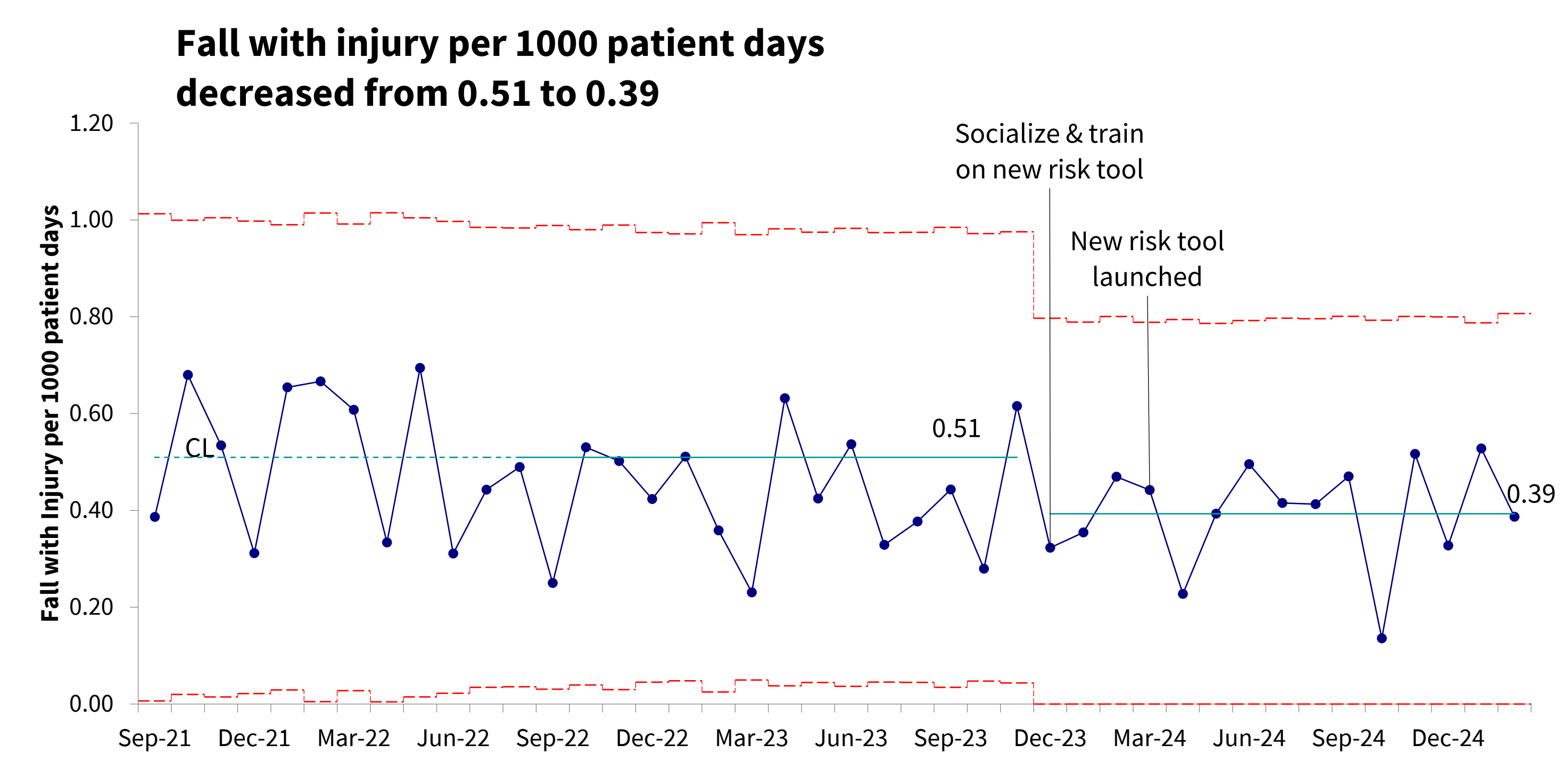
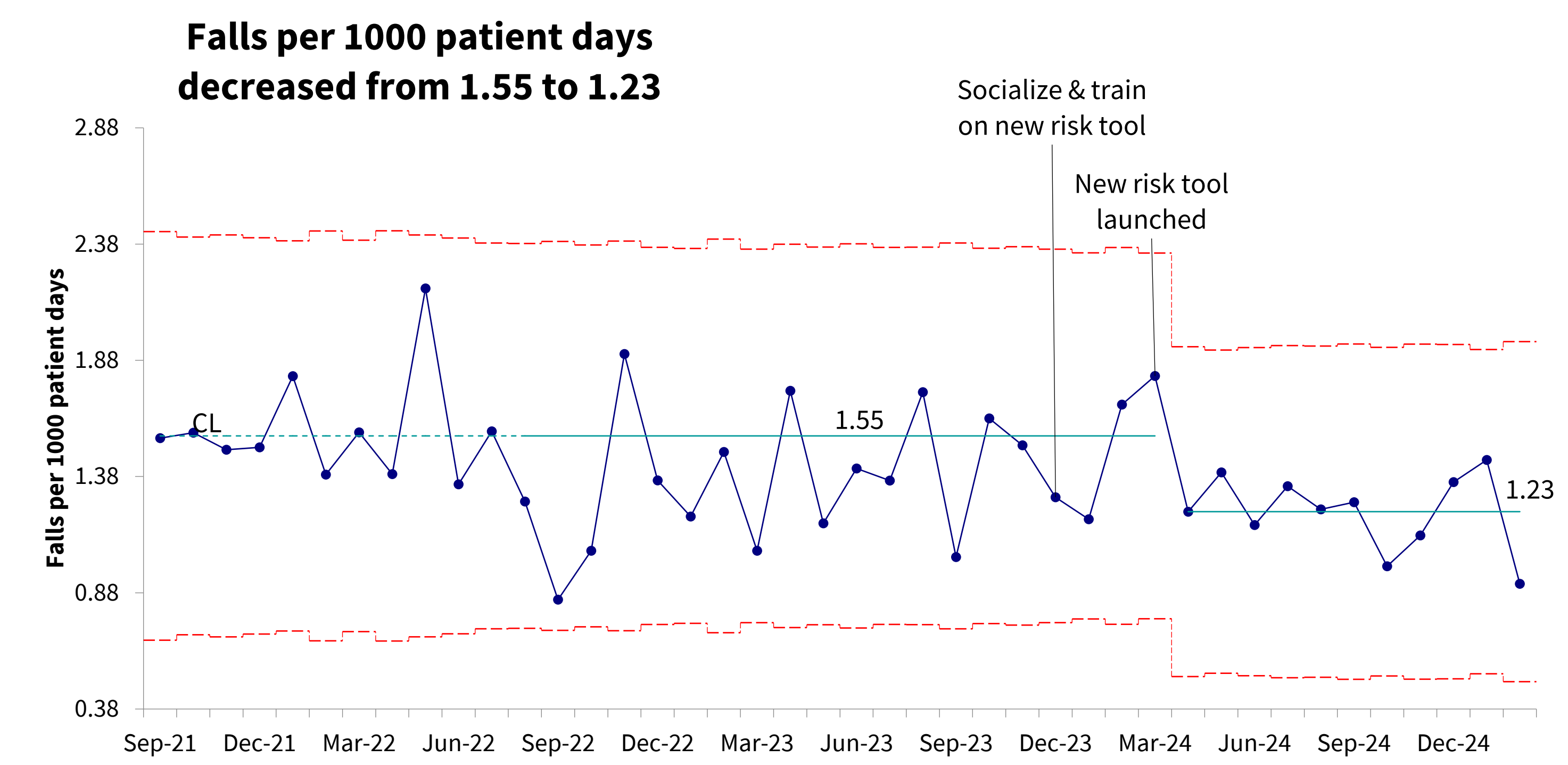
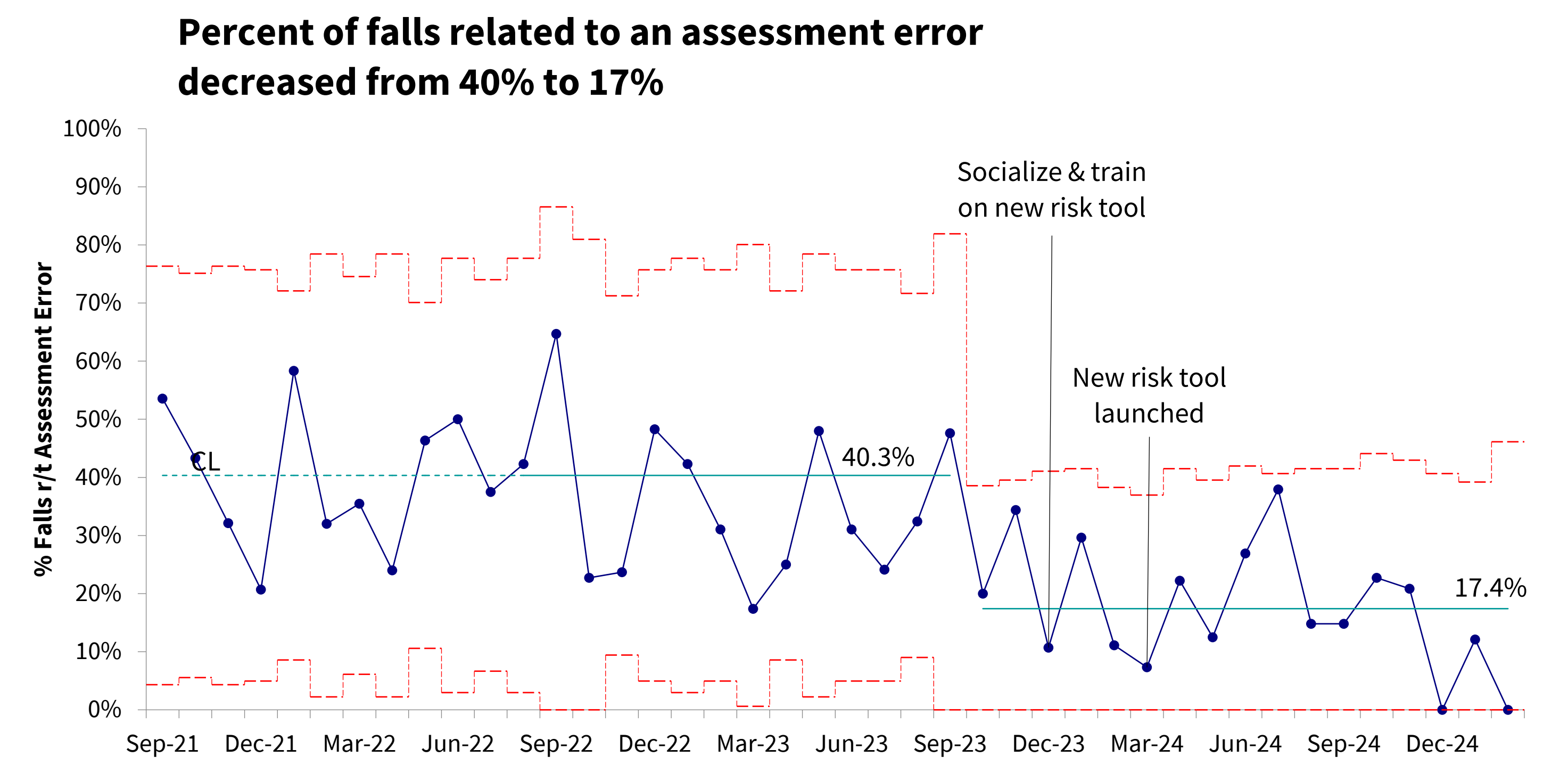
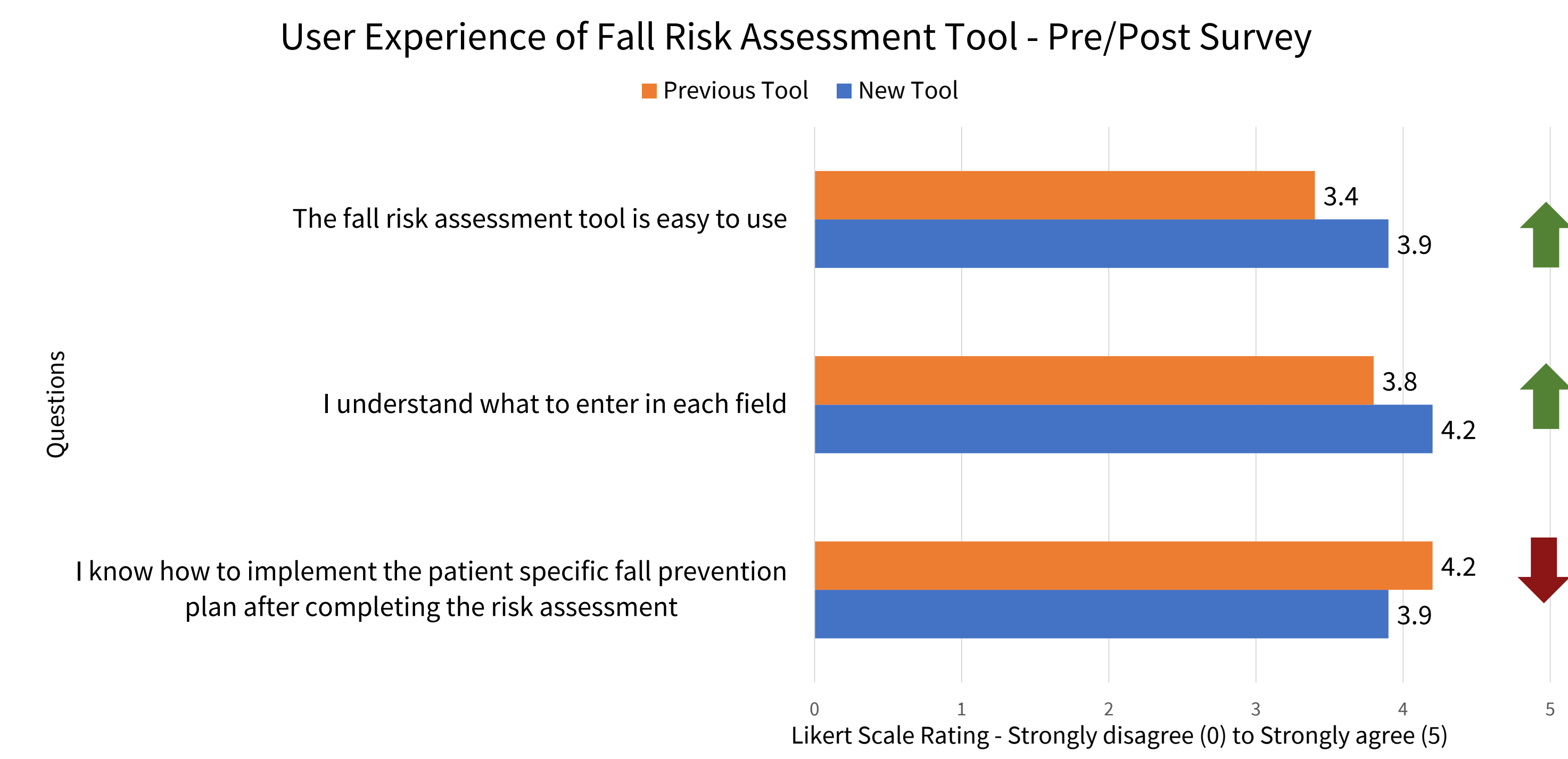


Against EMR's Advice: High versus low clinical decision support

Tracy Ou, MS, BSN, RN, CHPQ, Center for Professional Practice, Nursing Quality
 Jerri Westphal, MSN, RN, NI-BC, Nursing Informatics
 Stanford Health Care, Stanford, CA

RESULTS



IMPLICATIONS

Simple, low clinical decision support tools can be more effective than complex, high clinical decision support tools.

Evaluating the design, use, and adoption of clinical decision support tools is a key step to understanding its impact or lack of impact on nurses' clinical judgment and integration into clinical workflows.

Soliciting end user feedback and guidance from representatives in a shared leadership council can result in optimal design and adoption of clinical decision support tools.

References: 1) U.S. Department of Health and Human Services. (n.d.). Clinical decision support. HealthIT.gov
 Contacts: Tracy Ou, tracyou@stanfordhealthcare.org; Jerri Westphal, jwestphal@stanfordhealthcare.org

BACKGROUND

- Stanford Health Care's (SHC) fall prevention assessment and intervention tool was designed to provide high clinical decision support (CDS) to ensure consistency in planning and implementation of a patient-specific fall prevention plan.
- However, fall risk assessment errors contributed to 39% of 361 patient fall events indicating ineffective guidance from SHC's fall risk CDS tool.

Conversion to a low clinical decision support fall risk assessment tool reduced assessment errors and improved fall outcomes.

METHODS

Shared leadership was consulted for design decision on high CDS vs low CDS

Option: High CDS in EMR design

Required and suggested interventions are auto-populated based on RN's assessment and documentation of patient's fall risks.

We asked: What is the impact of this design?

- Potential to standardize practice & increase consistent tailored fall prevention plan based on assessment
- Reassured policy/procedure backs you up when new to SHC
- Can use EHR to communicate expectations and RN's plan across the EHR
- Does not incorporate each unit's practice
- Overwhelming
- Increases real estate the tool occupies
- Less perceived flexibility in creating fall prevention plan
- Need to document what was not implemented and why
- Attention to details wanes with time & experience

VS

Option: Low CDS in EMR design

RN selects appropriate interventions from a list of all possible interventions after completing fall risk assessment.

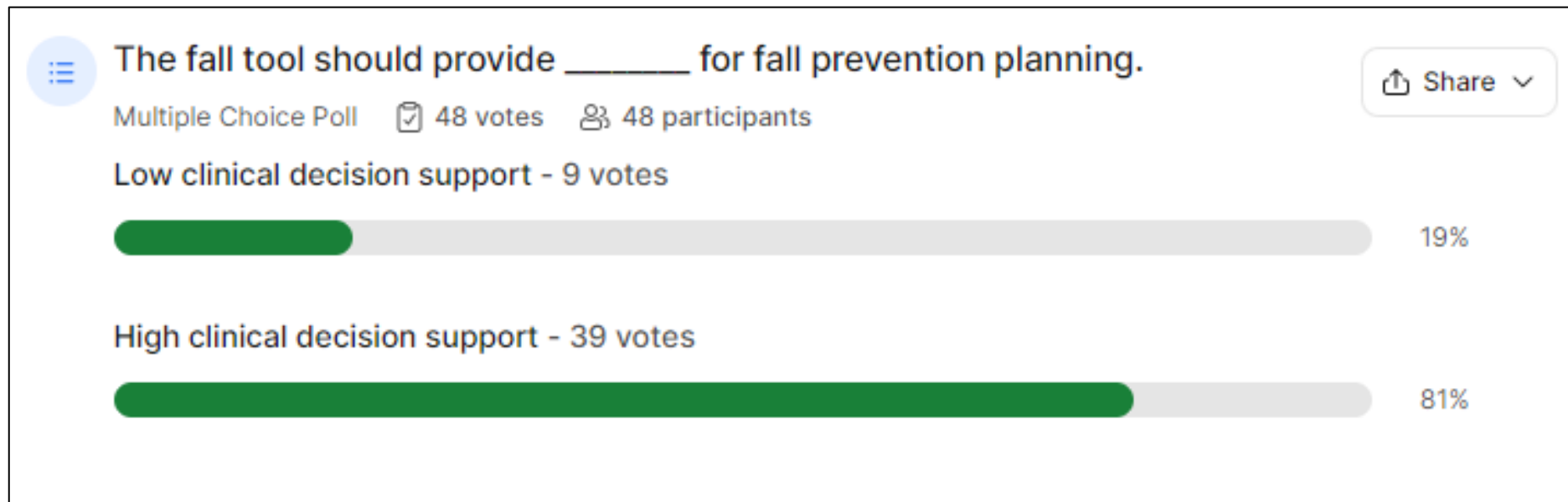
We asked: What is the impact of this design?

- Autonomy
- Reduce real estate fall prevention tool occupies
- RN has more flexibility in creating fall prevention plan
- More steps to get to procedure & best practice
- Will rely on good training & competency in fall prevention and clinical decision making
- More difficult to document tailored fall prevention plan at start of shift

Shared leadership's preference for high clinical decision support was incongruent with end user reported use

Quality & Informatics Council voted in favor of maintaining high clinical decision support design

However, end users reported they did not heed prescriptive guidance from current high clinical decision support tool



Response themes from end user interviews:

- The tool is helpful to new nurses or nurses new to organization
- Experienced nurses stop referencing the tool
- Nurses do not read the information provided in the tool
- The tool does not help to guide nursing practice

PREVIOUS DESIGN	Risk Categories	
	☑ Fall History	
☑ Date of Fall		
☑ Mentation		C, D, E
☑ Elimination		D, E
☑ Mobility		B, C
☑ Equipment		B
☑ Medications		B, C, D
INTERVENTIONS	Standard fall precautions	Required
	Elimination interventions bundle	Required
	Remain within arm's reach during toileting	Required
	Yellow socks, armband, fall signage (OPTIONAL IN ICU)	Required
	Fall prevention alarm	Required
	Use an interpreter for fall prevention education (as applicable)	Required
	Assess for reversible causes of confusion and correct if possible	Required
	Ensure assistive devices are within reach	Required
	Instruct patient to call for assistance with medical equipment	Required
	Educate medication side effects as it relates to pt's fall risk (RN only)	Required
Assess for orthostatic hypotension as indicated	Required	
Request Pharmacy review (RN only)	Required	
ADDITIONAL SUGGESTED INTERVENTIONS	Request Pharmacy review (RN only)	
	Room with easy visibility and door open	
ACKNOWLEDGEMENT	I acknowledge that the required fall prevention interventions have been implemented	Yes
	Fall Video Watched	

NEW DESIGN	Fall Risk Assessment	
	☑ Fall History	
	☑ Date of Fall	
	☑ Mentation	
	☑ Elimination	
	☑ Mobility	
	☑ Equipment	
	☑ Medications	
	☑ Fall Risk Score	
	Care Plan Interventions - Fall Risk	
Safety Promotion/Fall Prevention		

Fall risk and intervention tool redesign

- Conversion from high CDS to low CDS removing directive of required interventions
- Support and leverage nurse's clinical judgement and decision making to tailor interventions to patient
- Simplified, clarified, and aligned to best practices
- Reduced footprint in EMR from 24 rows to 9 rows
- Reduced total number of assessment options from 30 to 18

Multidisciplinary Task Force:
 Team included frontline nurses, nurse managers, clinical nurse specialists, nurse informaticist, QI/PI nurse, pharmacist, rehabilitation therapist

Shared Governance Input:
 Key design and decision points were brought to shared governance council of frontline nurses who provided feedback and design direction

End User Input:
 End user experience, trust, and use of tool was collected through interviews

Tool Redesign & Optimization:
 From prescriptive interventions (high CDS) to flexible interventions based on nurse clinical judgement in tailoring to patient specific risks (low CDS)