

BACKGROUND

Patients with cancer experience a wide range of symptoms, which can go undetected up to 50% of the time in clinic.¹

Electronic patient-reported outcomes (ePROs) can help fill this gap by allowing patients to directly report on their own experiences in a systematic way.

Use of ePROs can improve quality of life, reduce trips to the emergency department and lengthen survival.²

The problem: Despite proven benefits, **ePROs are not widely integrated into clinical care.**

OBJECTIVES

Demonstrate the feasibility and utility of integrating ePROs the existing Epic® electronic health record (EHR)

Promote a more **proactive system of symptom management**

PILOT DESIGN

Selected validated ePRO questionnaire: ESAS-r³

Partnered with internal technology team to activate built-in Epic® ePRO tool

Launched in three outpatient oncology clinics: hematology, gastrointestinal oncology and radiation oncology

Data Flow:

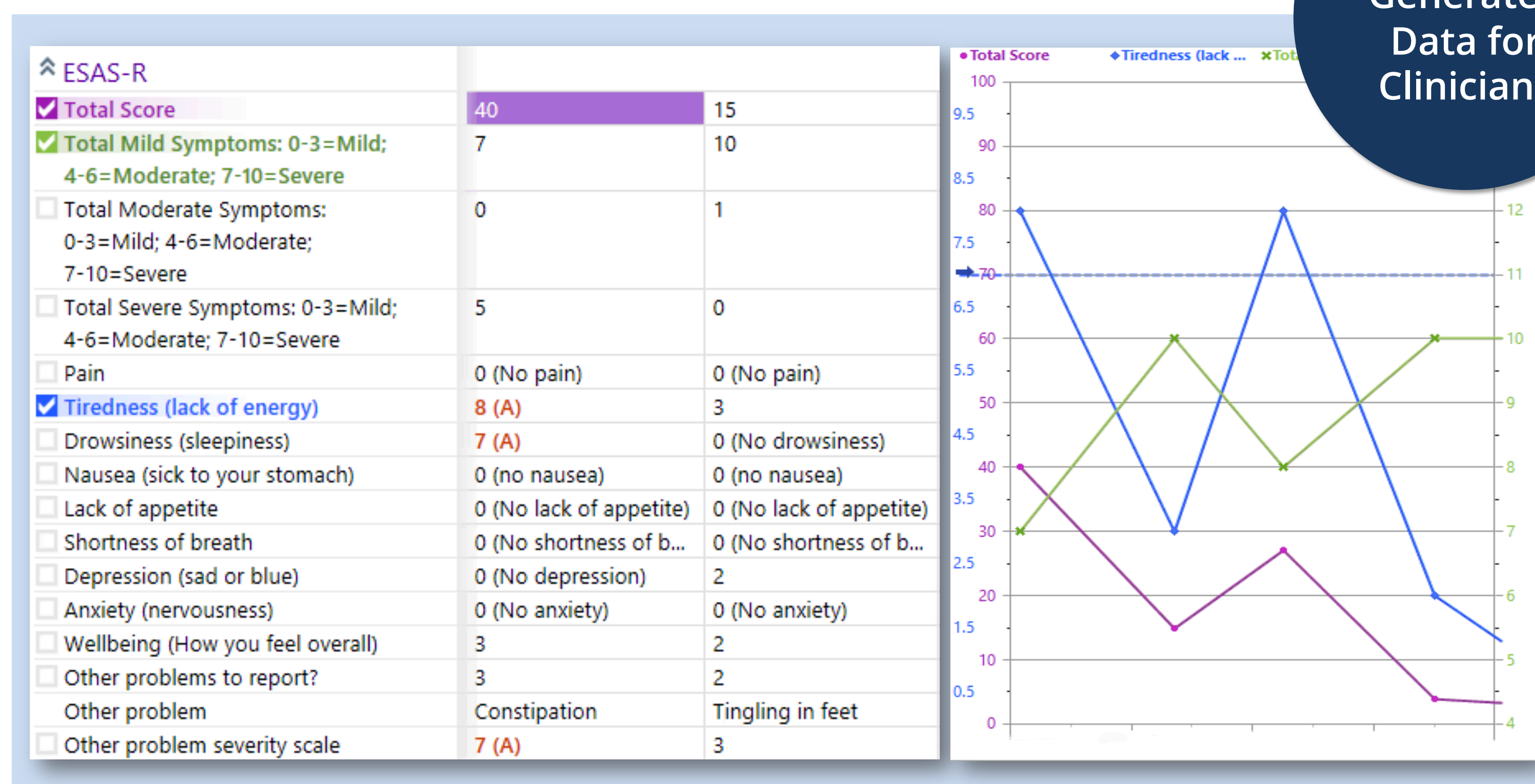
1. Patients complete ePRO questionnaire the in MyChart® patient portal
2. Clinicians view patient generated data in “flowsheet” or “synopsis” while preparing for and during patient visit
3. SmartPhrase used to include ePRO data in clinical documentation

References

1. Pakhomov, et al. Am J Manag Care 2008.
2. Basch, et al. JAMA 2017
3. The ESAS-r is freely available for use. Watanabe et al. J Pain Symptom Manage 2011; Bruera et al. J Palliat Care 1991.

FIGURE 1: MyChart® to the Clinical Note

1. ePRO Survey for Patients



2. Patient Generated Data for Clinicians



ESAS-R	Date	Date
Total Score	15	27
Total Mild Symptoms: 0-3=Mild; 4-6=Moderate; 7-10=Severe	10	8
Total Moderate Symptoms: 0-3=Mild; 4-6=Moderate; 7-10=Severe	1	1
Total Severe Symptoms: 0-3=Mild; 4-6=Moderate; 7-10=Severe	0	2
Pain	0 (No pain)	0 (No pain)
Tiredness (lack of energy)	3	8 (A)
Drowsiness (sleepiness)	0 (No drowsiness)	7 (A)
Nausea (sick to your stomach)	0 (no nausea)	0 (no nausea)
Lack of appetite	0 (No lack of appetite)	0 (No lack of appetite)
Shortness of breath	0 (No shortness of breath)	0 (No shortness of breath)
Depression (sad or blue)	2	2
Anxiety (nervousness)	0 (No anxiety)	2
Wellbeing (How you feel overall)	2	3
Other problems to report?	2	2
Other problem	Tingling in feet	Neuropathy mainly in left foot and ankle.
Other problem severity scale	3	4
Other problem	Constipation	Tachycardia. Few beats a time or two daily.
Other problem severity scale	5	1
Other problem		
Other problem severity scale		
Other problem		
Other problem severity scale		
(A) Abnormal value		

3. Patient Generated Data for the Clinical Note

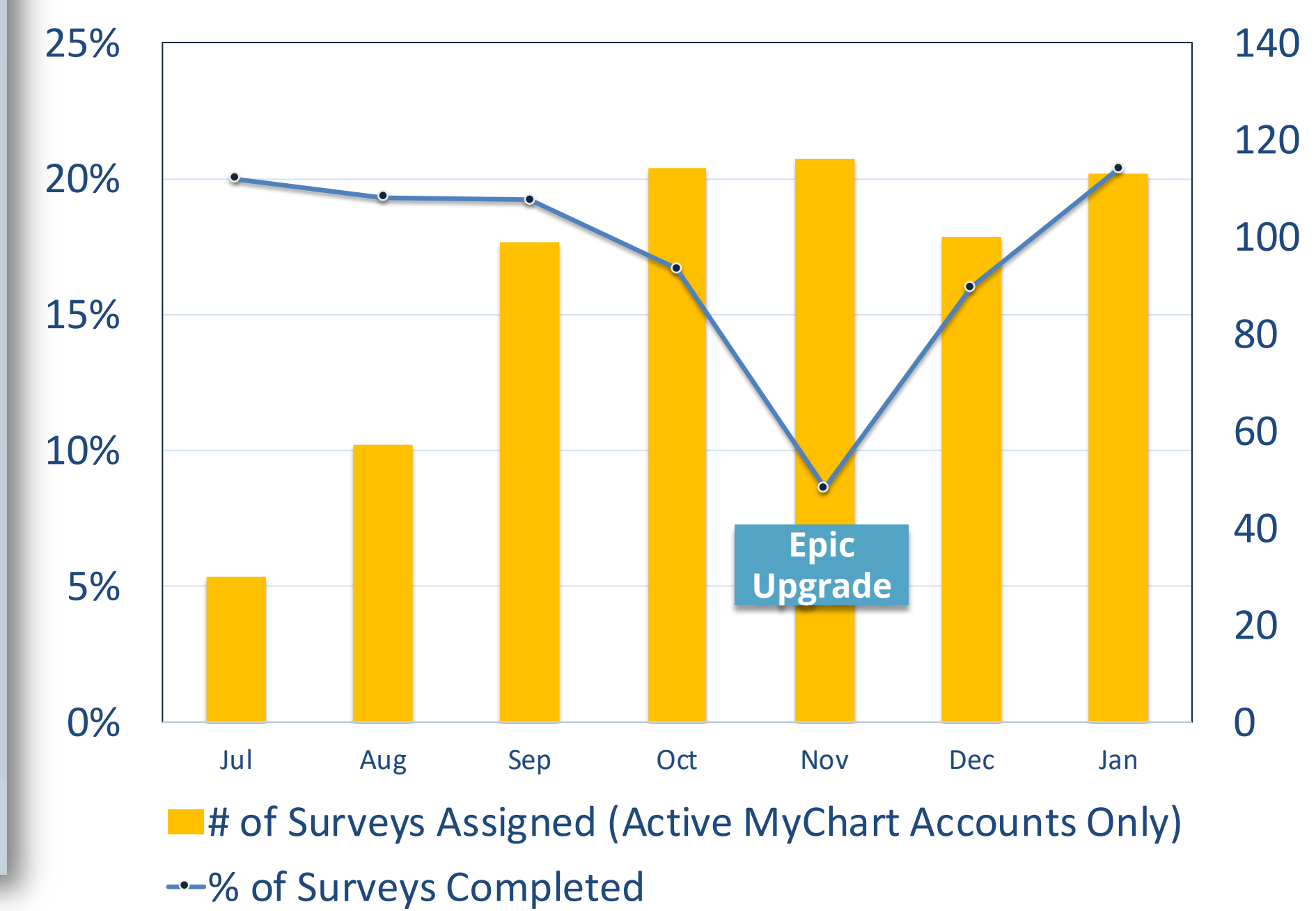
RESULTS

Feasible: ePRO questionnaire integrated into patient and provider facing Epic® platforms and launched in three months

Barriers:

- Clinical workflow initially complex
- Low patient engagement

FIGURE 2: ePRO Response Rates



CONCLUSION

Technical implementation

Epic's built-in ePRO tool is quick to **customize and activate**

Clinical workflow optimization

Successes:

- SmartPhrase for clinical note
- Symptom trends over time

Barrier:

- Time required for clinicians to “file” patient data
- Solution: Epic® 2018 upgrade streamlined dataflow

Patient engagement

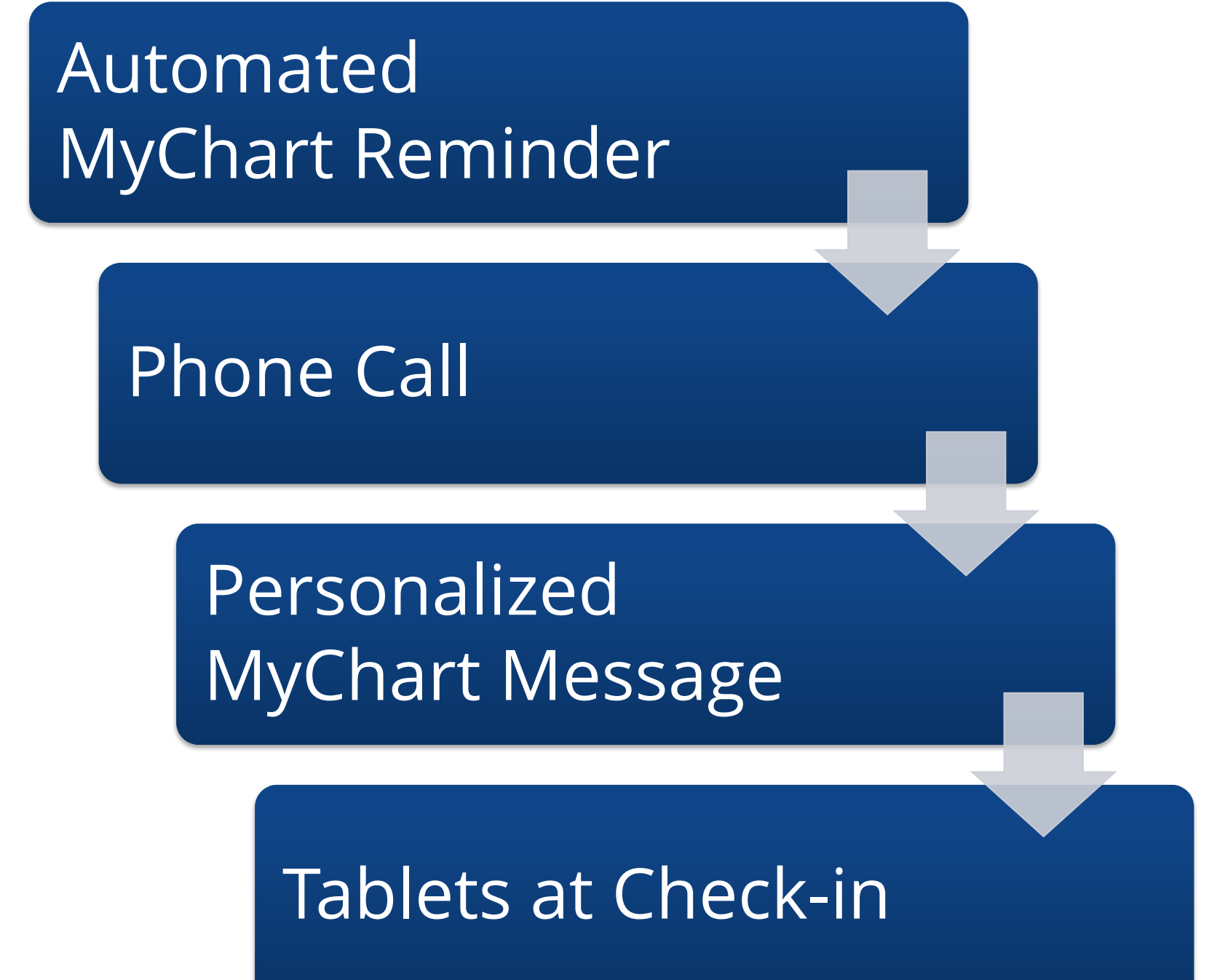
Barrier:

- Low response rates to ePRO questionnaire through MyChart®

Solutions:

- Clinicians **review results** with patients **during clinic visit**
- PDSA cycles with different **patient engagement strategies**

FIGURE 3: PDSA Cycles



Questions?

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