

CATHETER-ASSOCIATED URINARY TRACT INFECTIONS: THE MULTIMODAL STRATEGY OF THE GHENT HOSPITAL NETWORK

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INTRODUCTION

In 2021, the Belgian government took significant steps to enhance "Infection Prevention and Control" (IPC) and "Antimicrobial Stewardship" (AMS) by establishing **Hospital Outbreak Support Teams (HOST)**. These specialized teams operate within hospital networks and offer support to local IPC and AMS teams.

The Ghent Hospital Network (ZNG) encompasses four healthcare facilities, including a tertiary hospital and three regional centers. In August 2022, a **gap analysis** was performed regarding catheter-associated urinary tract infections (CAUTI) prevention by assessing **care bundle adherence** (Figure 1). Overall care bundle compliance was **low** (27.6%) (Figure 2). This led us to formulate and prioritize a **CAUTI prevention strategy**



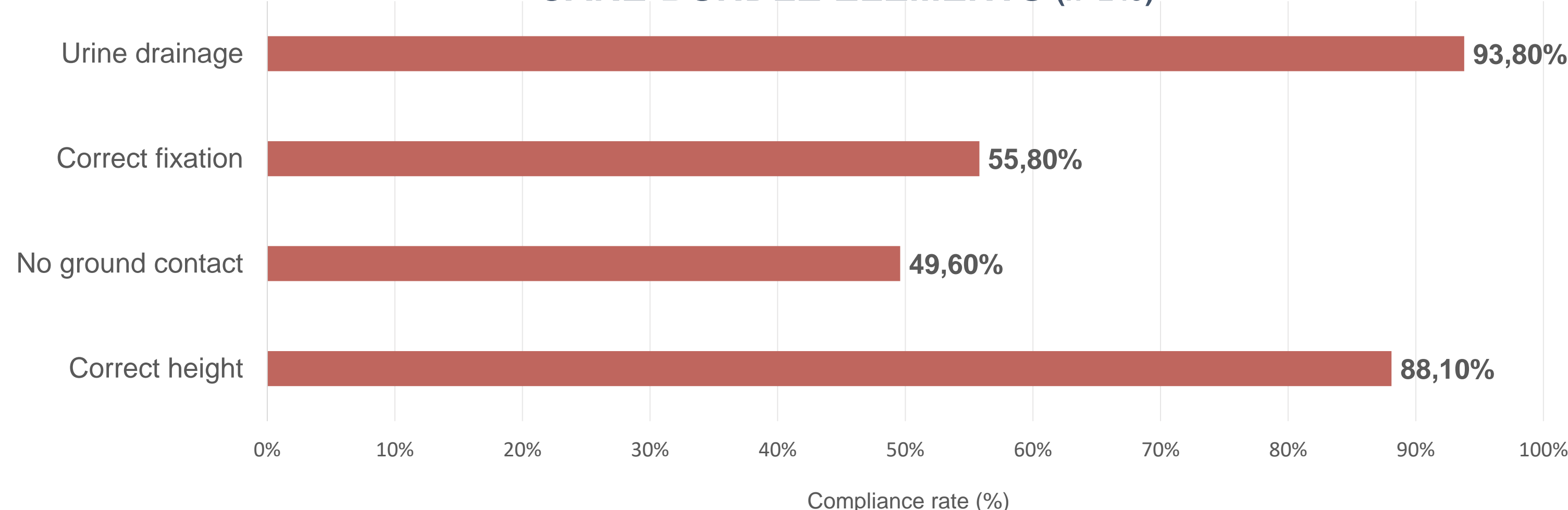
Figure 1: CARE-BUNDLE ELEMENTS

OBJECTIVE

To improve compliance with the CAUTI care bundle, a three-part objective was formulated:

1. Establish **action strategies** addressing knowledge, processes, and follow-up measures
2. Enhance the consistency and effectiveness of structure, processes, and outcome **indicators**.
3. Assess the feasibility of implementing a **unified CAUTI strategy** within a network.

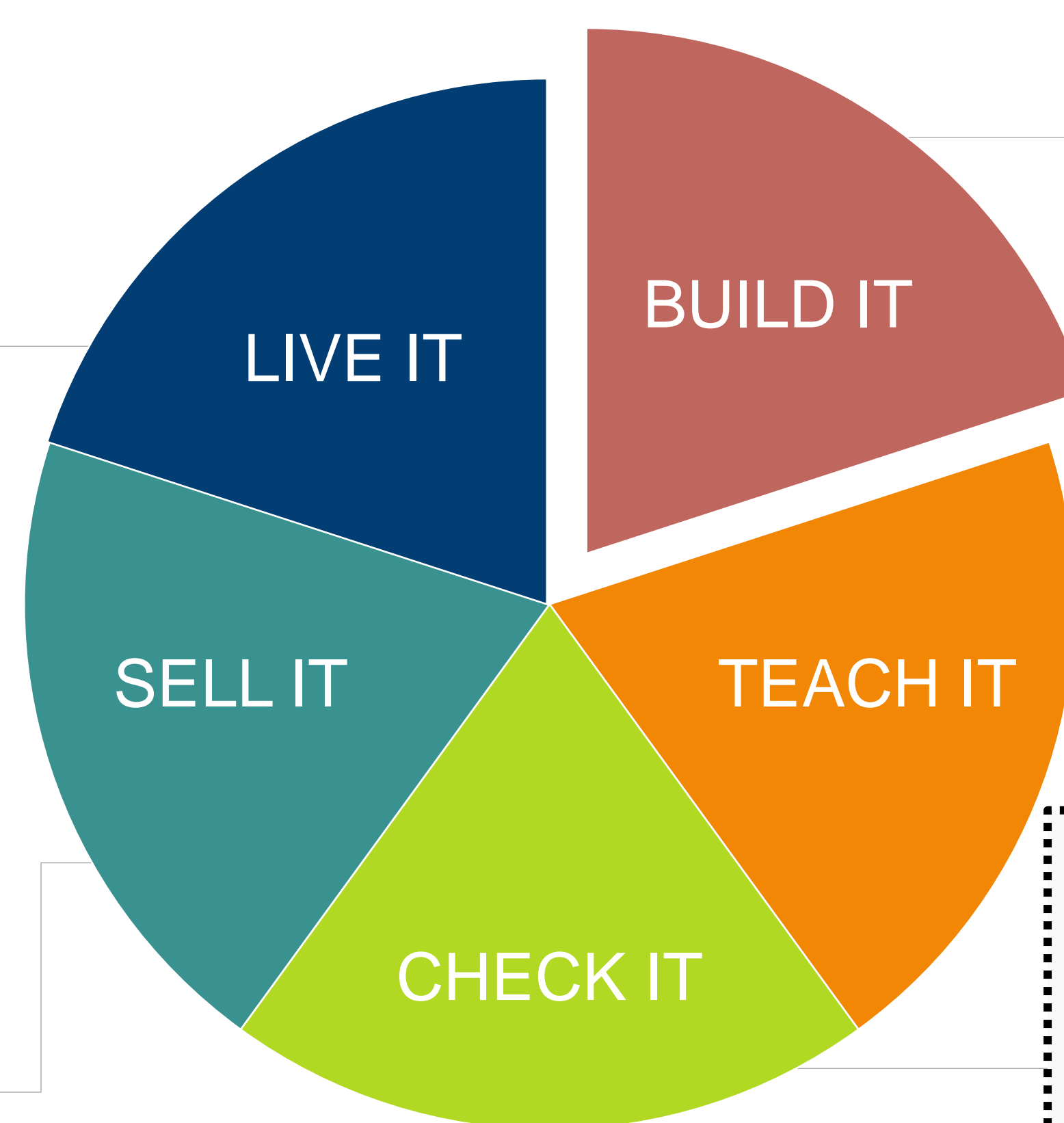
Figure 2: COMPLIANCE WITH INDIVIDUAL CARE-BUNDLE ELEMENTS (n=249)



MULTIMODAL STRATEGY

The measurements receive **support** from the Infection Prevention and Control (IPC) teams of network hospitals and are systematically **integrated** into each hospital's internal systems. This integration ensures that the generated data remains accessible and relevant to the respective institutions. Consequently, a standardized data model is established for the **consistent** measurement of CAUTI incidence and bundle compliance, facilitating continuous cross-hospital comparisons and benchmarking.

Optimizations were carried out in **processes** and electronic health records (EHR). Identified deficiencies within the **ICT systems** (EHR) were found to impede compliance with the care bundle.



At the network level, a **shared** objective, protocol, and set of indicators were developed, offering flexibility for **customization** to each hospital's unique needs, and were validated by all network hospitals.

Through benchmarking among network hospitals and the exchange of CAUTI data and procedures, a variety of **training methods** have been implemented. These methods have a **shared core** but are **customized** to suit the unique needs of each hospital, with the objective of enhancing CAUTI prevention efforts.

A standardized procedure, uniform data collection, and a common set of benchmarks will facilitate **transparent comparisons** among network hospitals. This shared set of benchmarks includes three structural, eight process-related indicators (e.g., care bundle compliance), and five outcome indicators (e.g., CAUTI incidence). HOST ZNG will oversee the **follow-up assessments** scheduled for December 2023.

BARRIERS AND FACILITATORS



- Differences in the **case mix, size and culture** of the network hospitals, resulting in a lower priority of CAUTI within the institution and/or different speeds of progress between hospitals.
- The **different EHR** used by the network hospitals, which do not allow automated communication. As a result, there is a great need for manpower to carry out the measurements.
- **Research-related gaps** that affect the validity of observations (e.g., inability to observe catheter placement).



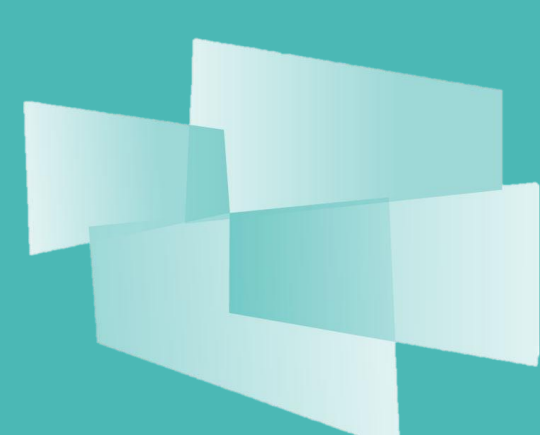
- **Clear gap analysis** demonstrating need for a CAUTI strategy.
- Support from **local IPC teams** to provide translation to the local setting.

PRELIMINARY CONCLUSION

The current strategy is being established through the ongoing **action strategies** and tested through the planned **follow-up measurement**. The **feasibility assesment** is planned following these measurements.

The largest barrier detected was the **diversity** between institutions and the most important facilitator was the **sense of urgency** around a common goal.

AFFILIATION



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