



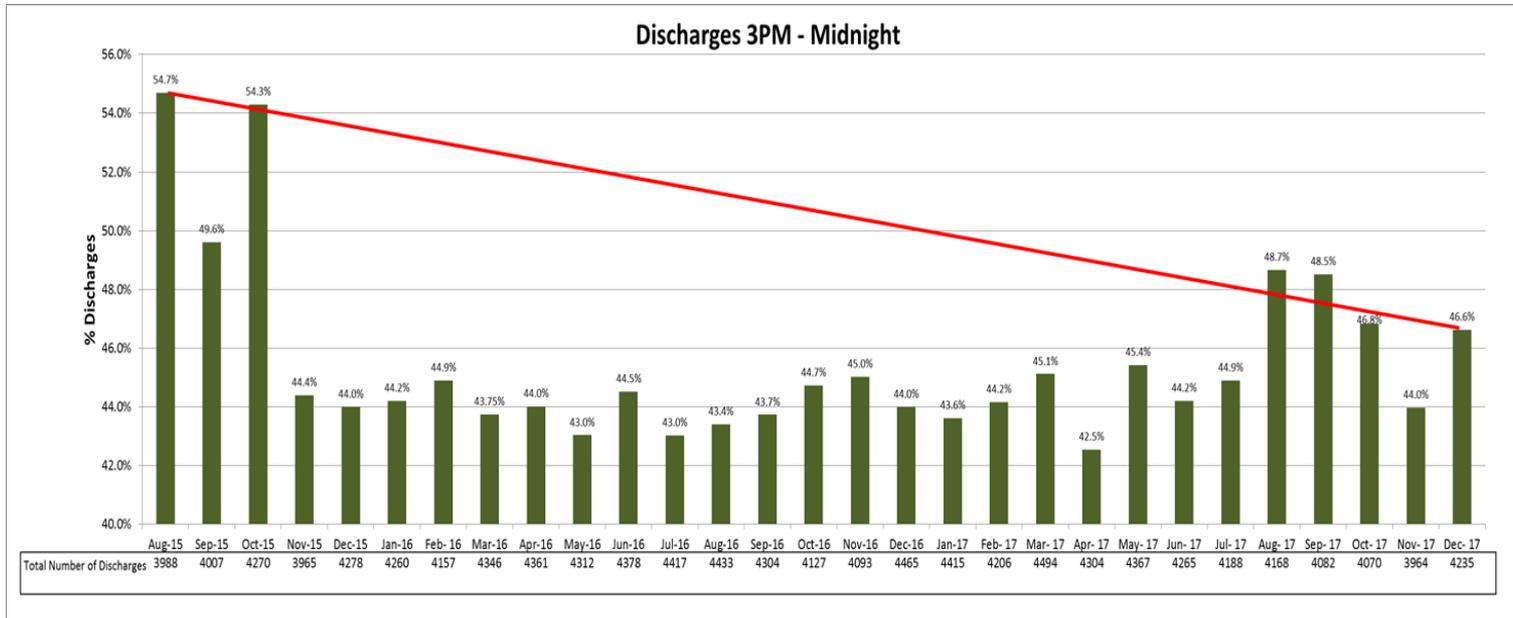
Metrics Discharge Efficiencies

- Prior to dashboard, unable to measure
- Discharge orders placed early = Early discharges
- Early discharges = Early open beds
- Early open beds = Patients not waiting in ED for a bed
- 75% improvement in orders place by 11am
 - **34.75% to 45.85% (data as of 12/2017, continued improvement)**



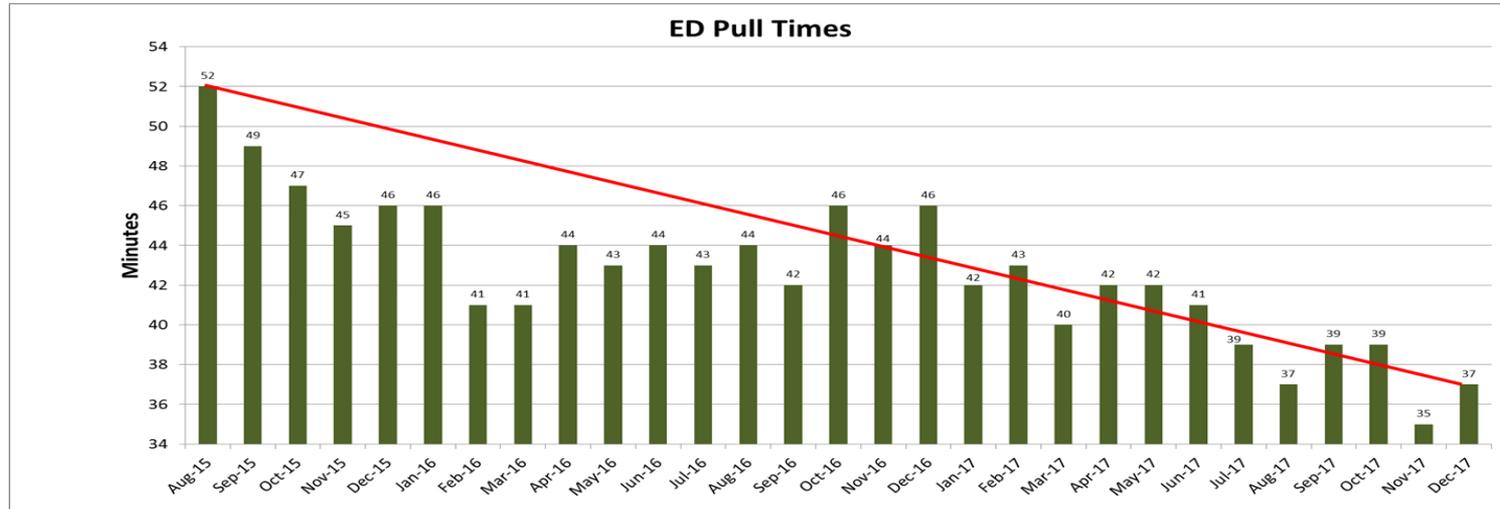
Metrics Discharge Efficiencies

- Leadership huddle for 3 months without electronic dashboard
- Leadership huddle with dashboard beginning November 2015



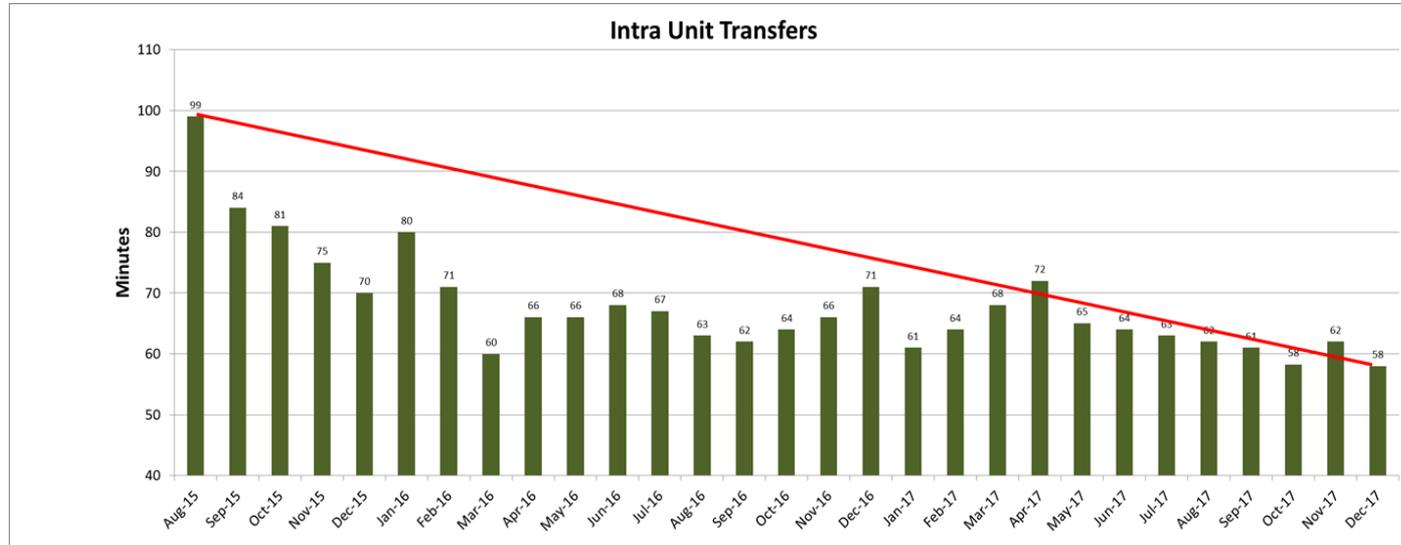
Metrics: Emergency Department Pull Times

- ED Pull times are how soon LVHN patients make it to the inpatient bed
- Lower ED Pull times = less time patients spend waiting in the ED to go to the inpatient bed
- 28.8% improvement
 - **52 minutes to 37 minutes (data as of 12/2017, continued improvement)**



Metrics: Intra-Unit Transfers

- Intra-Unit transfers free up beds in critical care for patients in the ED or OR
- Lower Intra-Unit transfer times = less time patients spend waiting in the ED or PACU to go to the inpatient bed
- 41.4% improvement
 - **99 minutes to 58 minutes (data as of 12/2017, continued improvement)**



LVHN Daily Huddle

- **Lessons learned:**
 - **“We” concept, no inpatient versus ED**
 - **Daily review and data transparency**
 - **Timeliness of data for operations throughout the day**
 - **Leadership empathy for other’s situations**
- **Continuing areas of focus:**
 - **Continuing to focus on pull and intra-unit transfer times**
 - **Ability to continuously focus on themes identified**

LVHN Daily Huddle Program Results

- **Decreased LOS by 5% for all ED patients = 34,200 additional bed hours**
- **ED LOS for hospitalized patients decreased 3.1% = additional 9,316 bed hours**
- **Remained on zero diversions, no patient turned away**
- **Admitted 1,500 more patients than budgeted**

Questions

Thank You!

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Agenda

1. Introduction to NYU Langone Health
2. Introduction to the registration process at NYU Langone Health
3. Designing and implementing paperless registration at NYU Langone Health
4. Benefits and lessons learned



- five inpatient hospitals:
 - Tisch Hospital
 - Rusk Rehabilitation
 - NYU Langone Orthopedic Hospital
 - NYU Langone Hospital - Brooklyn
 - Hassenfeld Childrens Hospital
- with locations in
 - New York City's five boroughs
 - Long Island
 - New Jersey
 - Westchester, Putnam, and Dutchess counties
- affiliation with
 - Winthrop University Hospital

Over 200 ambulatory sites



Recognition in Clinical Care at



Modern Healthcare
Top Hospital



Ranked #1 & #2 –
Third Year in a Row
for Overall Patient
Safety & Quality



140 Physicians Listed
in New York
Magazine's "Best
Doctors"



Gold Seal of Approval
by the Joint
Commission for
Commitment to High
Quality Care



Magnet Recognized
Hospital for
Excellence in Nursing

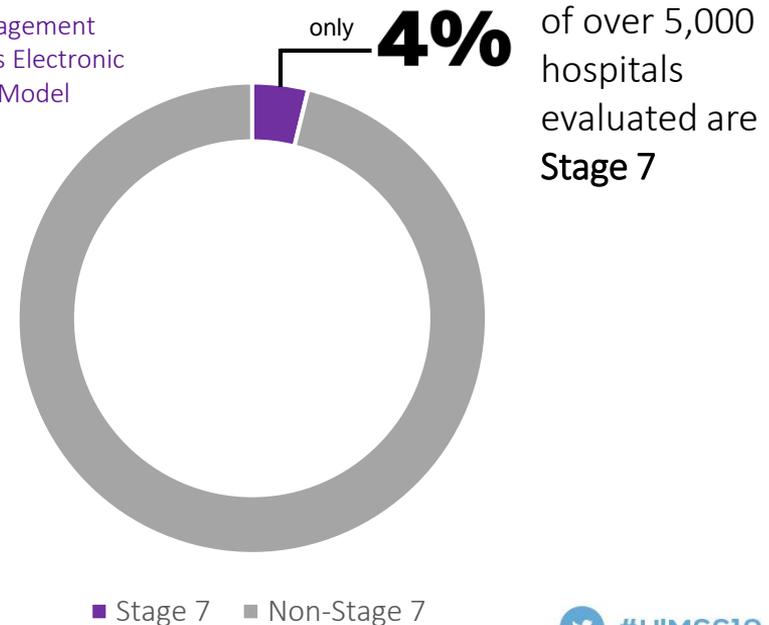


Most Wired Hospital
- 2017

we've achieved
HIMSS[®] Stage 7
Healthcare Information and Management
Systems Society (HIMSS) Analytics Electronic
Medical Records (EHR) Adoption Model
Stage 7 Award.

Based On Ability To

- Leverage and govern health data and analytics
- Execute computer order entry and electronic documentation
- Measure and analyze patient engagement
- Demonstrate advanced implementation and augmentation of EHR





Top 20 in the Nation

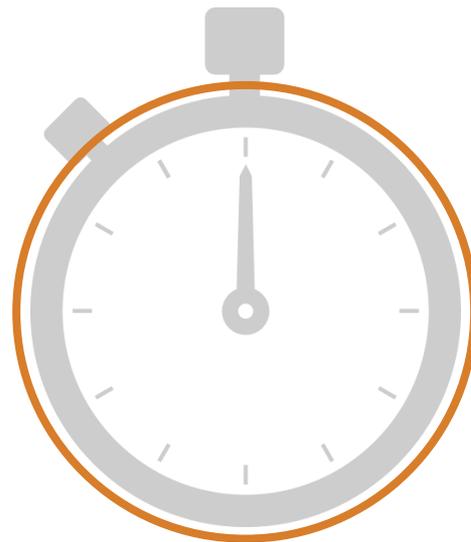
with 12 nationally ranked and
8 high performing specialties

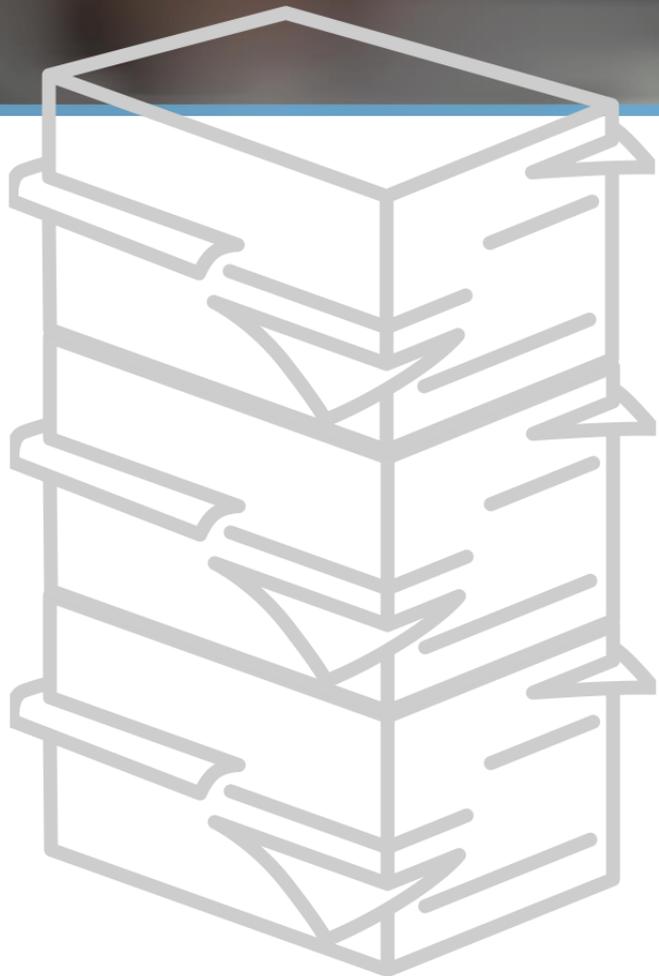


In the past, our registration process involved lots of paper.

In 2014, we had over
1.25 million paper
registration documents
signed and scanned
into Epic.

Average registration
time with **PAPER** took
10 minutes

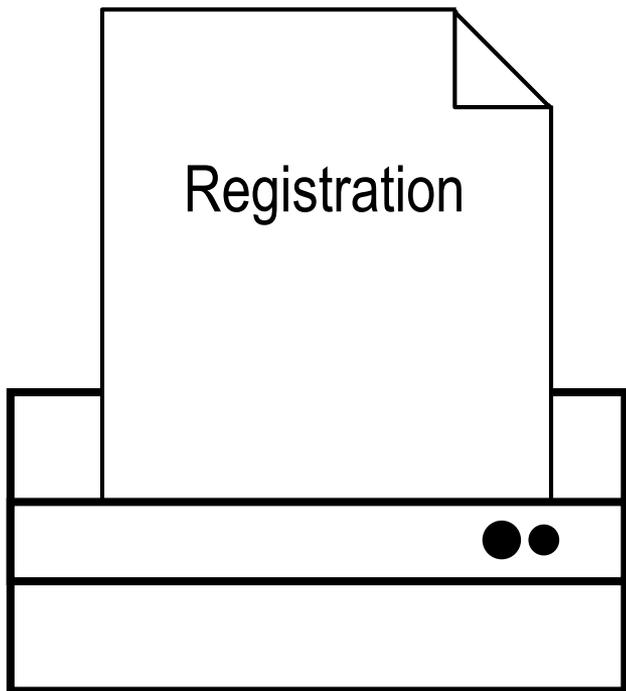




3,897,690 pieces of paper
were used, costing over
\$428,745.90

That's about
527 trees.





And we spent over **\$93,986** annually on scanning services before paperless registration.

I thought
NYU was
digital?

We mapped the
Digital Patient Experience

to better understand the needs of our
patients across the continuum of care



beginning

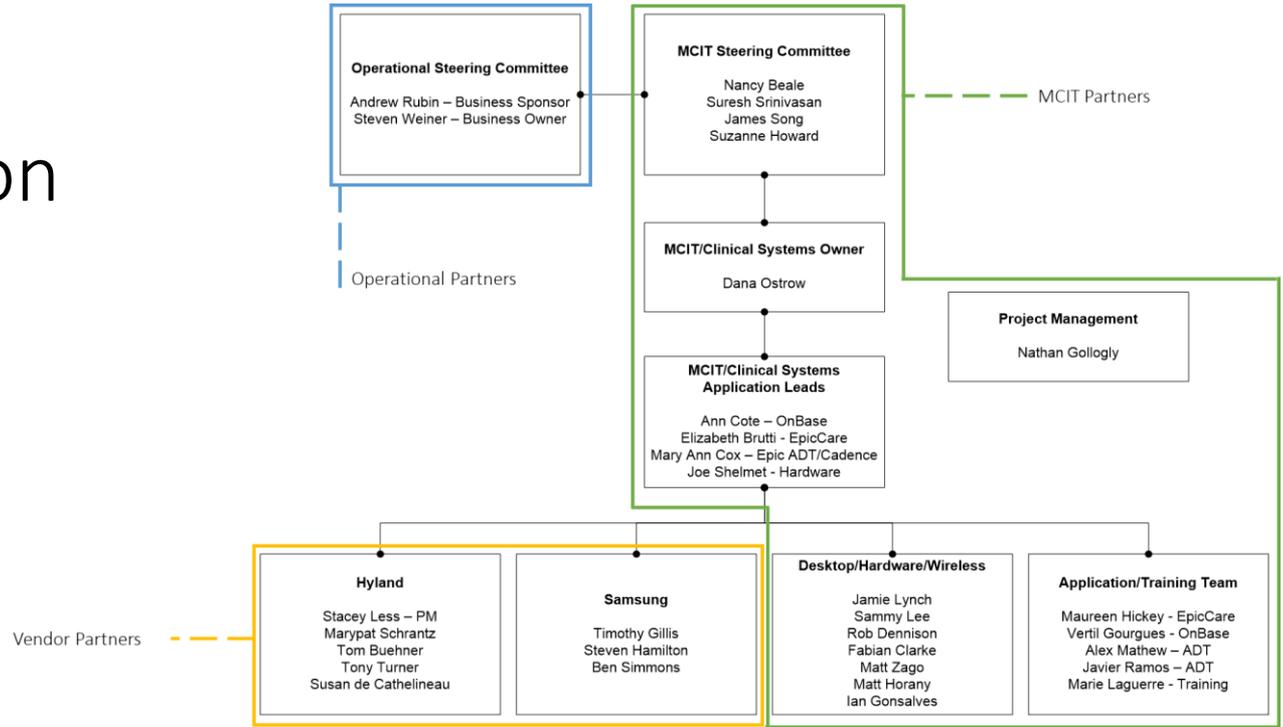


end

In the first half of 2017,
over 1.3 million
documents were
digitally signed.



Paperless Implementation Org Chart



Design + Implementation Timeline

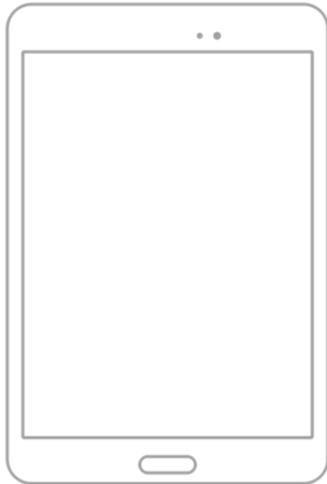


September 2014 –
Discovery process for tool selection began

Guiding Principles for Tool Selection

- enable positive experience for both employee and patient
- integrate with Epic
- work seamlessly with other registration technologies such as Patient Secure
- offer a flexible platform that would allow for more than just paperless registration
- leverage existing partnerships if possible

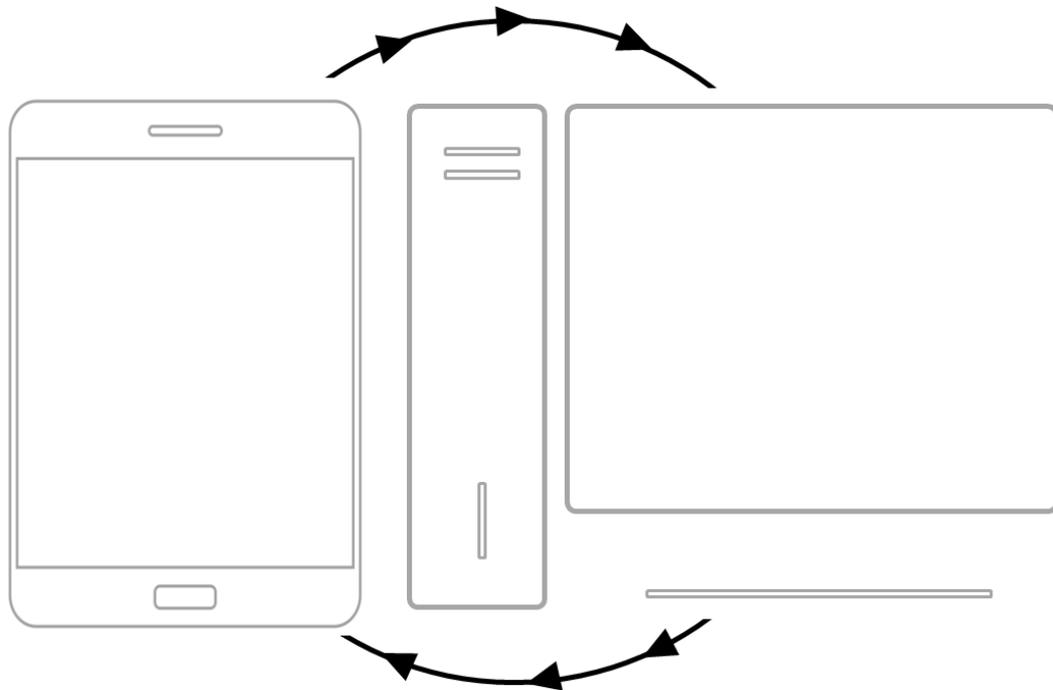
We counted clicks to ensure that the registrar was in fact able to work faster.



We timed patients to ensure that registration was in fact quicker.

We considered a wide variety of platforms and their capabilities

	Topaz	eCapture	Access	Welcome Kiosk
Patient can see/ complete form independently	✗	✓	✓	✓
Form is interactive	✗	✓	✓	✓
Error checking on the form	✗	✓	✓	✓
Data Captured Discretely	✗	✓	✓	?
Signature Embedded on Saved Form	✗	✓	✓	✗
Can be used for Questionnaires	✗	✓	✓	✓
Can be used for Clinical Consents	✗	✓	✓	✗



We tested devices and platforms and found that some didn't meet our needs.

Design + Implementation Timeline



September 2014 –
Discovery process for
tool selection began

October – November 2014 –
Initial development in coordination with Epic,
Samsung and Hyland

We chose to develop a paperless platform with these partners.



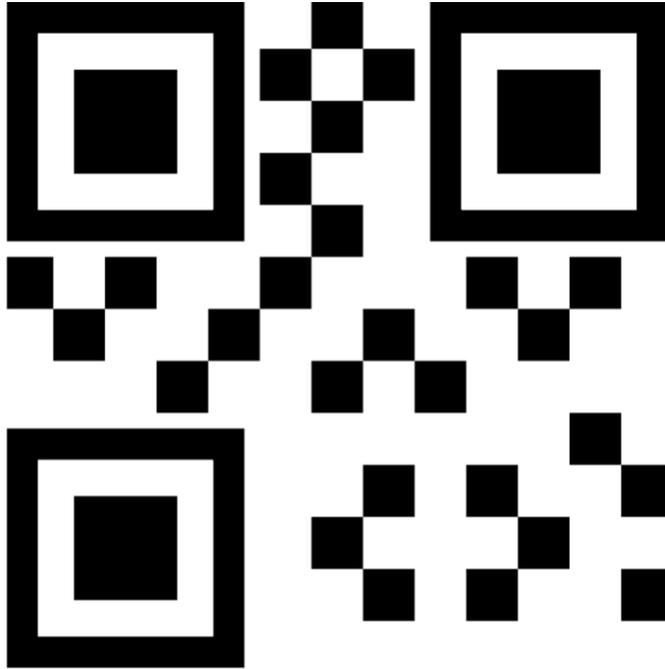
Epic



SAMSUNG

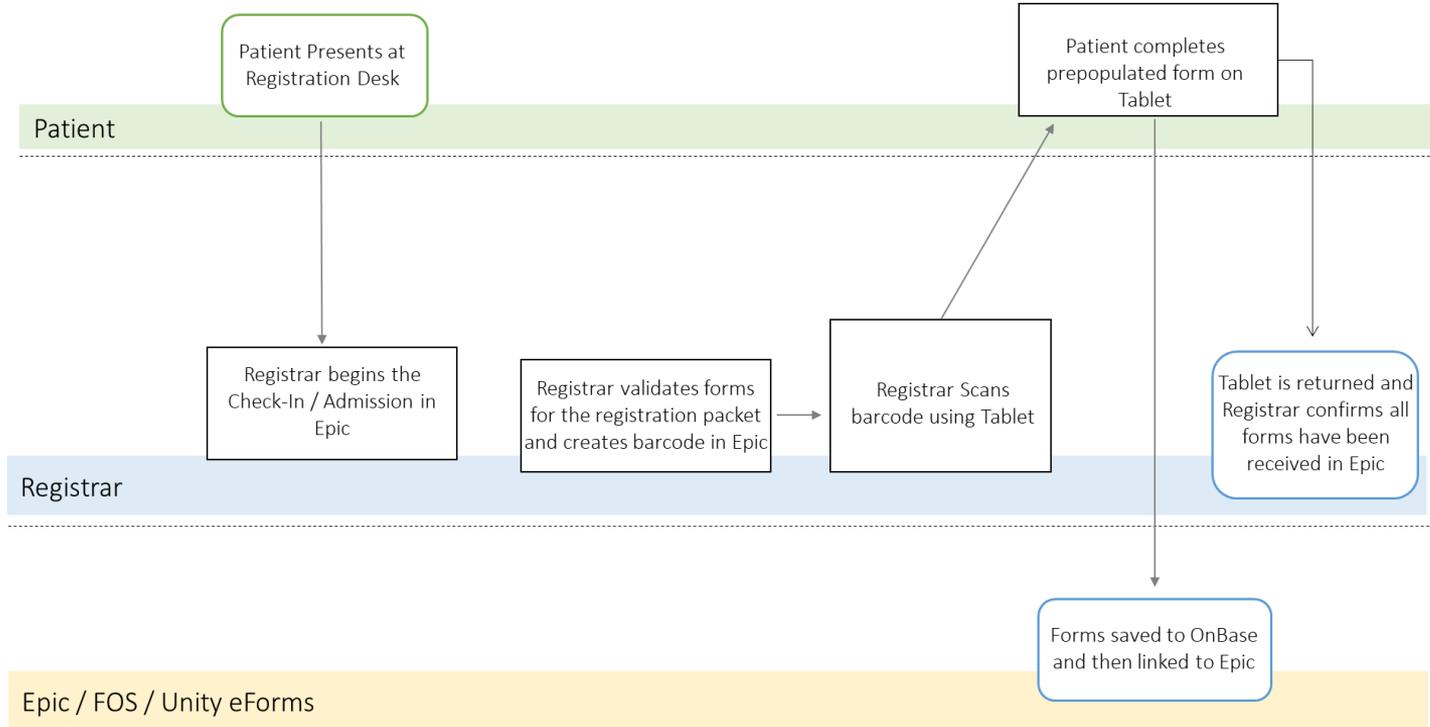


OnBase
by Hyland



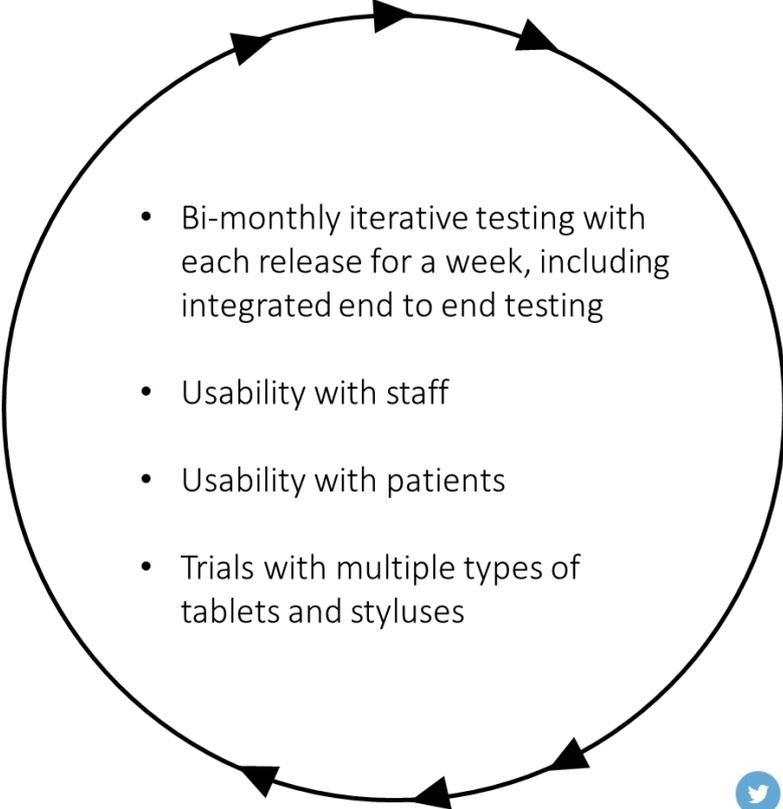
The QR Code – what makes our paperless platform dynamic.

Paperless Registration Workflow





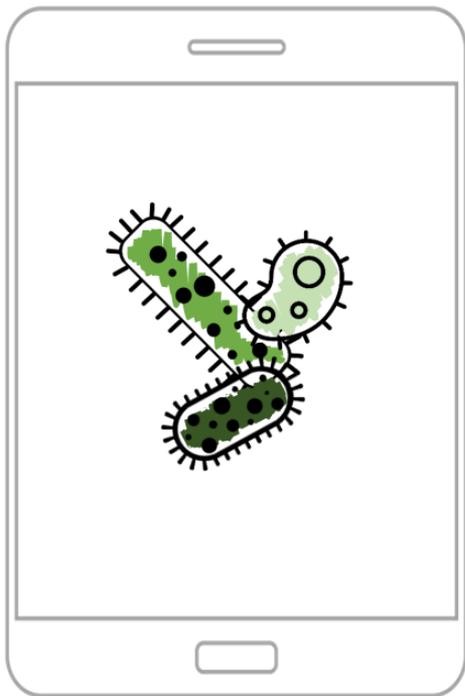
Testing

- 
- Bi-monthly iterative testing with each release for a week, including integrated end to end testing
 - Usability with staff
 - Usability with patients
 - Trials with multiple types of tablets and styluses



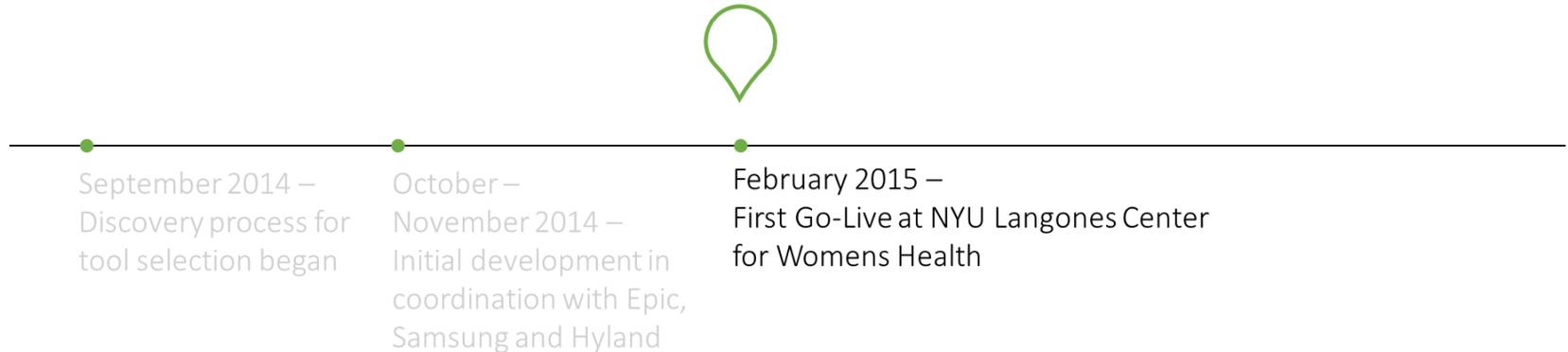
Change Management

- Devices are enrolled in Airwatch, which allows us to manage them remotely
- Updates can be pushed to devices through Airwatch
- Airwatch Secure Launcher is installed on the devices which allows us to lock down the home screen of the device to the Paperless application



Infection Control

Design + Implementation Timeline

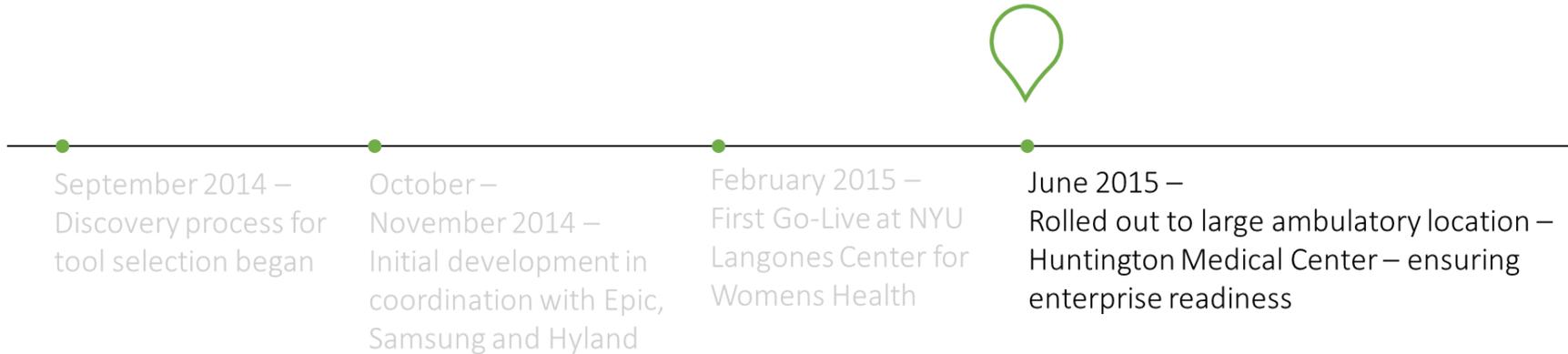




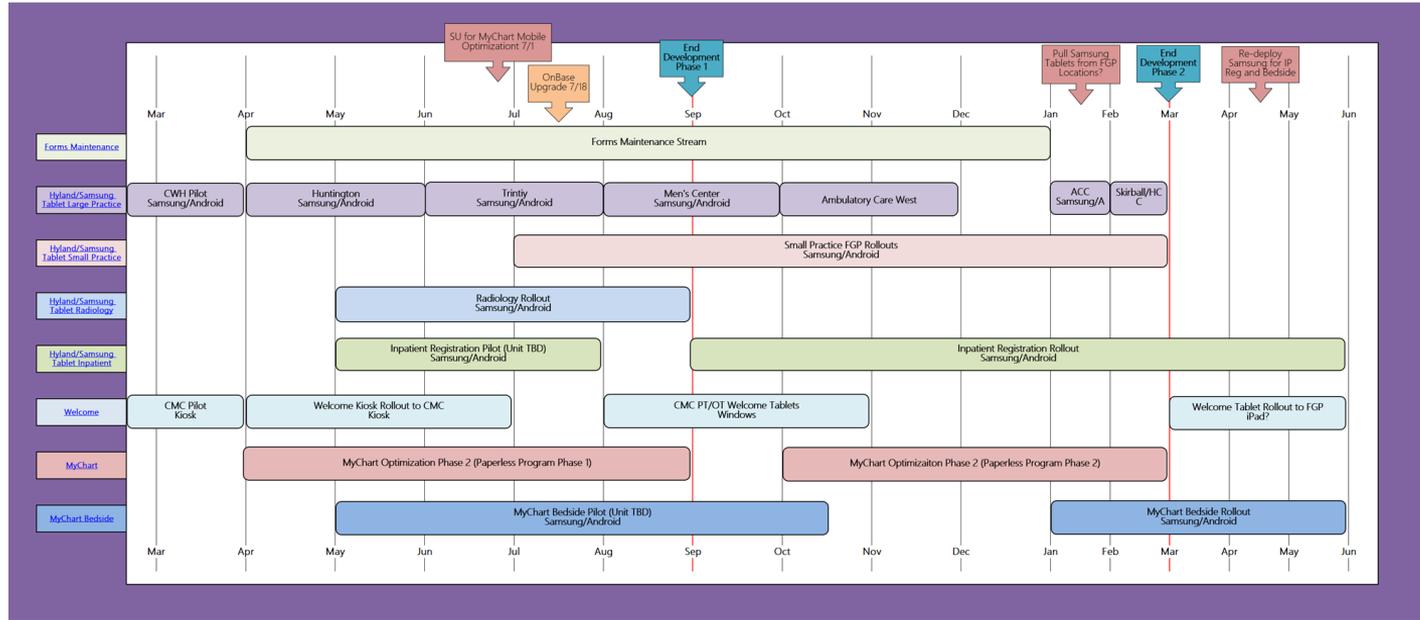
First Test Site –

NYU Health:
Center for Women's Health
23 providers

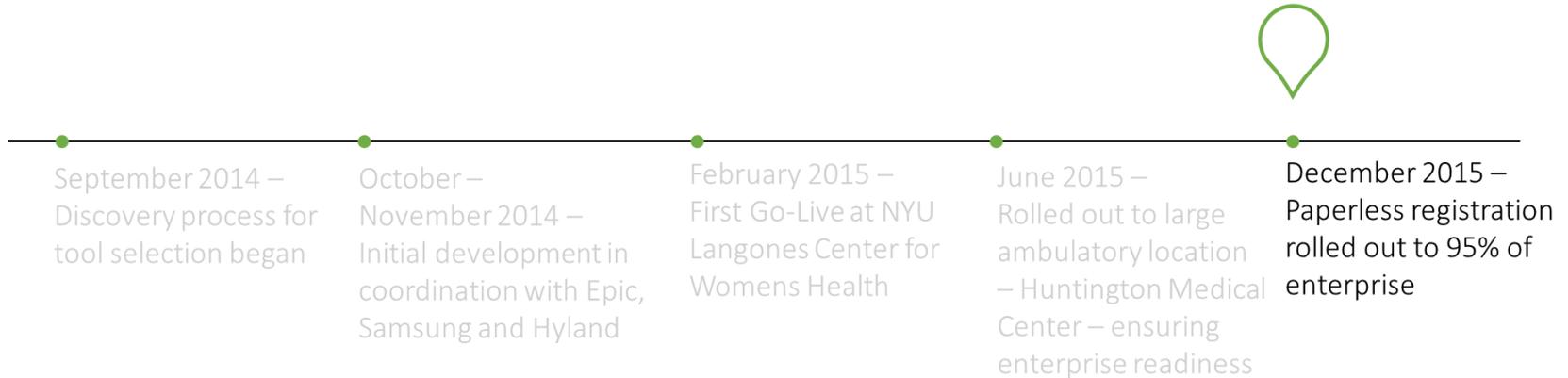
Design + Implementation Timeline



Paperless Registration Timeline



Design + Implementation Timeline



Continuous Improvement

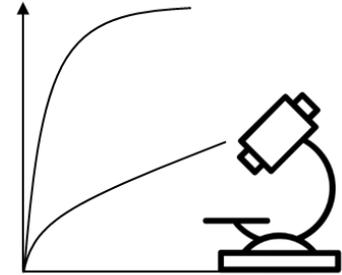


Your secure online health connection

MyChart ID creation in
registration

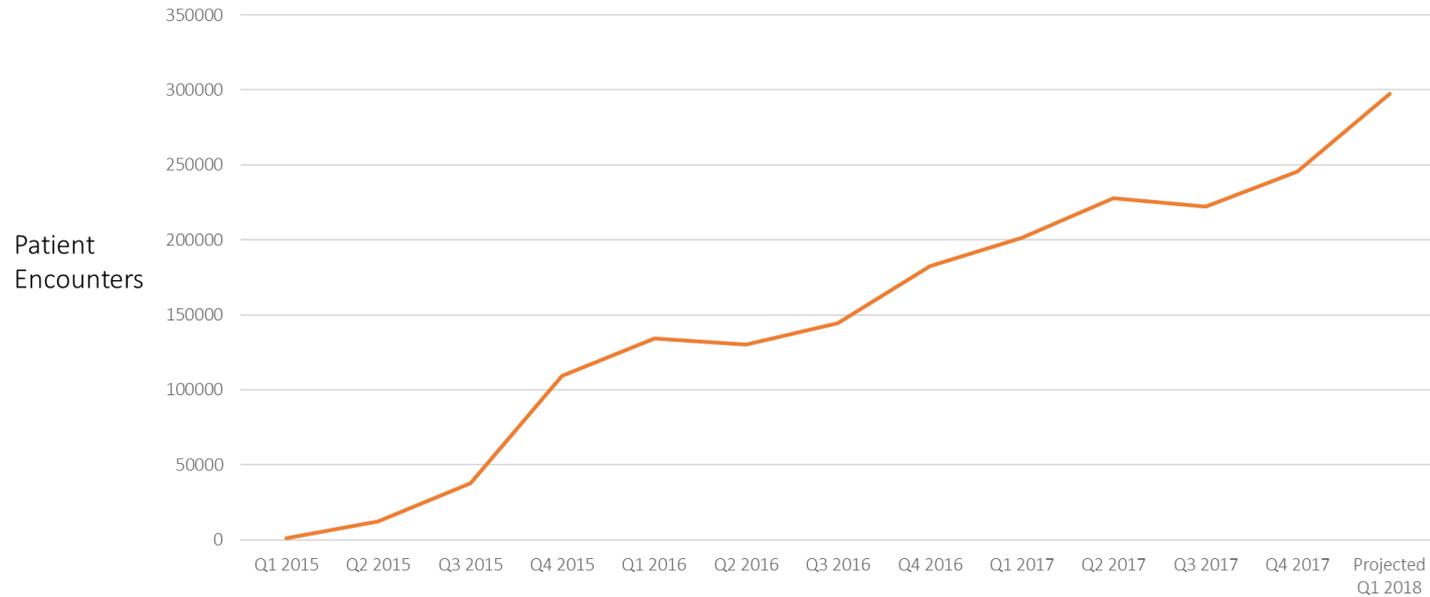


Multilanguage
capabilities

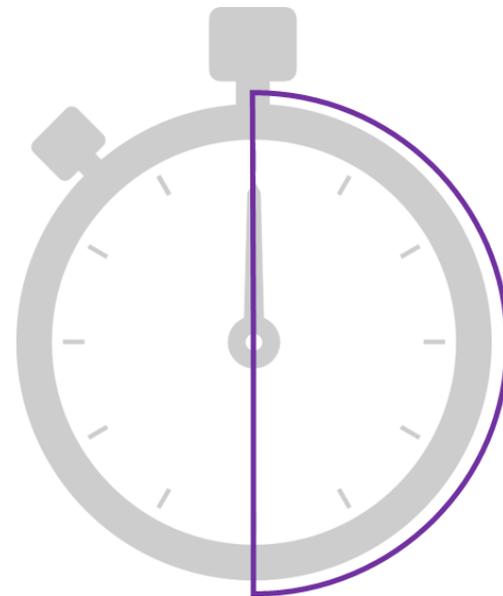


Research
Consents

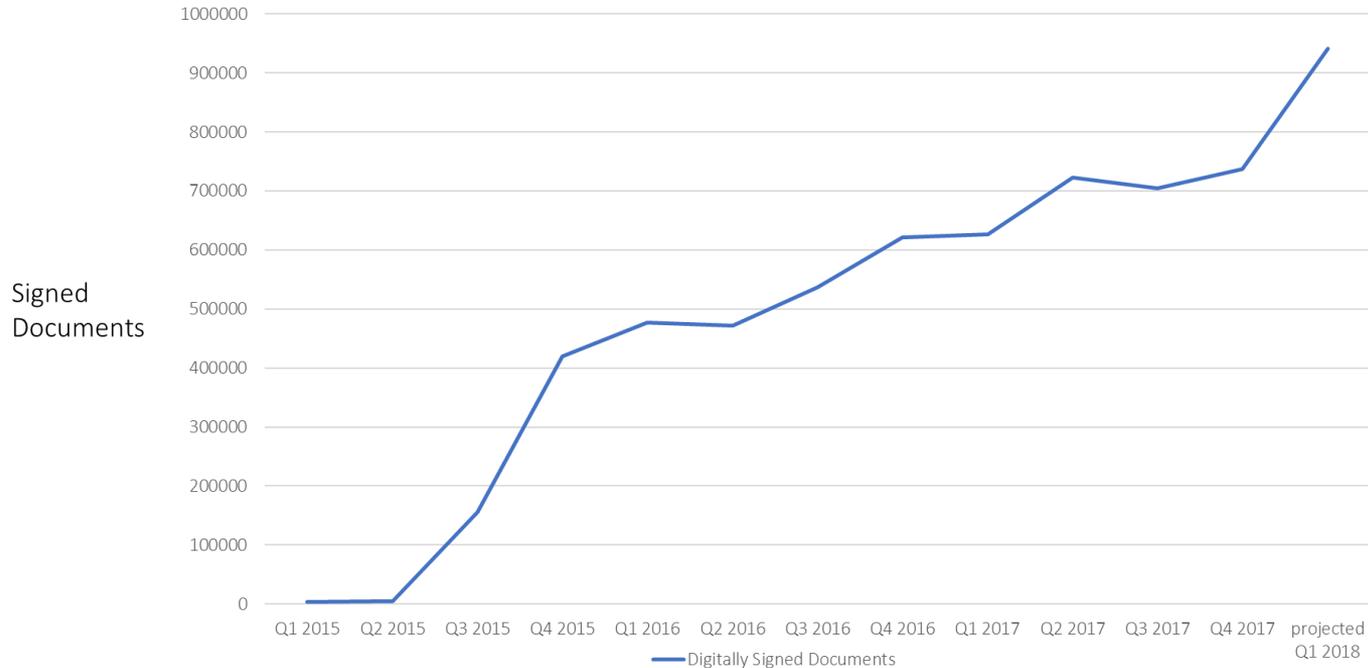
Patient Encounters Using Paperless Registration



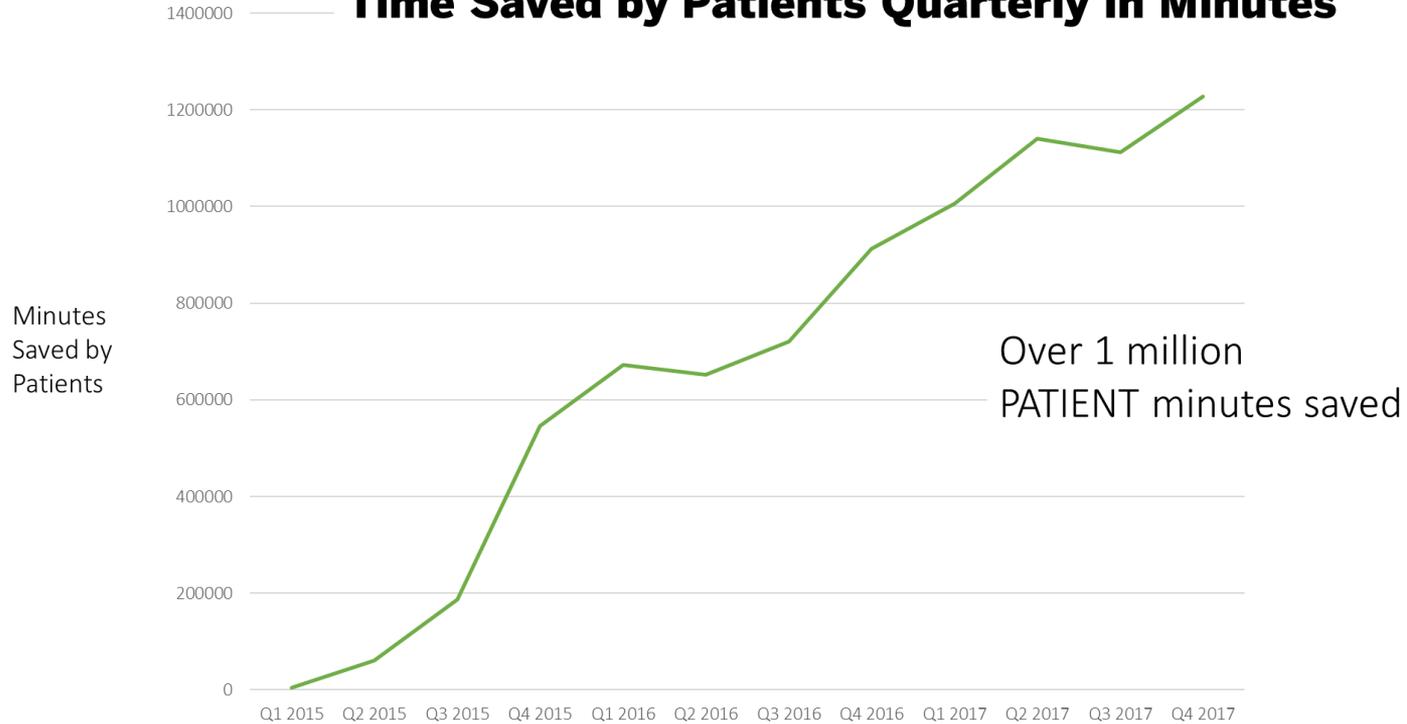
Average registration
time with **TABLET** – 5
minutes



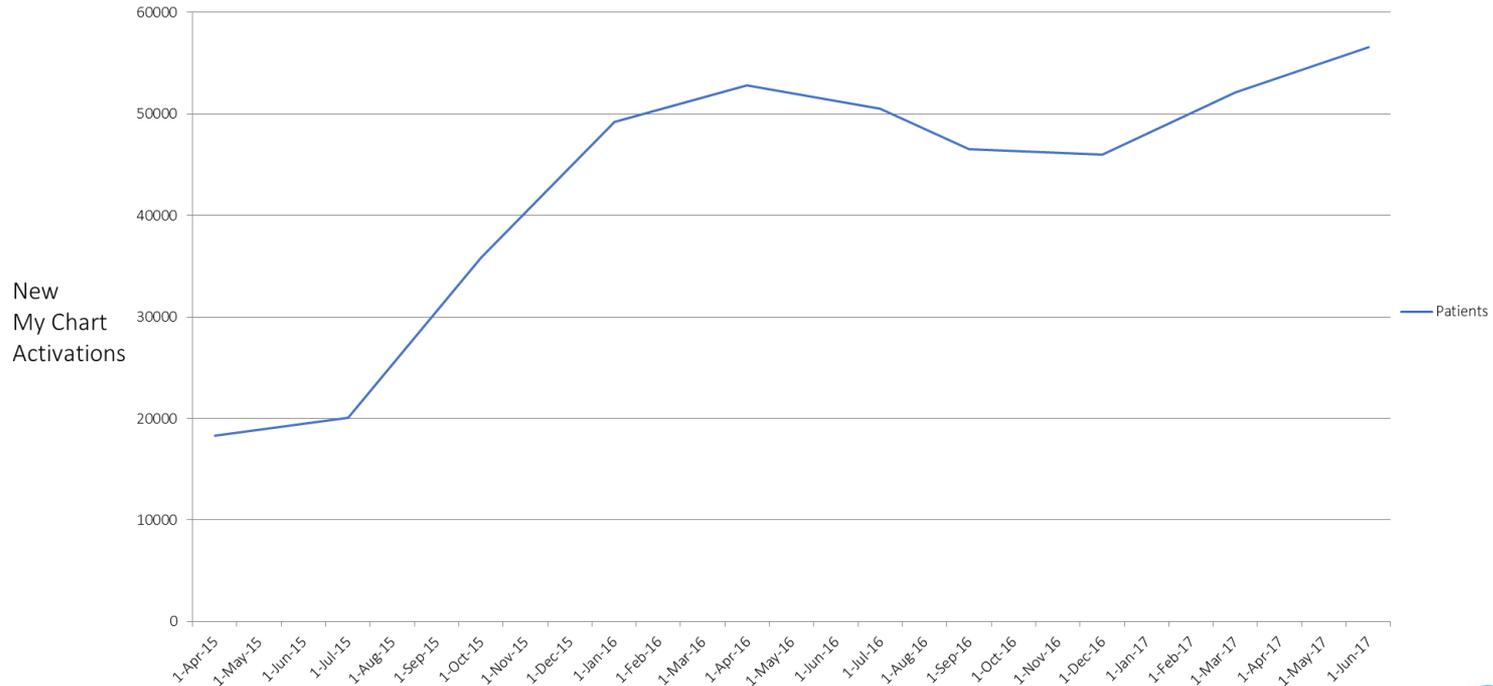
Documents Digitally Signed Since Launch of Paperless Initiatives

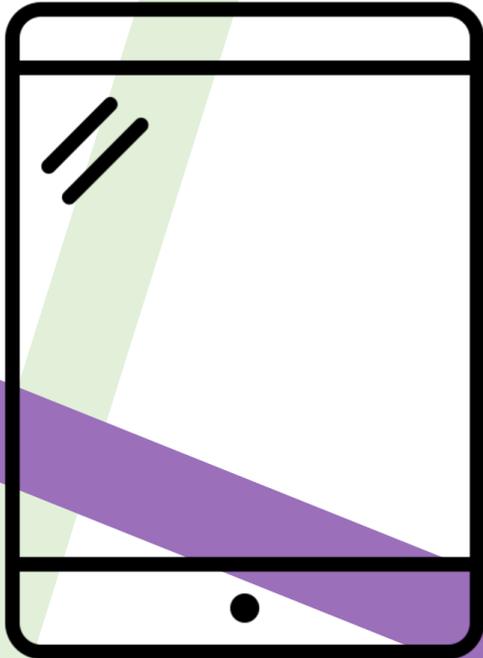


Time Saved by Patients Quarterly in Minutes



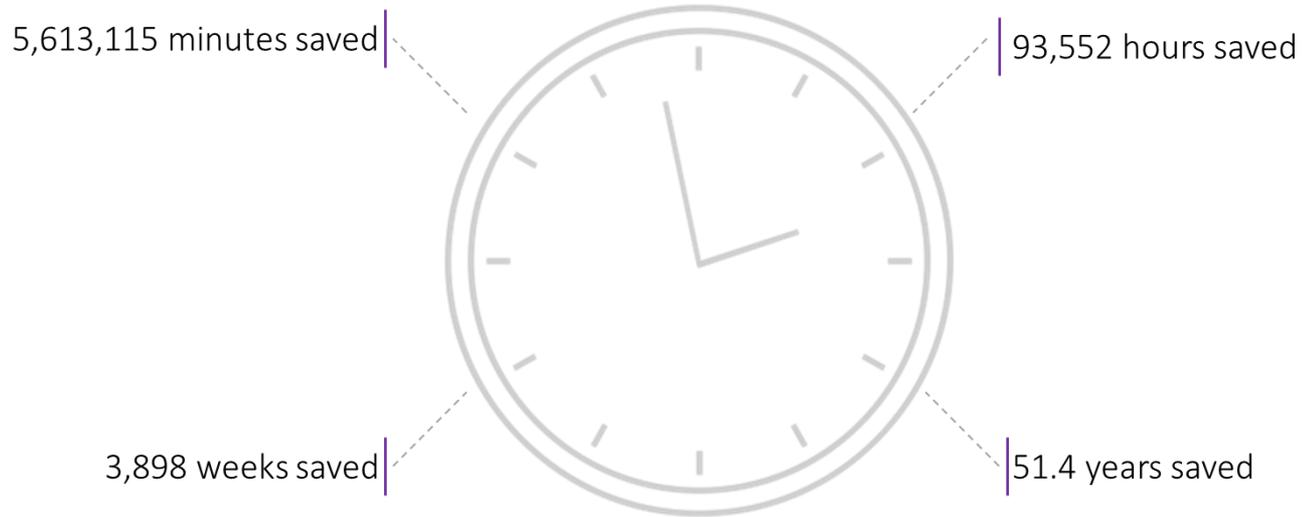
Monthly MyChart Activation Since Paperless Registration Launch

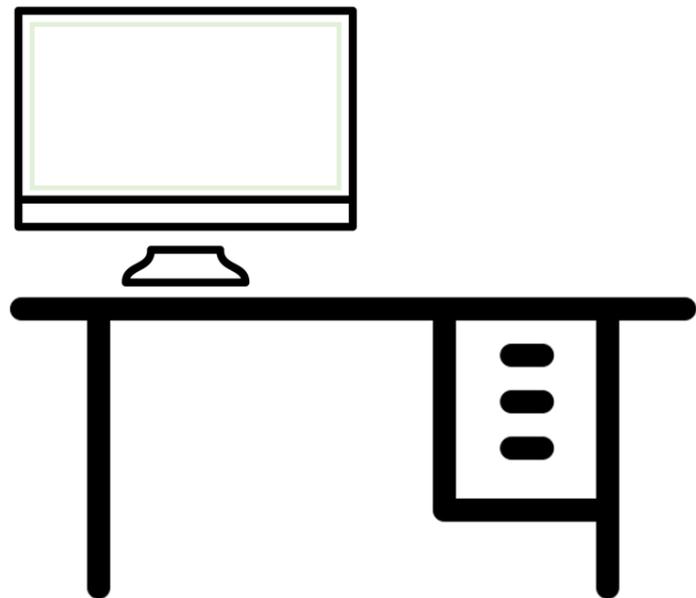




In 2016 not using paper saved us nearly **\$450,000** a year.

Time Saved by Registrars in 2016





Soft savings of
\$1.7 million
in FTE costs in 2016

Annual Costs in 2016

- Tablet Replacement budget - \$30,000
- Software Maintenance - \$30,000
- FTEs to Support- $\frac{1}{2}$ an FTE in steady state. Additional support as needed for roll outs and forms in other languages
- Desktop FTEs to Support- $\frac{1}{2}$ an FTE in steady state across all locations

Lessons Learned

- Ensure that documents format correctly on tablet and are not merely copies of paper documents
- Ensure that signature requests on electronic forms are in the appropriate place
- Turn on certain interfacing early enough to allow all pieces of the platform to function properly at go-live
- Create an FAQ document for go-live to easily address common questions
- Find secure locations for use of tablets to ensure that they are not taken
- Do not assume that registrars already have full understanding of the registration process before implementation



Next Steps

- Consents:
 - Complete pilot of bedside consents.
 - We are currently live in one ambulatory multi specialty practice, one procedural area and piloted in an ambulatory location
 - Big Bang for the first hospital scheduled for Q2 2018
- Review of other documents

Questions

- Dana Ostrow, Senior Director Clinical Systems
Dana.Ostrow@nyumc.org



- Don't forget to complete the online session evaluation!