Designing performance feedback about goals of care conversations in VA CLCs and HBPC sites

Zach Landis-Lewis, PhD, MLIS
with the
VA QUERI: Long-term Care Goals project team

Disclosure

- I have no conflicts of interest to disclose

Outline

1. *Introduction*
2. Designing performance feedback reports
3. Resources
4. Q and A

My background

- Experience:
  - Medical records system software development
  - HIV/AIDs treatment in Malawi

- Education, University of Pittsburgh:
  - Master of Library and Information Science;
  - PhD in Biomedical informatics;
    - Focus: Global health and tailored performance feedback to clinicians

- Position: Assistant professor of Learning Health Sciences, University of Michigan Medical School
  - Teaching: Knowledge representation and management in learning health systems
  - Research: Tailoring clinical performance feedback in a knowledge-based system (NIH NLM K01LM012528-01)

Are we using the right data in an appropriate way?
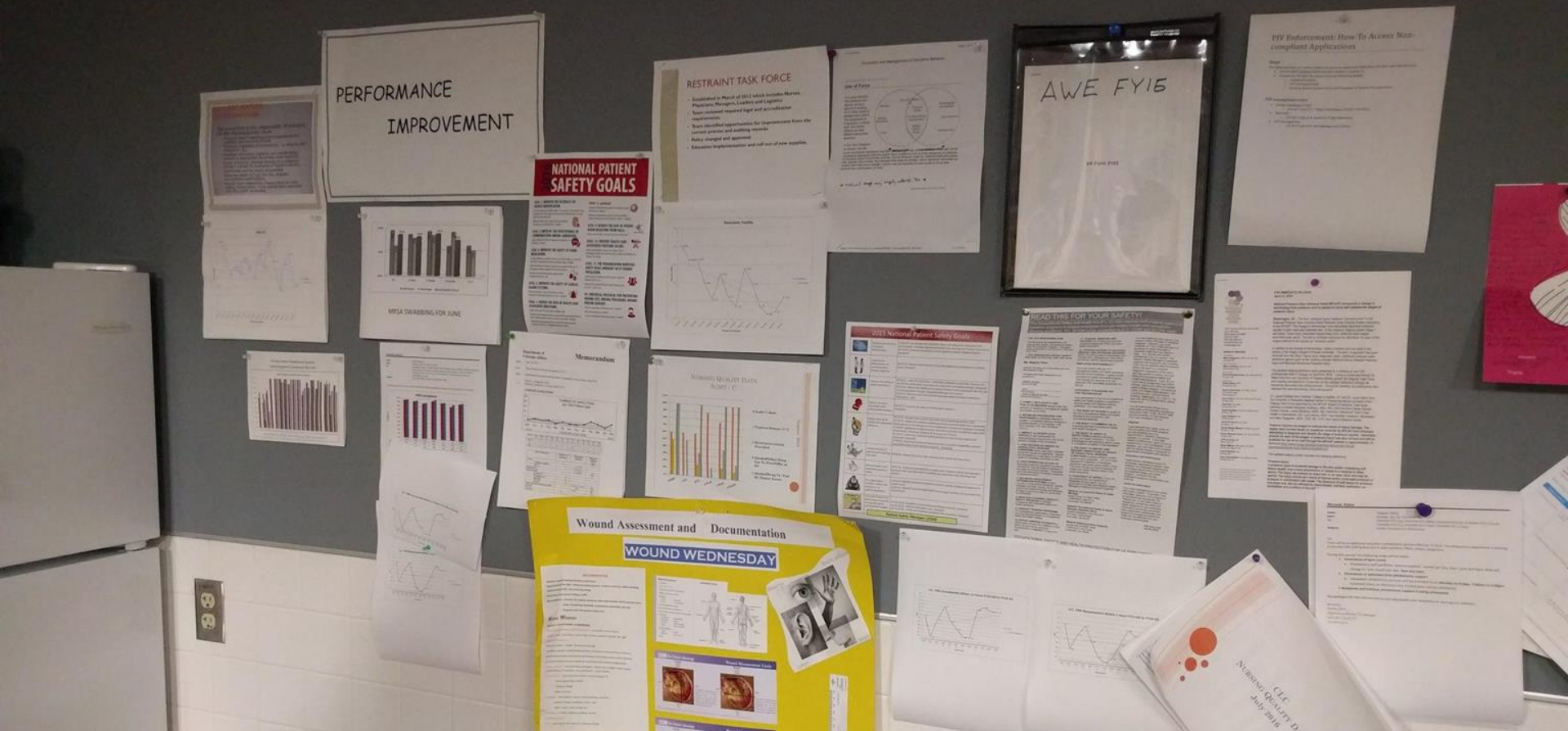
User-centered design framework
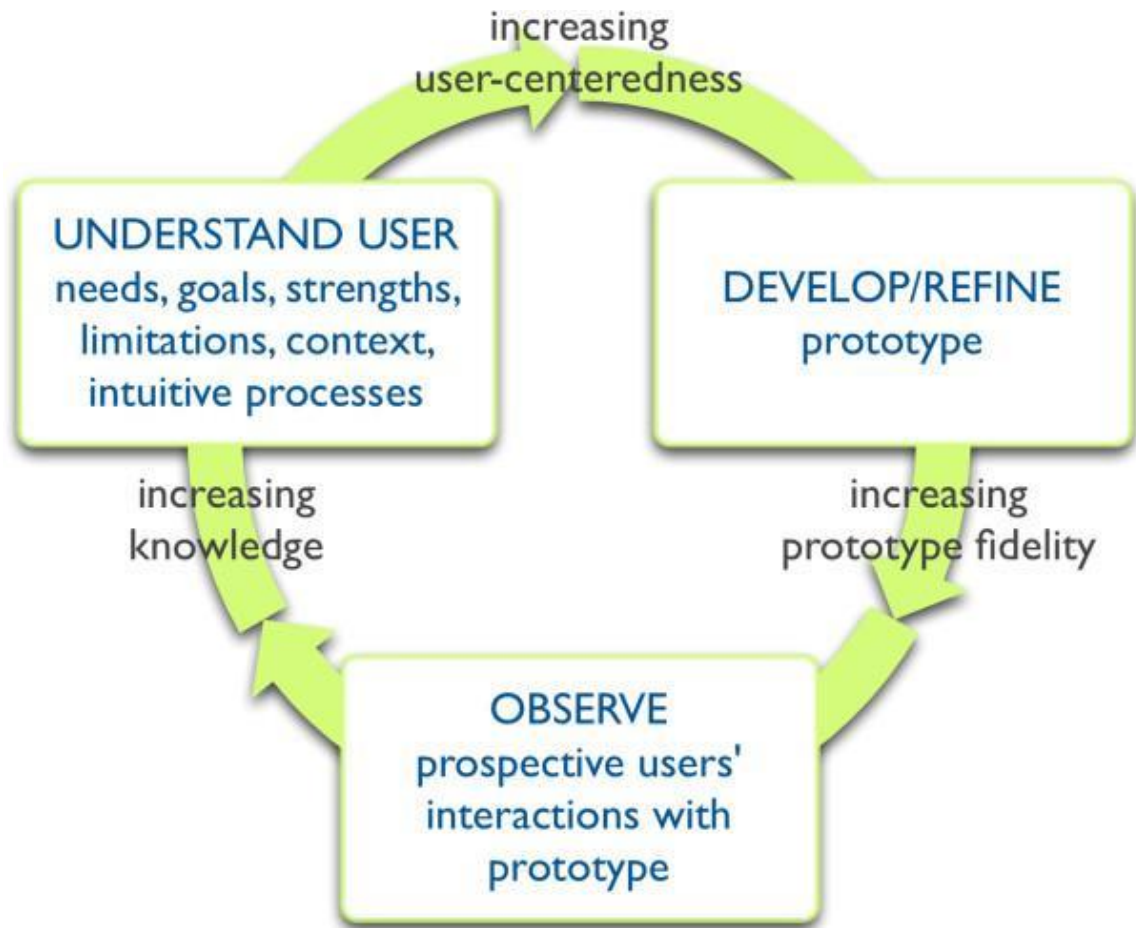
Witteman HO, Dansokho SC, Colquhoun H, et al. User-centered design and the development of patient decision aids: protocol for a systematic review. Syst Rev. 2015 Jan 26;4:11. doi:10.1186/2046-4053-4-11.

Goals of care conversations (GoCCs)

- GoCCs are critical for determining appropriate care near end of life

- Initiative launched by the VA National Center for Ethics in Health Care

- Handbook 1004.03, "Life Sustaining Treatment Decisions: Eliciting, Documenting, and Honoring Patients' Values, Goals, and Preferences"

Life-sustaining treatment (LST) template in CPRS

Reminder Dialog Template: LIFE-SUSTAINING TREATMENT

LIFE-SUSTAINING TREATMENT

*1. Does the patient have capacity to make decisions about life-sustaining treatments?

☐ HELP ME understand decision-making capacity.

*1. Decision-Making Capacity

○ The patient has capacity to make decisions about life-sustaining treatments.

○ The patient lacks capacity to make decisions about life-sustaining treatments and has a surrogate.

○ The patient lacks capacity to make decisions about life-sustaining treatments and has no surrogate.

2. Who is the person authorized under VA policy to make decisions for the patient if/when the patient loses decision-making capacity?

☐ HELP ME identify the authorized surrogate.

○ Authorized surrogate if/when the patient loses decision-making capacity:

○ The patient has no surrogate authorized to make health care decisions if/when the patient loses decision-making capacity.

3. Have you reviewed available documents that reflect the patient's wishes regarding life-sustaining treatments? Examples: advance directives, state-authorized portable orders (e.g., POLST), life-sustaining treatment notes/orders.

☐ HELP ME decide which documents I must review, and when to review them with the patient (or surrogate).

Terminology

1. *GoCC:* Goal of care conversation to establish Veterans' care goals, preferences and related values

2. *Participants / Users:* Healthcare professionals who were involved testing the reports we developed

3. *Performance feedback reports*: Documents about the quality and outcomes of care that are routinely provided to staff at long-term care facilities

4. *Performance measure:* A metric or indicator, typically in the form of a ratio, may contain count data or other calculated outcomes, such as times, costs, or scores

5. *LST template:* Life-sustaining treatment template in CPRS to collect data about goals of care

Outline

1. Introduction
2. *Designing performance feedback reports*
3. Resources
4. Q and A

Designing reports: Design team

- Designer
- Project assistant
- Data analyst
- Software developer
- Project stakeholders (PIs, advisory committee)

Designing reports: Setting

- 4 demonstration sites:
  VA long term care facilities
  in 4 states, using LST template

- Site visits at 6 additional VA Long-term care facilities

- Additionally, we recruited staff at the Ann Arbor VA CLC

Photo: https://commons.wikimedia.org/wiki/File:Department_of_Veterans_Affairs_Medical_Center_Ann_Arbor_Michigan.JPG
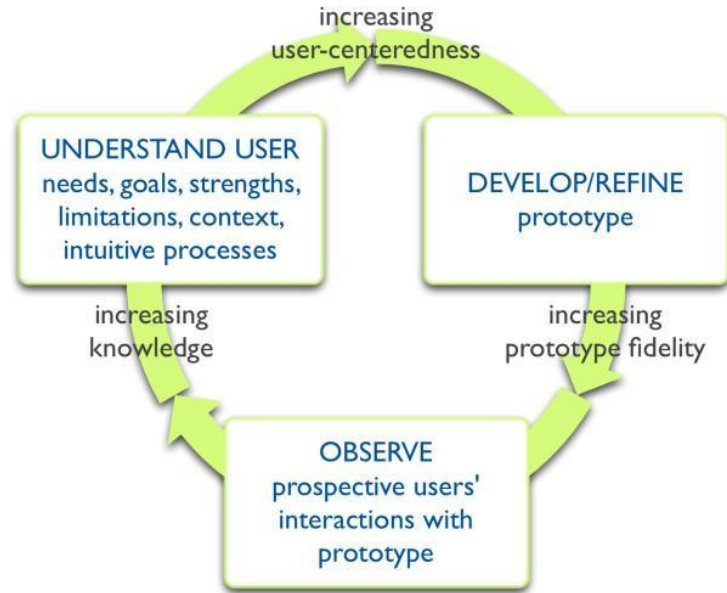
Designing reports: Participants

- Healthcare professionals in long term care:
    - Nursing staff, social workers, nutritionists
    - Prescribing providers: MDs, NPs, PAs

- Site champion: Primary liaison at each site

- Project staff and stakeholders
    - Provided requirements and suggestions

Designing reports: Phases

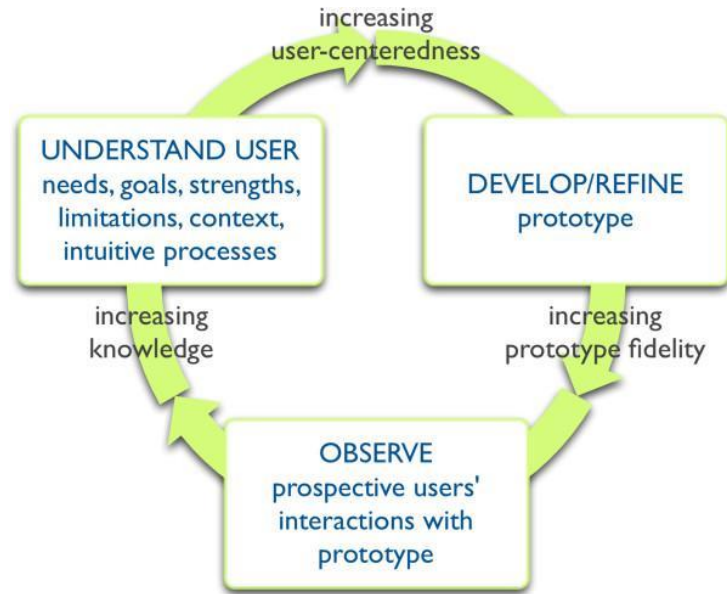Our process had 3 phases over 18 iterations

Designing reports: Phases

Our process had 3 phases over 18 iterations

1. The first iteration
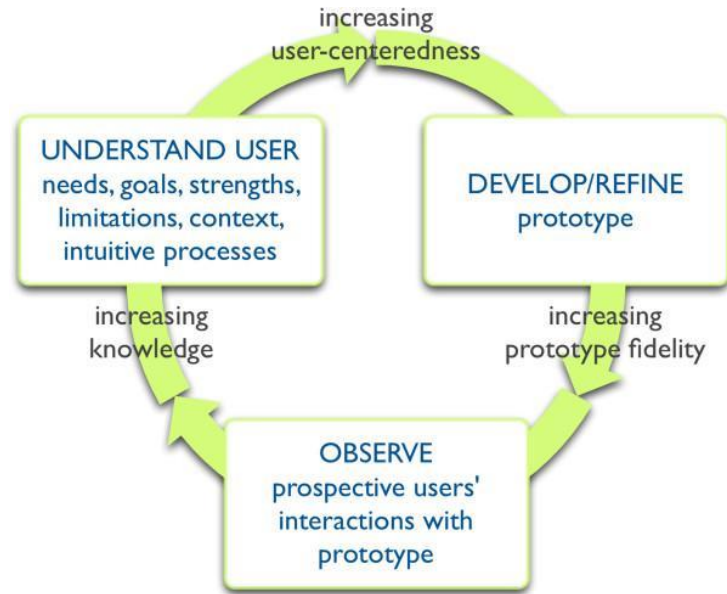   - Early planning, sketching

Designing reports: Phases

Our process had 3 phases over 18 iterations

1. The first iteration
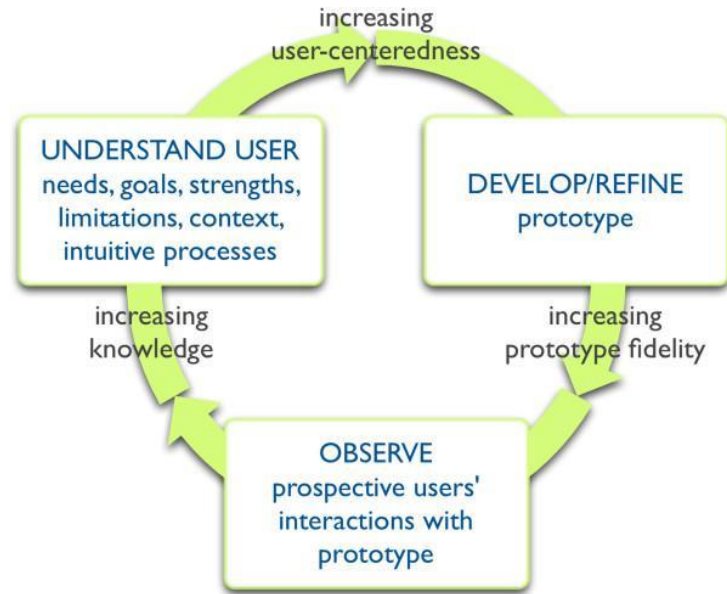   - Early planning, sketching
2. Iterations 2-12
   - Significant revisions

increasing
user-centeredness

UNDERSTAND USER
needs, goals, strengths,
limitations, context,
intuitive processes

DEVELOP/REFINE
prototype

increasing
knowledge

increasing
prototype fidelity

OBSERVE
prospective users'
interactions with
prototype

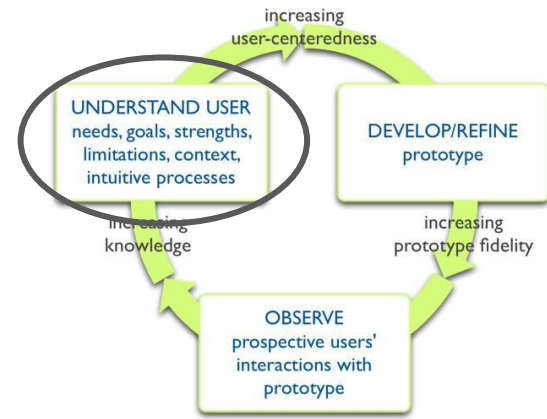# Designing reports: Phases

Our process had 3 phases over 18 iterations

1. The first iteration
   - Early planning, sketching
2. Iterations 2-12
   - Significant revisions
3. Iterations 13-18
   - Minor revisions
   - Software development

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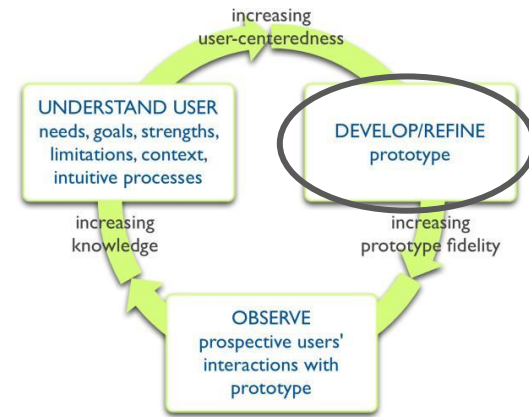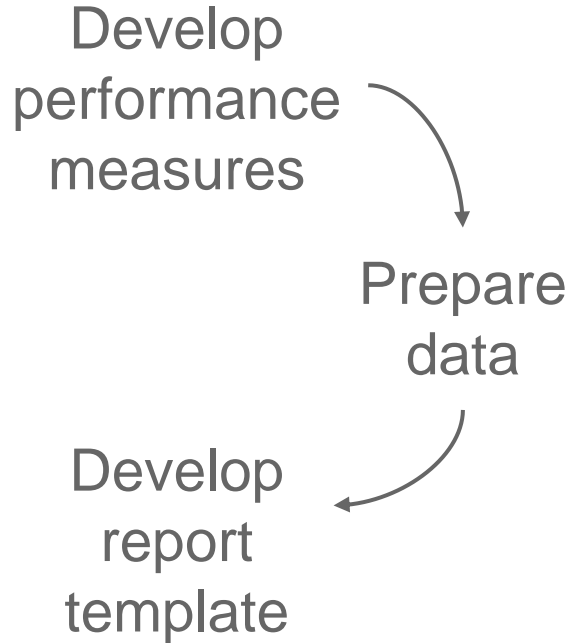interactions with
prototype

Phase 1: Early planning, sketching

- Methods:
  - 10 site visits with tours of CLCs
  - Interviews with staff
  - Design team meetings and calls
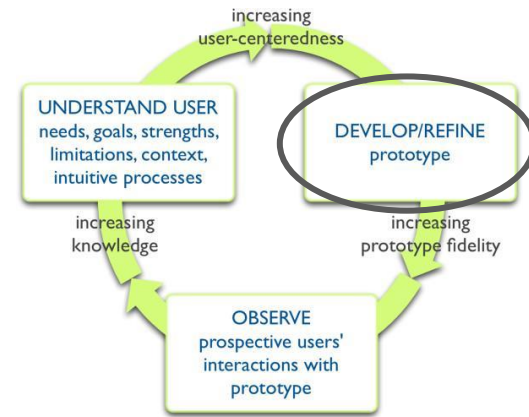
- Duration: 7 months (10/2015 - 5/2016)
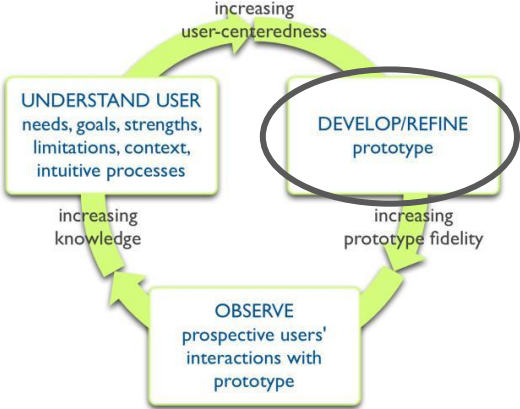
Phase 1: Develop prototype

Develop performance measures

Prepare data

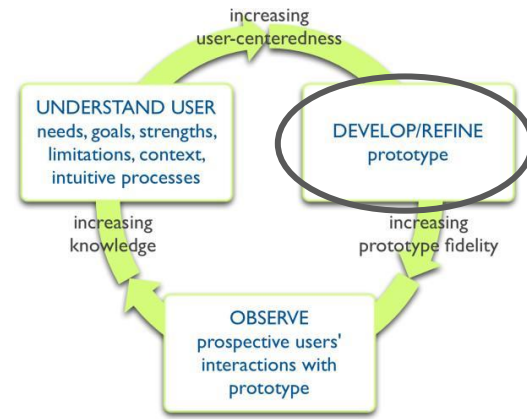Develop report template

increasing user-centeredness

UNDERSTAND USER
needs, goals, strengths, limitations, context, intuitive processes

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prototype

increasing knowledge

increasing prototype fidelity

OBSERVE
prospective users' interactions with prototype

Phase 1: Develop prototype

Develop
performance
measures

Phase 1: Develop prototype

increasing user-centeredness

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DEVELOP/REFINE prototype

increasing knowledge

increasing prototype fidelity

OBSERVE prospective users' interactions with prototype

Develop performance measures

| Initial measure	Denominator	Numerator	Rationale
	Number of Veterans admitted per quarter	Number of Veterans with a GoCC documented with 7 days following admission, per quarter	Admission processes represent a timely opportunity to document GoCCs

Phase 1: Develop prototype

increasing
user-centeredness

increasing
knowledge

increasing
prototype fidelity

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Develop
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measures

Prepare
data
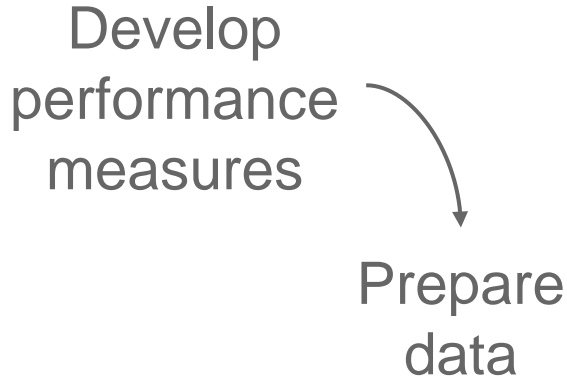
- Queried data from CDW, focused on the LST template

- Created mock performance data in a spreadsheet

Phase 1: Develop prototype

Develop performance measures
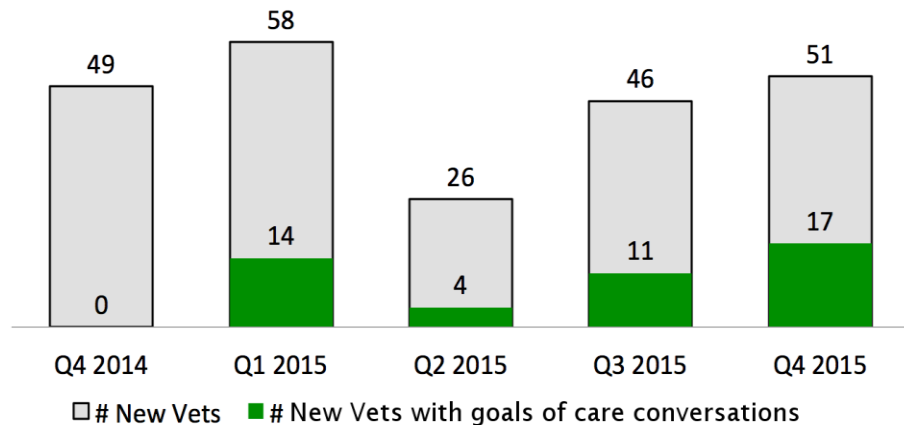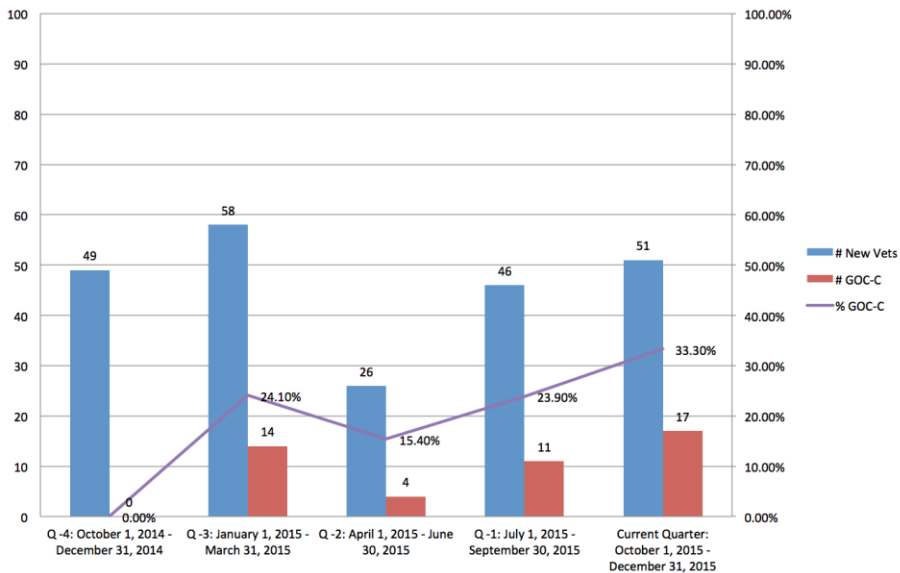
Prepare data

Develop report template
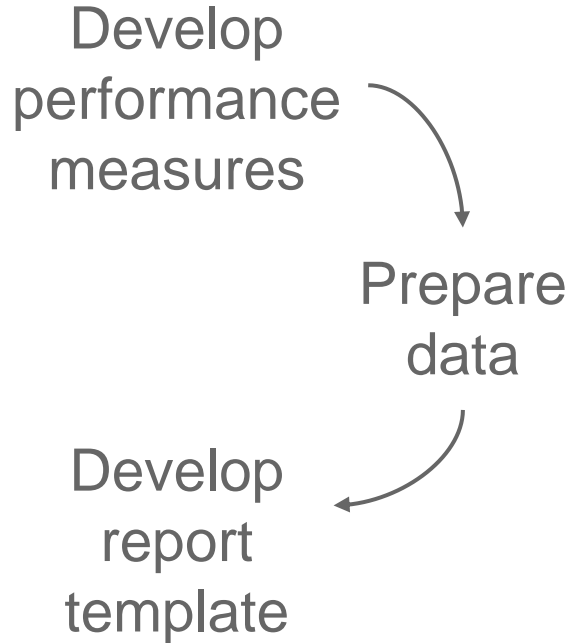
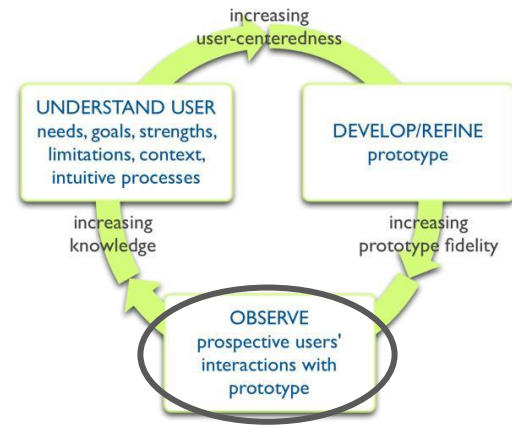# Phase 1: Develop prototype
Initial report templates:
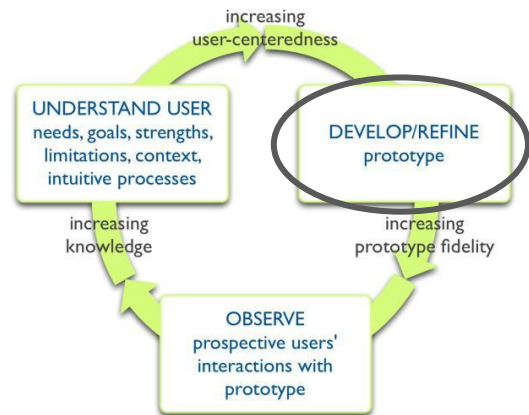
Percentage of Veterans with goals of care conversations (GOC-C) templated at your facility within 7 days of admission to CLC
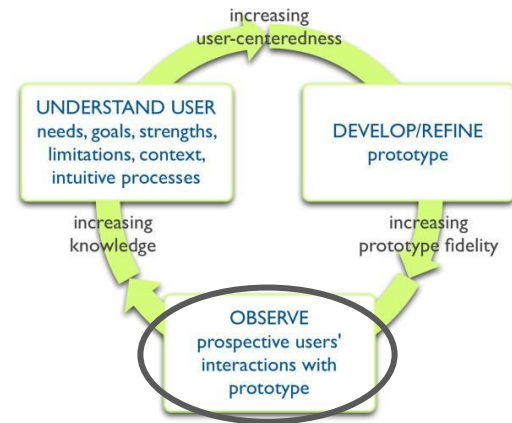
Phase 1: Observe interactions

Methods:

- 30-minute meetings / phone interviews
- Interview and report testing guide
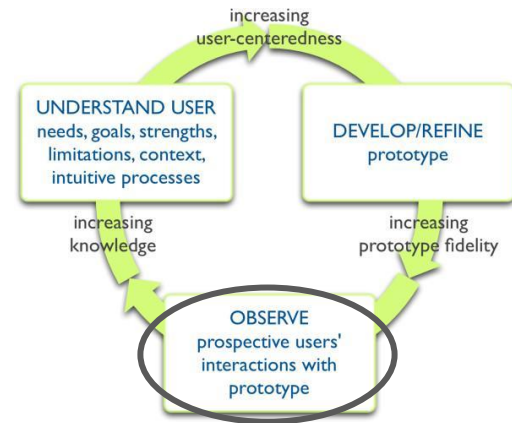
Phase 1: Observe interactions

Methods:

- 30-minute meetings / phone interviews
- Interview and report testing guide
  - Used "think aloud" technique
    - Comprehension of report
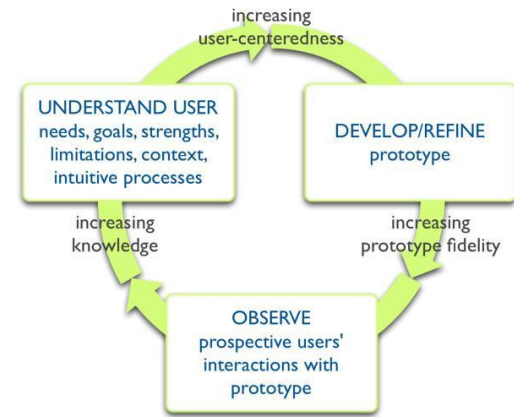   - Acceptance of performance information

Phase 1: Observe interactions

Methods:

- 30-minute meetings / phone interviews
- Interview and report testing guide
  - Used "think aloud" technique
    - Comprehension of report
    - Acceptance of performance information
 - Used comparison of report prototypes to elicit preferences

Phase 2: Significant revisions

increasing
user-centeredness

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needs, goals, strengths,
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intuitive processes

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knowledge

increasing
prototype fidelity

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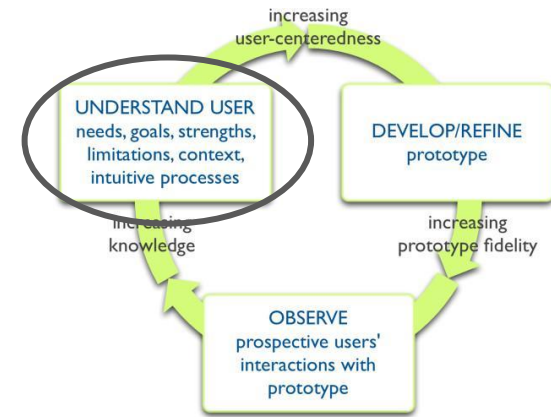# Phase 2: Understand user

Methods:

- Interpretation of observations
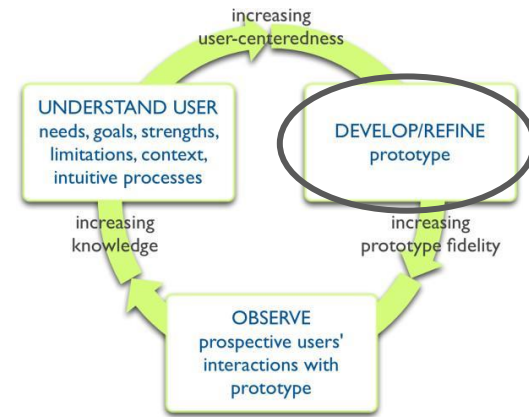- Design team discussions
- Follow-up interview questions
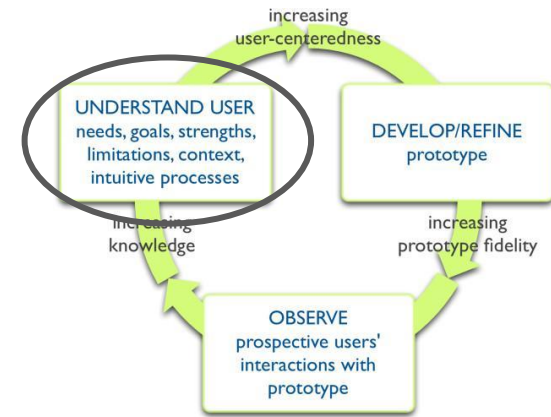
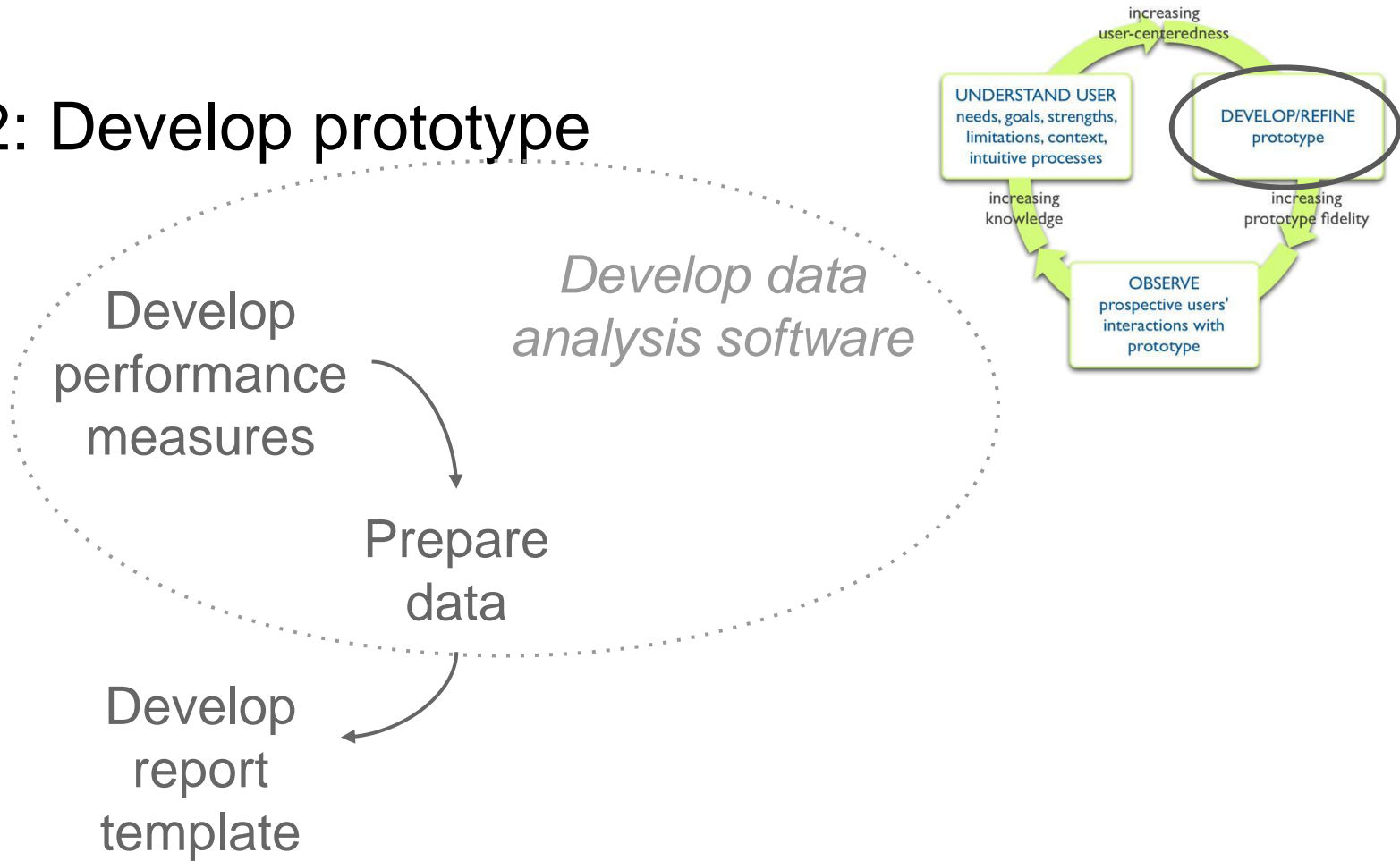# Phase 2: Understand user

Key findings:

- Timeliness of GoCCs is lower-priority than completeness of GoCCs

- Short-stay Veterans are a lower-priority for GoCCs

Phase 2: Develop prototype

Develop
performance
measures

Prepare
data

Develop
report
template

increasing
user-centeredness

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Phase 2: Develop prototype

Develop performance measures

Develop data analysis software

Prepare data

Develop report template

Phase 2: Develop prototype

Develop performance measures

Develop data analysis software

Prepare data

SAS program

Develop report template

Phase 2: Develop prototype

Develop performance measures

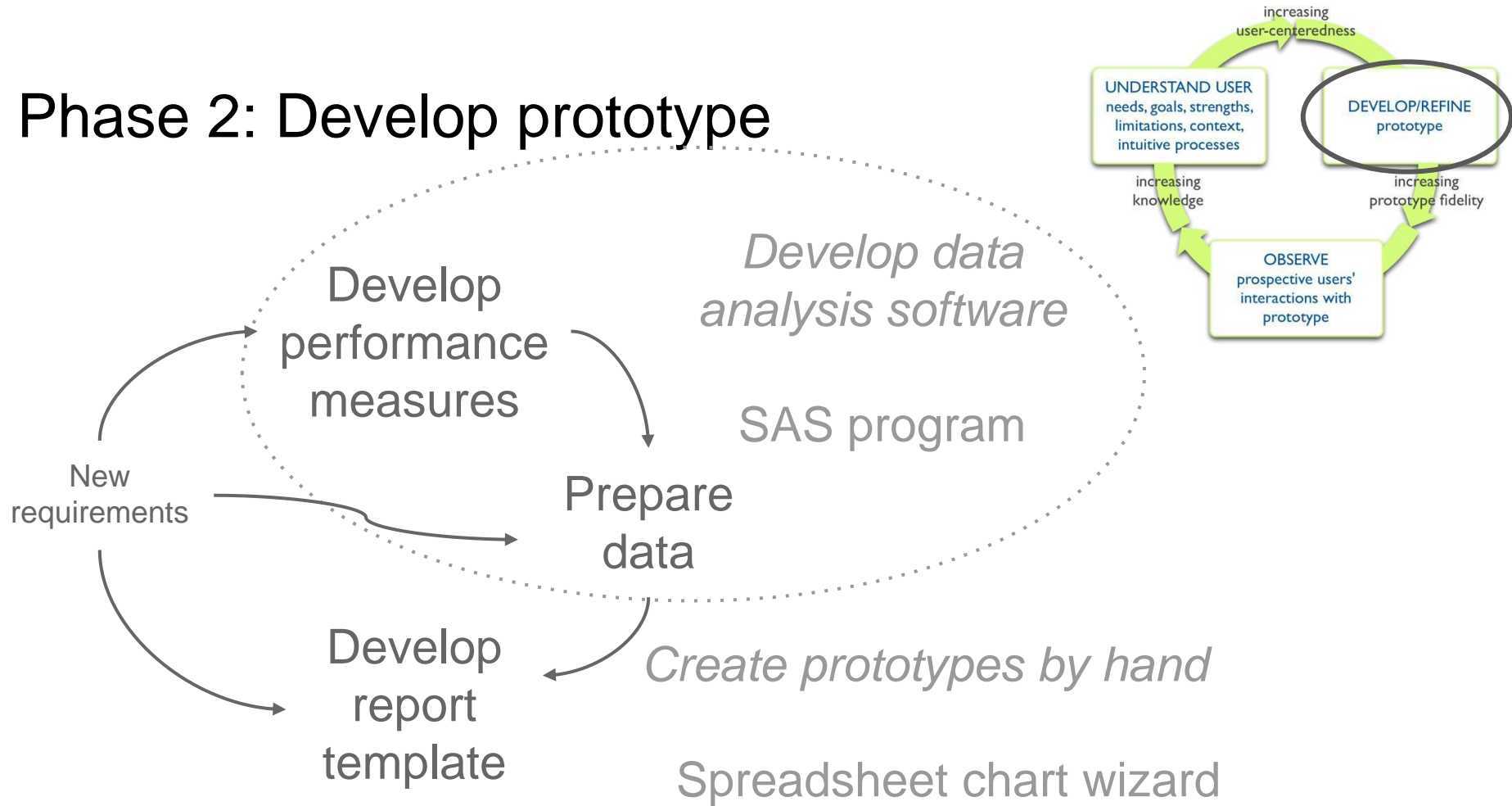| Final measures	Denominator	Numerator(s)	Rationale
Completeness	Number of long-stay Veterans admitted per quarter	Number of Veterans with a GoCC documented any time prior to admission or up to 30 days following admission, per quarter	GoCCs that occur prior to admission have value for optimization of care
Timeliness	Number of long-stay Veterans admitted per quarter	Number of Veterans with a GoCC documented within: 7 days after, 8-30 days after, or any time prior to admission	Admission processes represent a timely opportunity to document GoCCs

Phase 2: Develop prototype

Develop performance measures

Develop data analysis software

Prepare data

SAS program

Develop report template

Phase 2: Develop prototype

Develop performance measures

Develop data analysis software

SAS program

New requirements

Prepare data

Develop report template

increasing user-centeredness

UNDERSTAND USER needs, goals, strengths, limitations, context, intuitive processes

DEVELOP/REFINE prototype

increasing knowledge

increasing prototype fidelity

OBSERVE prospective users' interactions with prototype

Phase 2: Develop prototype

Develop performance measures

New requirements

Prepare data

Develop data analysis software

SAS program

Develop report template

Create prototypes by hand

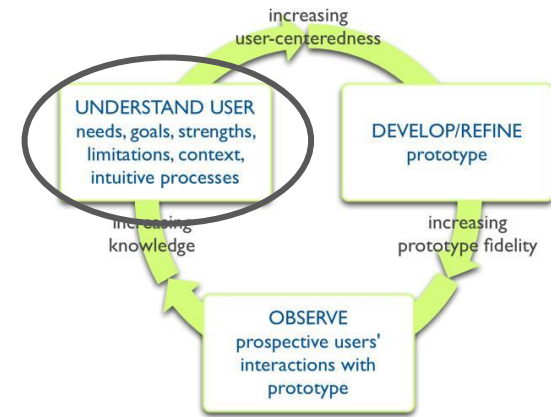Spreadsheet chart wizard

Phase 2: Observe interactions

Results:

- 6 meetings, 8 phone interviews
- 11 unique CLC and HBPC staff members
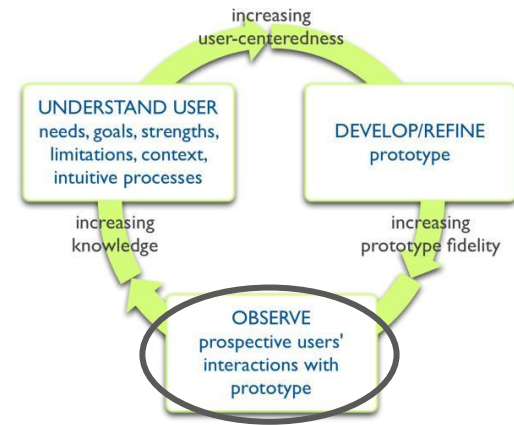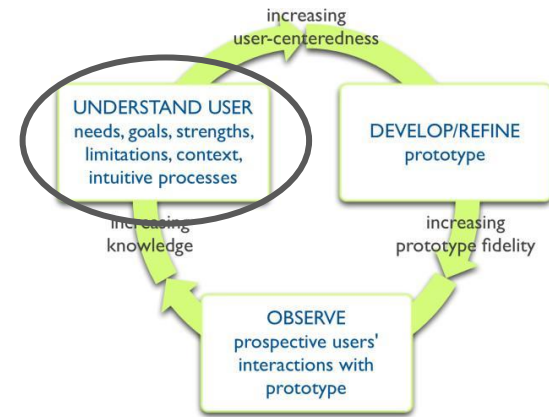
Phase 3: Minor changes

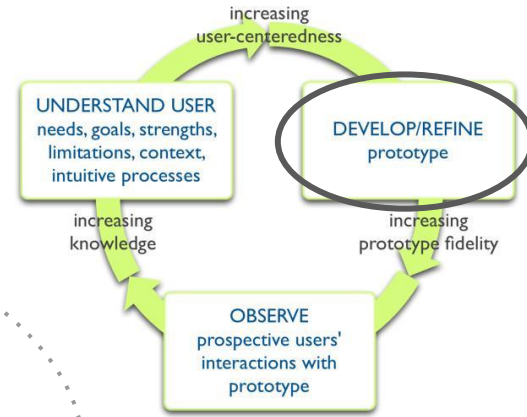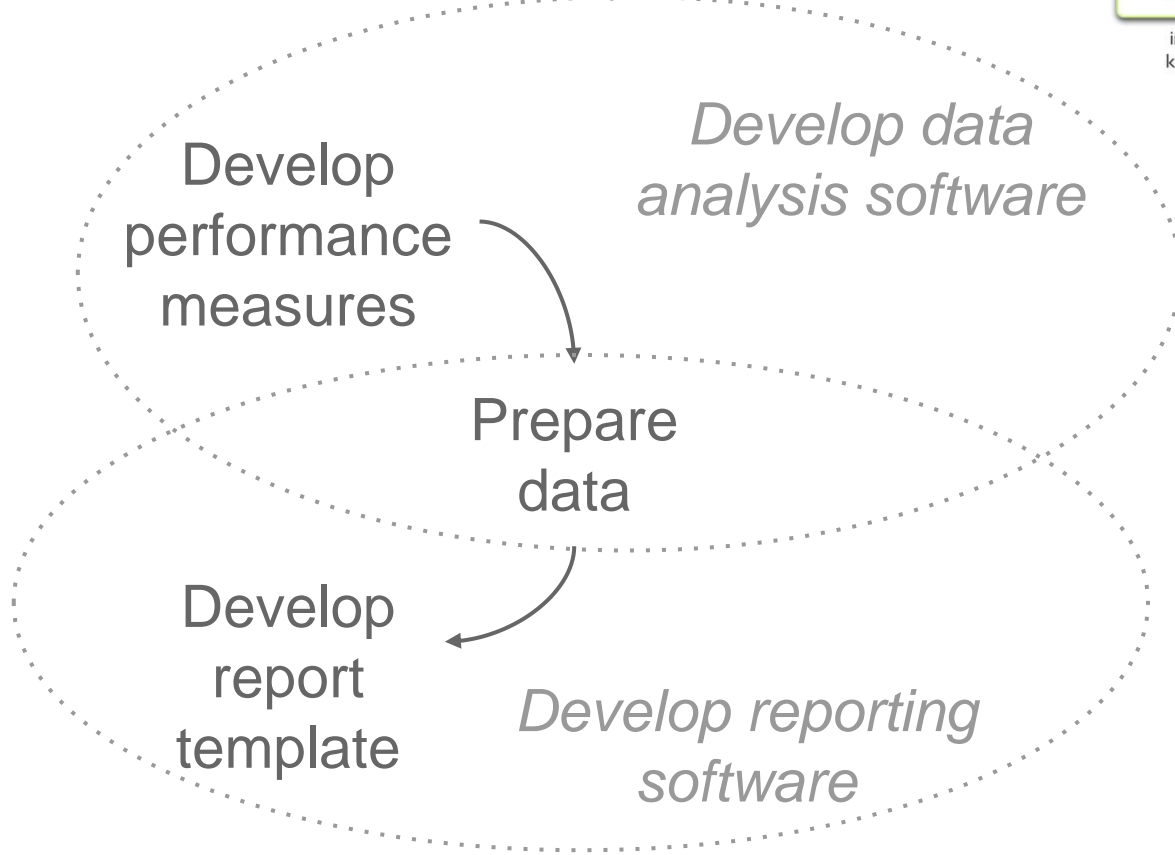Software development phase

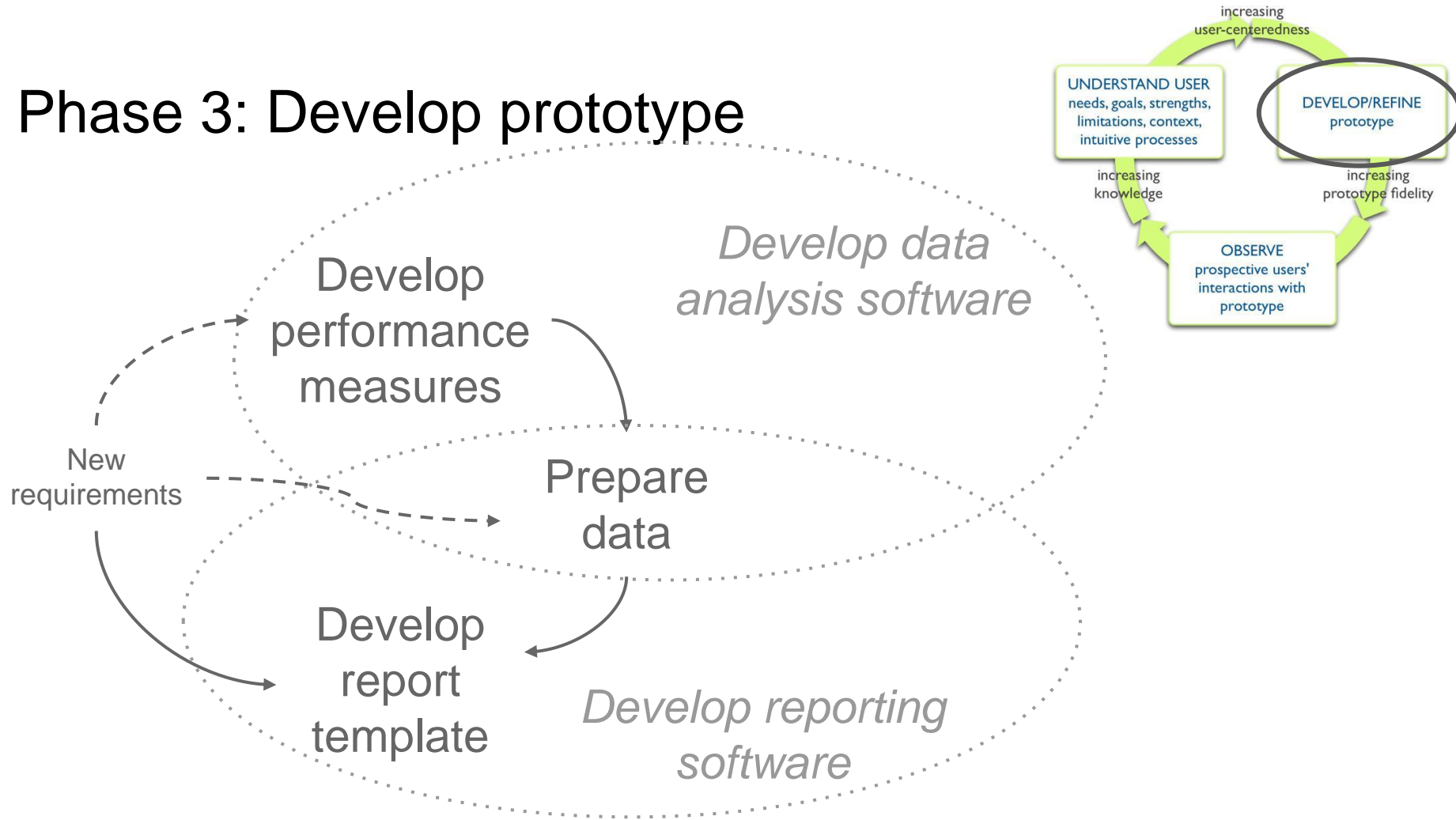# Phase 3: Understand user

Methods:

● Team calls and emails

Results:

● Identified minor revisions

Phase 3: Develop prototype

Develop
performance
measures

*Develop data
analysis software*

Prepare
data

Develop
report
template

*Develop reporting
software*

Diagram (top right):

increasing
user-centeredness

UNDERSTAND USER
needs, goals, strengths,
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DEVELOP/REFINE
prototype

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prototype

Phase 3: Develop prototype

Develop data analysis software

Develop performance measures

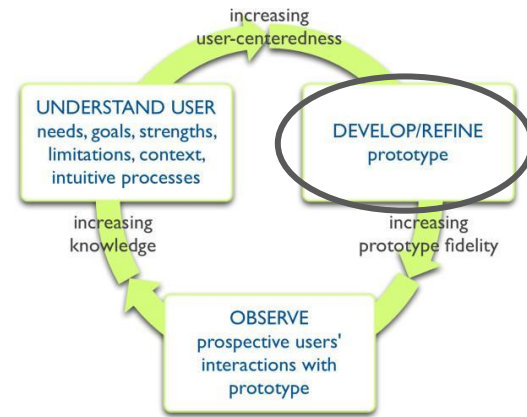New requirements

Prepare data

Develop report template

Develop reporting software

Phase 3: Develop prototype
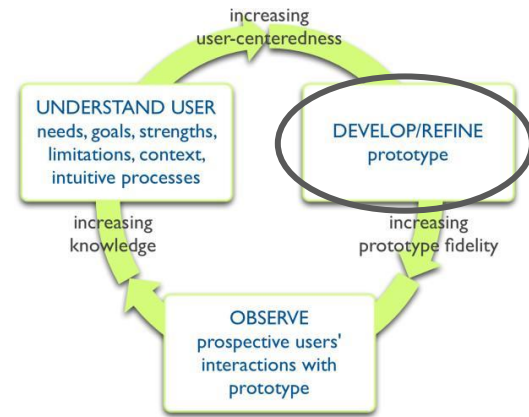

Prepare data:

- Queried data from CDW

- Developed a performance data specification to standardize output in a .csv file

Phase 3: Develop prototype

Report template development:

- Reporting software developed in R and LaTeX

- Code and documentation is open source and publicly available: github.com/Display-Lab/goals-of-care

To: ▓▓▓▓ VA CLC CLC Providers and Staff

From: Long-Term Care QUERI project

Subject: Documenting goals of care conversations

Date: November 3, 2017

___

On the reverse side of this page are feedback reports that present data about the completeness and timeliness with which clinicians document goals of care conversations (GoCCs) for Veterans newly admitted to ▓▓▓▓ VA CLC.

This report focuses on newly admitted Veterans because the admissions process provides a key opportunity to engage Veterans in GoCCs.

Please review the charts on the reverse side of this page to encourage reflection on your current practice and how ▓▓▓▓ VA CLC might increase the number of GoCCs and improve documentation of GoCCs.

To better understand the data, please keep in mind these points:

- Data are collected quarterly from CLCs
- This report shows data from your CLC only
- Veterans admitted to short stay were excluded from the data in this report
- Data in this report comes from the Life-Sustaining Treatment (LST) template in CPRS; the data is extracted from the Corporate Data Warehouse (CDW) Production Domain and summarized using SAS EG 7.1
- The report includes data only for Veterans who were newly admitted to your CLC in the last two years, quarter by quarter
- If a Veteran had more than one goals of care conversation documented in a quarter, only the first conversation was counted
- Each Veteran was counted only once even if they had multiple admissions
- Only GoCCs with answers completed for all 4 required questions were counted.

More information about the implementation of GoCCs, including a step-by-step implementation guide, is available at the following website: `http://vaww.ethics.va.gov/LST.asp`.

If you have any questions about this report, you can contact:

- ▓▓▓▓ Project Coordinator (▓▓▓▓@va.gov)

Thank you for your efforts to increase the frequency of GoCCs with Veterans and their families in ▓▓▓▓ VA CLC and in ensuring that these important discussions are documented to improve care and the quality of life for our Veterans.

How many total newly admitted Veterans have a documented goals of care conversation?
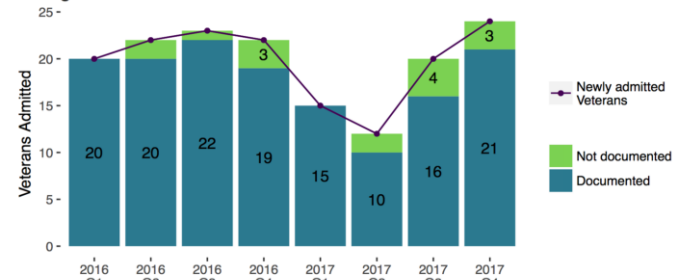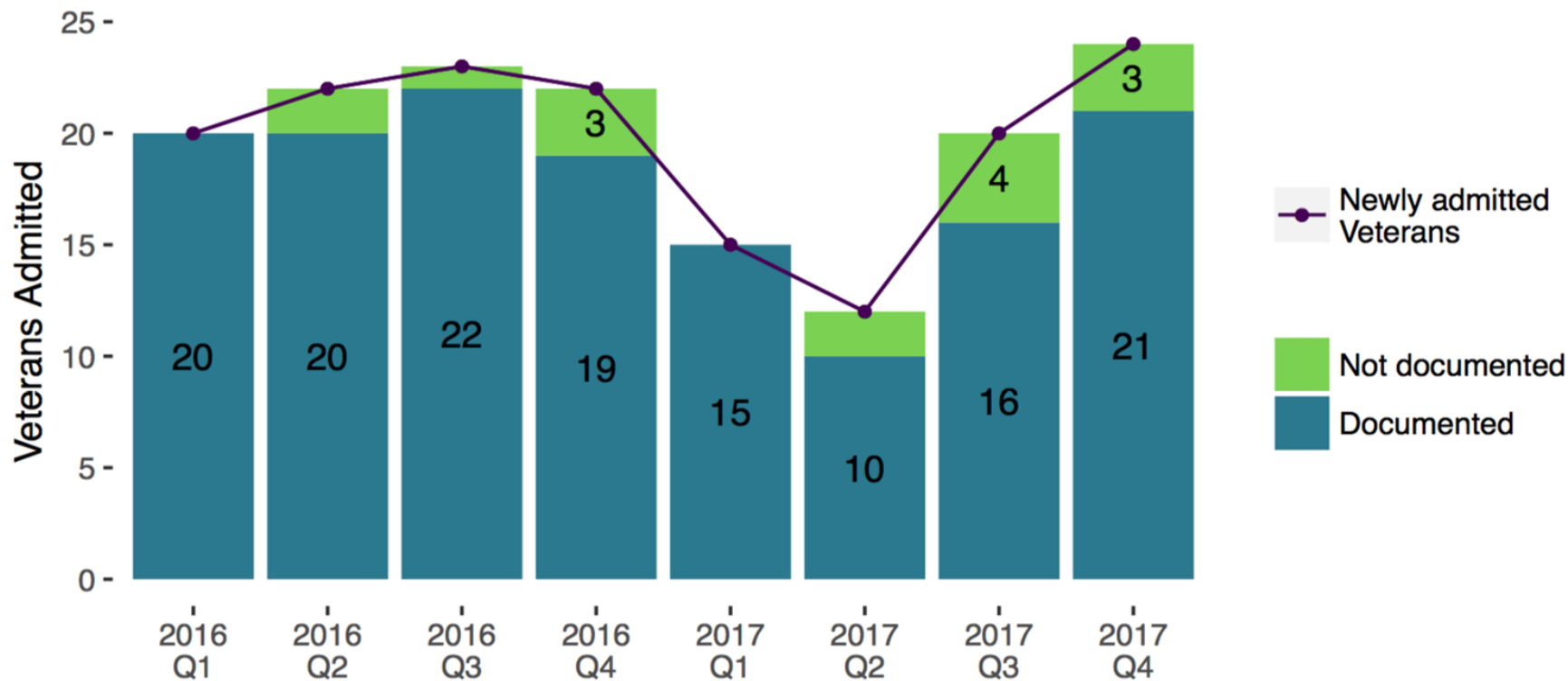

- The columns in the chart above show the number of Veterans admitted to ▓▓▓▓ VA CLC each quarter.
- The segments of each column compare the number without documentation to the number who had documentation from the LST template at any time between the first use of the LST template by ▓▓▓▓ VA CLC, and up to 30 days following each CLC admission.

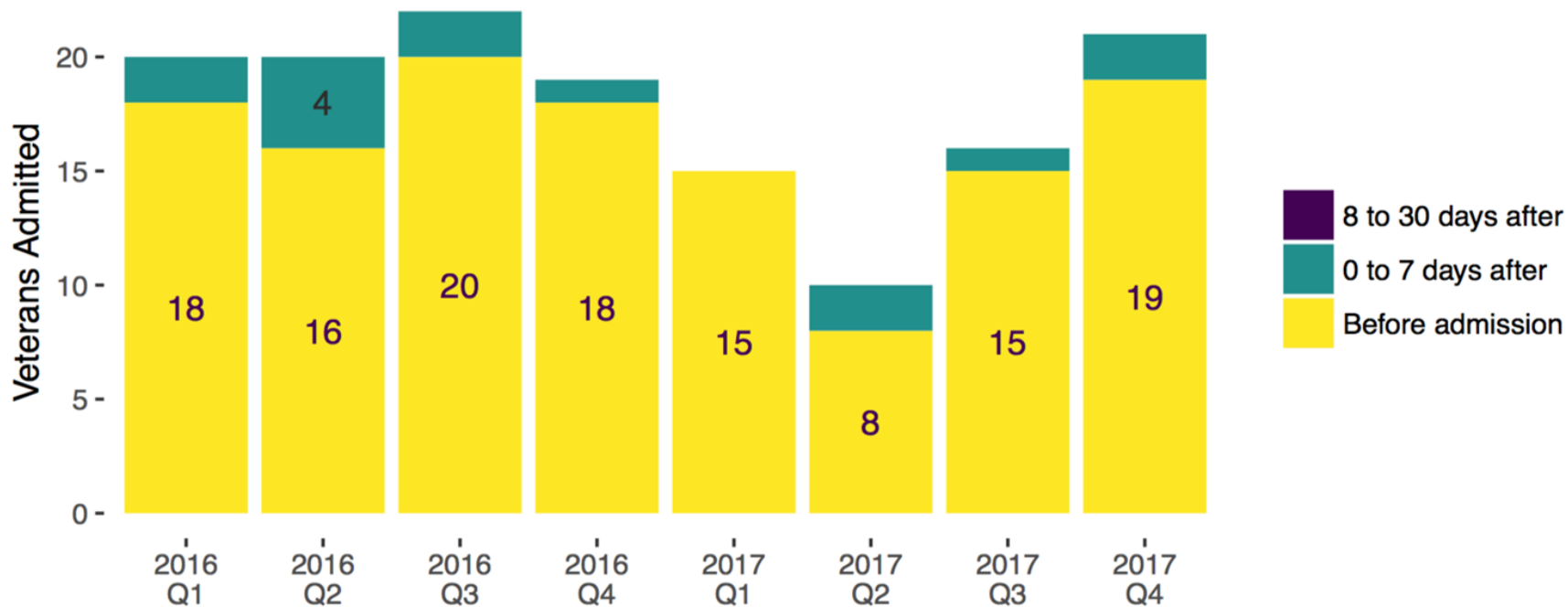## How close to the time of admission were goals of care conversations documented?
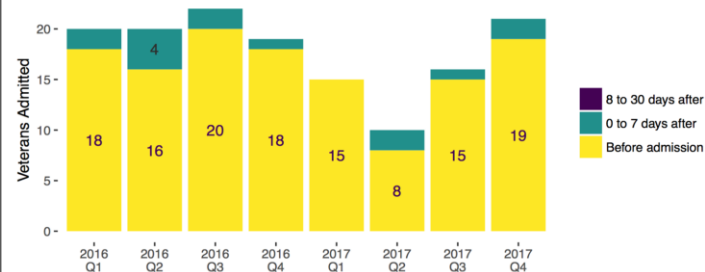
- The segments of each column in the chart above show Veterans whose most recent GoCC was documented before or after admission.
- Each Veteran with a documented GoCC was counted only once, starting with "0 to 7 days after", then "8 to 30 days after", then "Before admission".

How many total newly admitted Veterans have a documented goals of care conversation?

Veterans Admitted

Legend:
- Newly admitted Veterans
- Not documented
- Documented

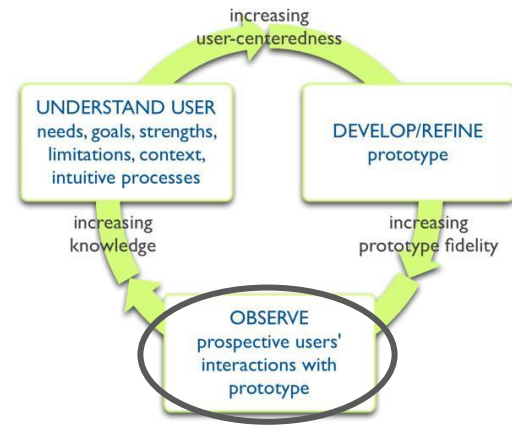|	2016 Q1	2016 Q2	2016 Q3	2016 Q4	2017 Q1	2017 Q2	2017 Q3	2017 Q4
Not documented				3			4	3
Documented	20	20	22	19	15	10	16	21

How close to the time of admission were goals of care conversations documented?

Phase 3: Observe interactions

Results:

- Follow-up calls and discussions
- Ongoing emailed requests / issues

Feedback report delivery outcomes

June, 2018 outcomes:

- Report delivery:
  - 28 CLC sites
  - 22 HBPC sites

- Quarterly report generation time: ~1 day
  - Time limiting factor: Running queries in CDW

Discussion

- "Understanding the user" step allowed us to identify facility-level differences:
  - Preferences for feedback, such as for regional comparison
  - Intention to disseminate feedback widely vs withhold for administrative staff problem-solving
- Tailoring reports for facility differences may improve report engagement

Limitations

- Phone-based interviews

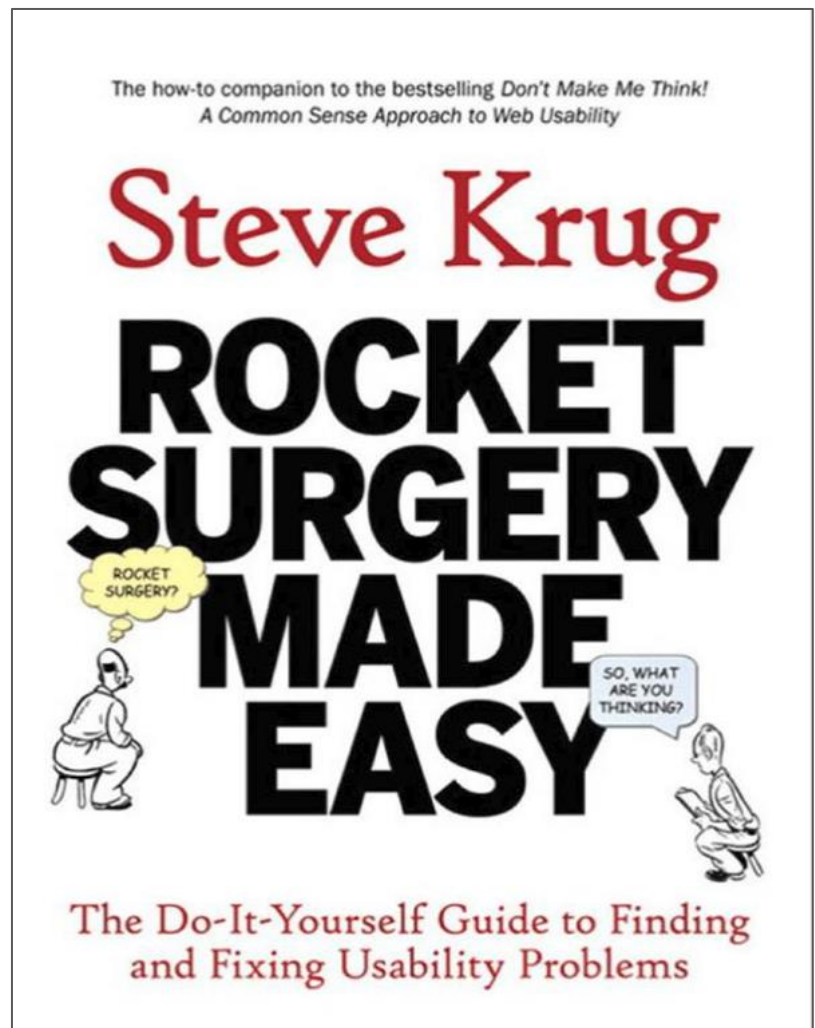- Variability in preferences and contexts limit the ability to arrive at an optimal design

Conclusion

- User-centered design helped us to identify the right data and appropriate presentation of performance data

- Iterative prototyping of our reports involved 3 key steps:
  - performance measure development
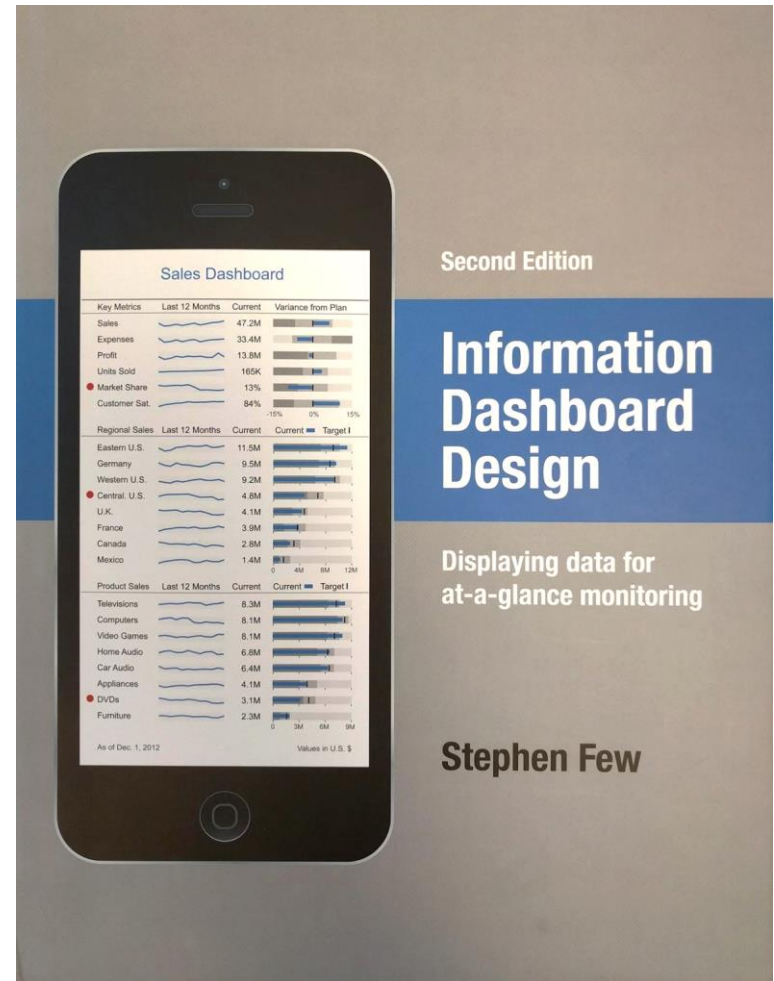 - data preparation
  - report template development

Outline

1. Introduction
2. Designing performance feedback reports
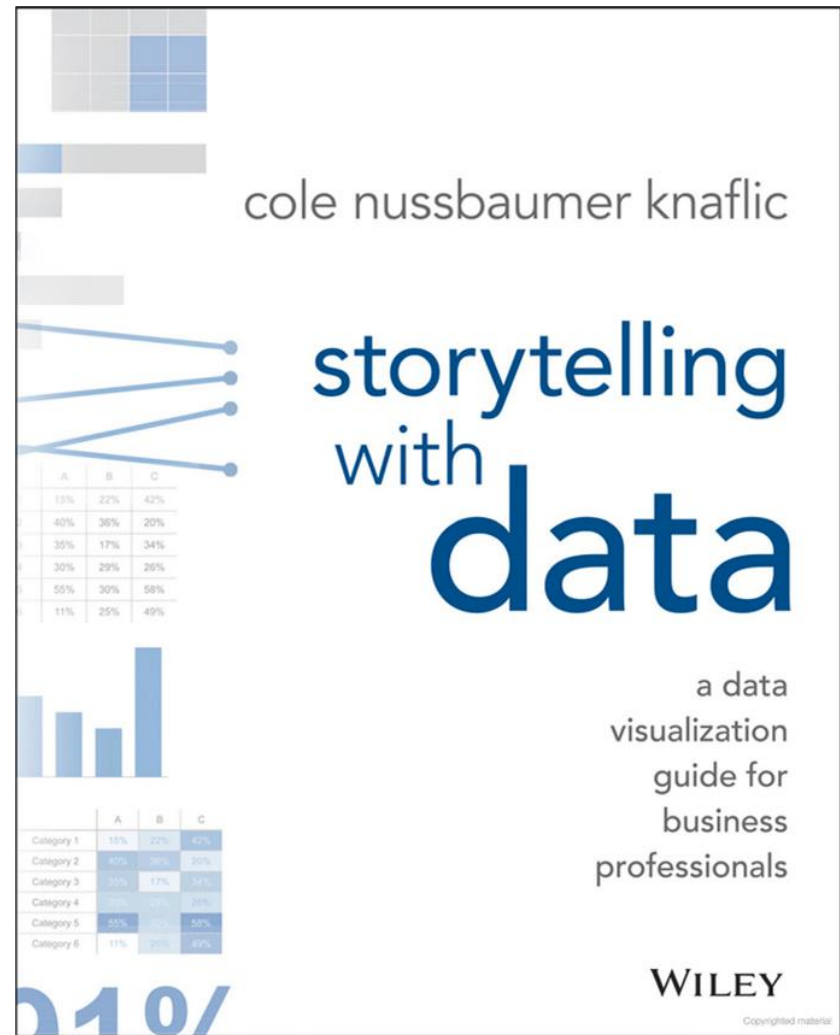3. *Resources*
4. Q and A

Observing users / usability testing

Visual design of dashboards

Second Edition

Information Dashboard Design

Displaying data for at-a-glance monitoring

Stephen Few

Visual design of charts

cole nussbaumer knaflic

storytelling
with
data

a data
visualization
guide for
business
professionals

WILEY

Copyrighted material

Acknowledgements

Thank you

Q & A