

# Barriers to timely Administration of Fibrinolysis for STEMI treatment in a diverse, rural health authority (BAFFIN)

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## Background

- Patients diagnosed with ST-segment elevation myocardial infarction (STEMI) in areas without timely access to percutaneous coronary intervention (PCI) are treated with fibrinolysis
- Patients should receive fibrinolysis within 30 minutes of first medical contact
- Current regional door-to-needle times in Interior Health (IH) are not meeting the 30-minute target
- Understanding what causes delays in fibrinolysis treatment can help with future quality improvement projects

## Objectives

- Identify general barriers to the administration of fibrinolysis within IH
- Identify barriers specific to various professions (nurses and emergency room physicians) to timely administration of fibrinolysis

## Methods

### Design

- Prospective, descriptive study

### Setting

- Community, regional, and tertiary hospitals within IH that do not have timely access to PCI

### Population

- Emergency room physicians
- Emergency room registered nurses

### Data Collection

- Online questionnaire (registered nurse- and physician-specific) (Qualtrics®)
- 5-point Likert-scale: Strongly disagree, disagree, neutral, agree, strongly agree
- Open-ended questions
- Recruitment: Email

### Data Analysis

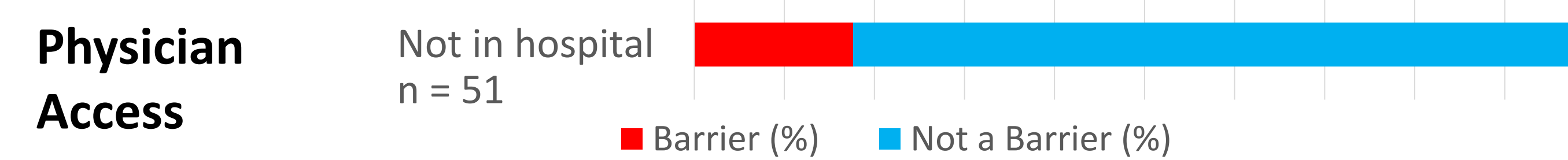
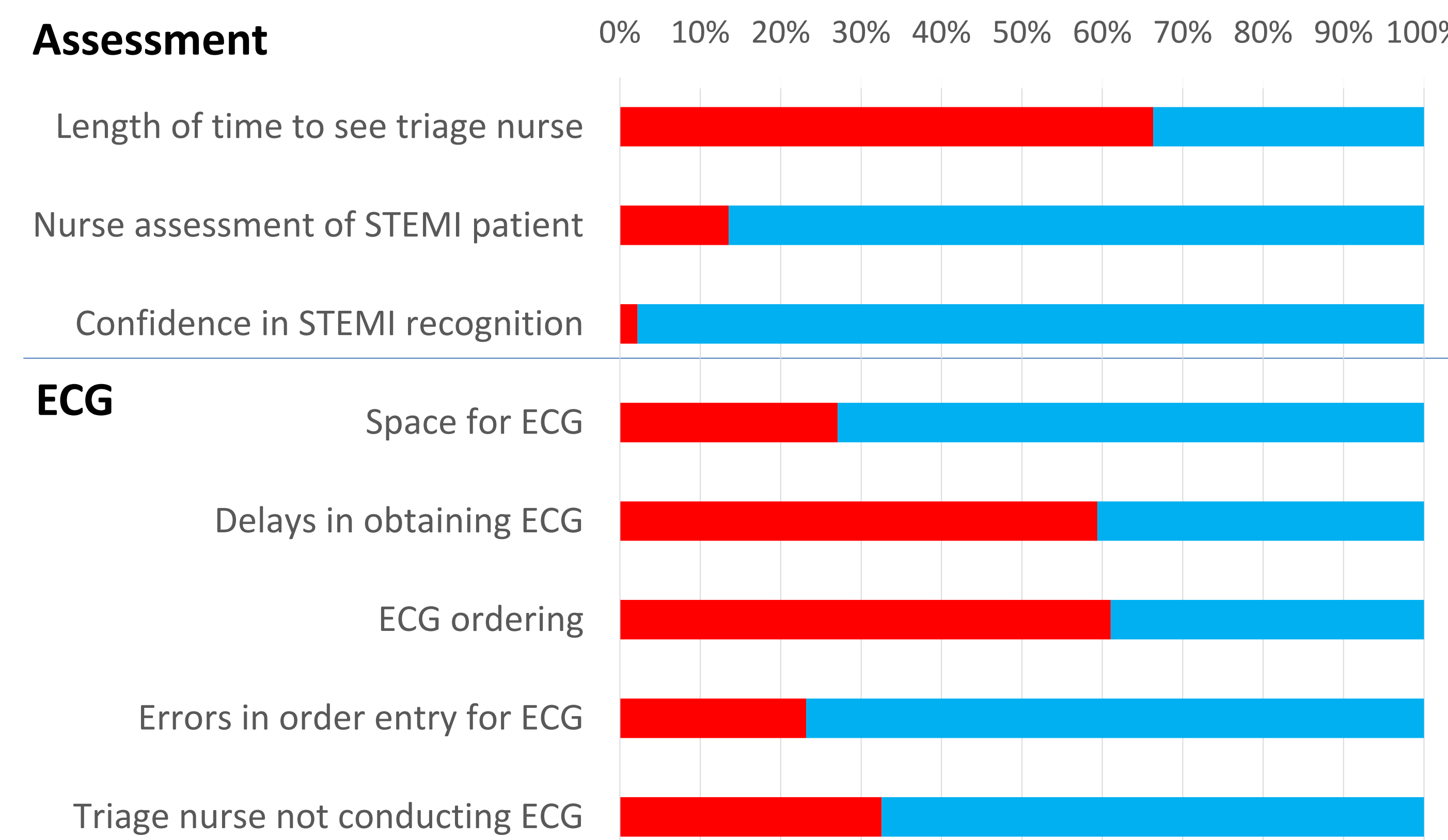
- Likert scale data analyzed using descriptive statistics
- Open-ended questions analyzed using open coding

## Demographics

Nurses (n = 96) [Response rate: 22.5%]		Physicians (n = 15)	
Characteristic	Number (%)	Characteristic	Number (%)
<b>Hospital Size</b>		<b>Hospital Size</b>	
< 10 beds	19 (19.8)	< 10 beds	2 (13.3)
10 – 50 beds	32 (33.3)	10 – 50 beds	6 (40.0)
> 50 beds	43 (44.8)	> 50 beds	7 (46.7)
Not specified	2 (2.0)		
<b>Triage experience</b>		<b>Years of Experience</b>	
	91 (94.8)	0 – 2	2 (13.3)
<b>Years of experience</b>		2 – 5	0 (0)
0 – 2	1 (1.0)	5 – 10	5 (33.3)
2 – 5	10 (10.4)	10 – 20	5 (33.3)
5 – 10	24 (25.0)	20	2 (13.3)
10 – 20	37 (38.5)	Not specified	1 (6.7)
> 20	24 (25.0)		

Physician Residency Training	Number (%)
Emergency medicine	2 (13.3)
Family medicine	9 (60.0)
Family medicine with plus one in emergency medicine	3 (20.0)
Cardiology	0 (0)
Other	1 (6.7)

## Nursing Results

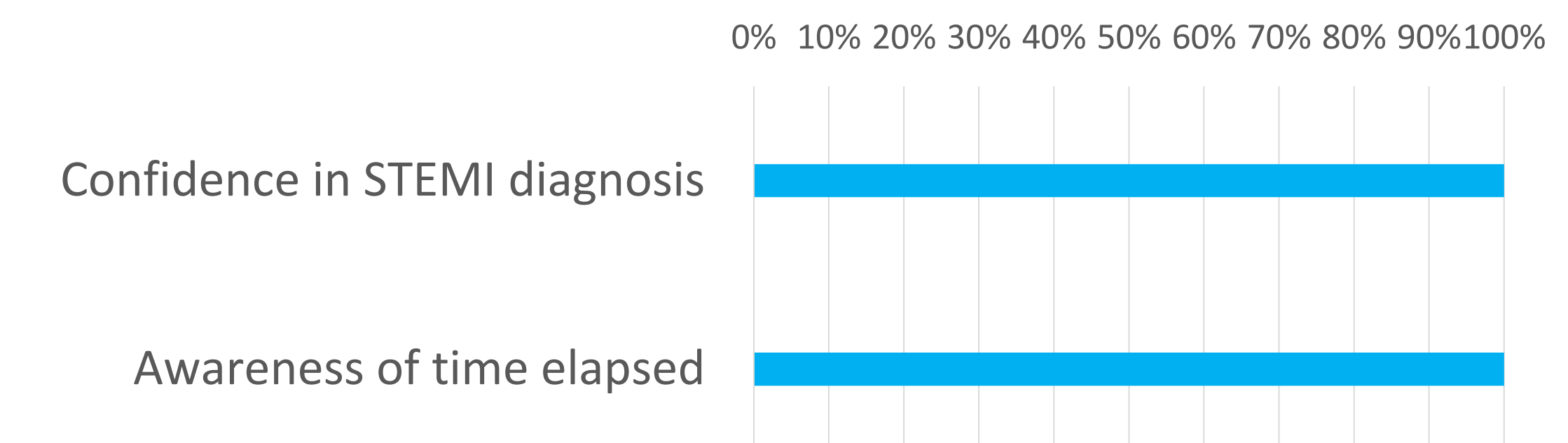


- **No barriers** identified with respect to accessing a physician when they are present in the hospital
- **No barriers** identified with respect to TNK preparation and administration

## Physician Results

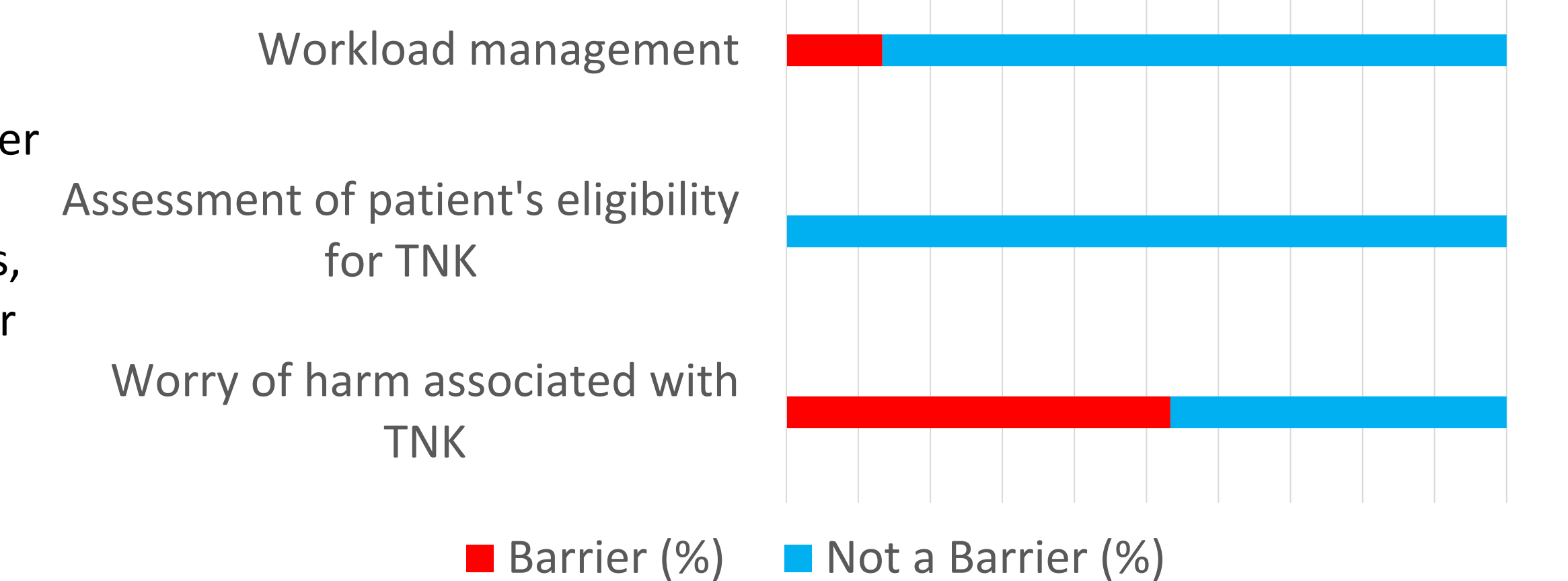
### Diagnosis

80% of responders consult another physician to assist in STEMI diagnosis for 1 – 2/10 STEMI, 13.3% consult another physician on 3 – 6/10 STEMI



### Treatment

66.7% of responders consult another physician to assist in decision to administer TNK for 1 – 2/10 STEMI, 26.7% consult another physician for 3 – 6/10 STEMI



## Qualitative Results

### Nursing Responses

Theme	Utterances	Quote
Staffing	74	"lack of adequate staff and lack of dedicated ECG technician"
STEMI process	32	"delays caused by registration process"
Resources	20	"...often there is no bed to put the patient for their ECG"
Patient understanding	8	"often patients experiencing chest pain or signs of STEMI...will stand at the back of the line waiting quietly"
Equipment/technology	5	"...having a lot of issues with our ECG machine...it is very old"
Unfamiliar with TNK/need for resources	7	"The PPOs are a bit confusing, need to be clearer"
Logistics	4	"Challenging vascular access"

### Physician Responses

Theme	Utterances	Quote
Other diagnostic considerations	1	"Consideration of possible dissection"
Staff comfort level with TNK administration	1	"Nursing comfort"

## Conclusions

- Knowledge and confidence with STEMI diagnosis and treatment do not appear to be barriers to the timely administration of fibrinolysis
- Issues related to process and resources, including staffing levels, the length of time it takes patients to see a triage nurse, and delays in obtaining ECGs, along with physician concern with harming patients when administering TNK are examples of barriers that may delay STEMI treatment
- Quality initiative projects may be undertaken using these results to help reduce door-to-needle times in rural hospitals

