

Public Health England

# A unique approach to the development of resources for front-line healthcare workers



## Improvement

A combined behavioural insights and quality improvement methodology to develop and test resources to support cross-system health and social care workers to reduce Gram-negative bloodstream infections

Protecting and improving the nation's health

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### INTRODUCTION

Despite efforts to reduce Meticillin Resistant *Staphylococcus aureus* bloodstream infections (BSI) and *Clostridium difficile* infection, Gram-negative BSI (GNBSI) have continued to increase year on year in England (Figure 1).

Public Health England (PHE) and NHS Improvement (NHSI) led the development of tools and resources to support health and social care workers to reduce these infections.

The approach taken in the development of these tools and resources was unique as we used a combination of behavioural insights, quality improvement and front-line collaboration to ensure the tools and resources were designed around the needs of those who would use them.



#### AIM

To work with commissioners and providers of healthcare to collaboratively develop resources to support whole health economies to reduce GNBSI using a combination of behavioural insights and quality improvement methods.

#### **METHODS**

There were two phases: 1) development and 2) testing. Both phases used a combination of behavioural insights, human factors, and quality improvement methods to engage stakeholders in co-designing resources (Figure 2 and 3).

#### 1. Development Phase

 Behavioural insights and human factors tools<sup>1,2,3,4</sup>
 COM-B model<sup>1</sup>
 SHEL model<sup>2</sup>



#### **DEVELOPMENT PHASE – BEHAVIOURAL INSIGHTS**

Through collaboration and feedback we co-designed resources with stakeholders. Insights from behavioural science were used to aid the co design process. Feedback from stakeholders at a final workshop session was positive and suggested that changes made were useful and acceptable to this group of potential end-users. The Driver Diagram (Figure 4) was a valuable tool to help facilitate an understanding of the underlying primary and secondary drivers in the development of GNBSI.<sup>6</sup> It also identified change projects that would support efforts in tackling these issues.



#### **TESTING PHASE (Figure 5)**

- 5 CCGs tested the tools at a local level after establishing a cross-system working group.
- PDSA cycles were used and improvements made following feedback.



To reduce <i>E.coli</i> BSI		Trim: Nitro ratio; reducing >70s Trim To reduce device related infections - Vascular access - Urinary catheters - VAP	Enhanced education for correct diagnosis and treatment of UTI in community and health and social care settings Insertion of devices after risk assessment and only when needed - Vascular access - Urinary catheters	<ul> <li>Bladder scanners</li> <li>Training and education on all devices – insertion, care, documentation, removal</li> <li>Daily review of all devices</li> <li>Documentation of indication &amp; expected duration; remove fast</li> </ul>	
		data To reduce prevalence of devices such as Urinary catheters / vascular access being inserted in the first place	- Ventilation use of bladder scanners may assist decision	Systematic application of aseptic technique (eg ANTT) Continence teams– need their input	
			Adequate hydration and assessment of hydration	Urology teams – need their input	
		Safety Thermometer data	Document devices daily and assess need for ongoing use	Wounds – tissue viability teams need input	
		To ensure urinary catheters are only inserted when absolutely	Remove devices /catheters as early as possible	Hydration assessment – through NHSI or Sign up to Safety. On safety thermometer	
		necessary To reduce surgical site	Follow high impact interventions for devices	Risk assessment for E.coli on admission. Implementation	
		infections SSI data	Follow high impact intervention to reduce SSI	RCA culture for all E.coli BSI – NHSI work	

Figure 4

#### STAKEHOLDER ENGAGEMENT

Stakeholder collaboration and engagement was a key element of the development of these tools and included feedback via virtual and face to face stakeholder review.

#### **RESULTS OF THE PLAN-DO-STUDY-ACT (PDSA) CYCLES**

Through three cycles of feedback, modifications and improvements led to the four key changes outlined in Figure 6.



#### DISCUSSION

It is important to ensure resources are co-designed with healthcare workers who will use them so that they are effective and impactful, and to avoid duplication. This was a unique project as it combined the involvement of staff working across the healthcare sector in the development stage, the use of behavioural insights and human factors methodologies to design the resources in a way that influences behaviours and quality improvement methods to test the usefulness in practice. Reducing GNBSI is complex and requires cross-system, multidisciplinary groups meeting and developing plans together at a local level in order to address these complex issues. The methods used in this project were vastly different to the traditional top-down approach. As a result the resources on the NHS Improvement website have been developed and tested by those using them and thus will improve the uptake and usefulness of the resources to support a reduction on GNBSI. The resources are published on the NHSI website and have received 21,723 views since it was launched in May 2017.

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