Joint Action
Antimicrobial Resistance and
Healthcare-Associated Infections

D6.3

Progress report on experience from country teams of introducing and working with the implementation model

WP6 | Policies for prevention of Healthcare Associated Infections and their implementation

Leader acronym | FOHM

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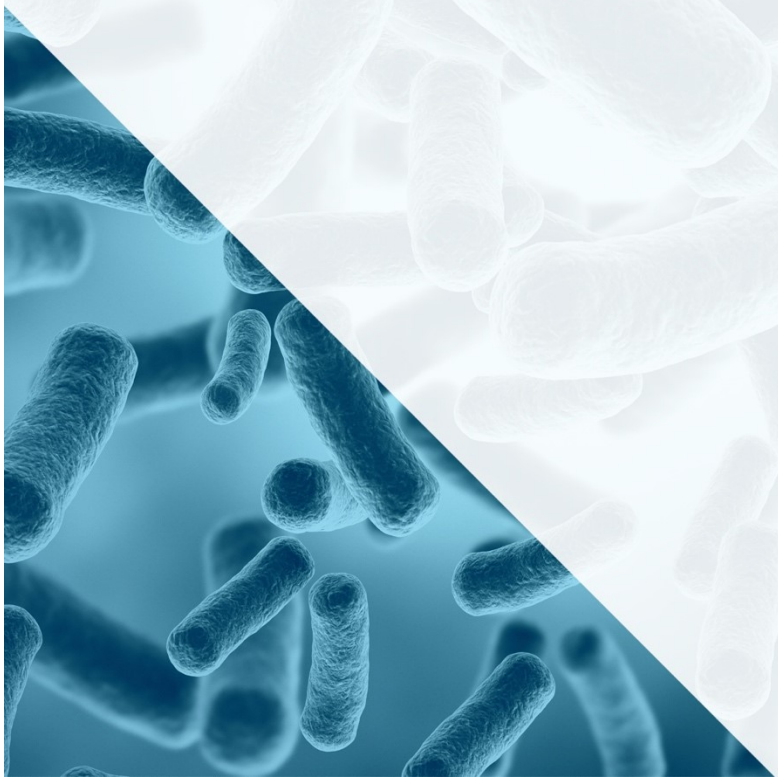

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Table of Contents

WP6.2.1 Participants

Country	EU-JAMRAI Partner Acronym
Belgium	FPS HFCSE
Czech Republic	NIPH
Estonia	TA
Latvia	PSKUS
Lithuania	LSMUKK, VULSK, HI, NVSC
Netherlands	VWS, RIVM
Slovenia	NIJZ
Sweden	FOHM, UAS, SOS

WP6.2.2 Participants

Country	Name of the participating organization
Georgia	National Center for Disease Control and Public Health Tbilisi
Moldova	National Agency for Public Health
Ukraine	The University Clinic of the Kharkiv National Medical University

Acronyms

AMR	Antimicrobial resistance
AP	Action period
BTS	Breakthrough Series Model for Implementation
CAUTI	Catheter Associated Urinary Tract Infection
CTL	Country Team Leader
EU-JAMRAI	European Joint Action on Antimicrobial Resistance and Healthcare Associated Infections
HCAI	Healthcare Associated Infection
HCW	Healthcare Worker
IHI	Institute for Healthcare Improvements
IPC	Infection Prevention and Control
LS	Learning session
PDSA	Plan Do Study Act
WP	Work Package

Summary

This deliverable summarizes the experience of EU-JAMRAI WP6.2, months 1-18, of introducing and using the implementation model, *the Breakthrough Series Model for Improvement* (BTS). The reported country experiences are mainly based on the participants' responses to a WP6.2 specific follow up questionnaire.

WP6.2 includes two focus areas – prevention of Catheter Associated Urinary Tract Infection (CAUTI) and use of the implementation model, BTS. The project is going according to plan, following an initial prework phase, all WP6.2 participants have started the pilot phase. The participants have applied the elements and structure of the BTS model to a varying degree.

A ward survey, based on evidence based preventive measures, has been carried out at the pilot wards. The results indicate some common areas for improvements with regard to preventing CAUTI:

- avoid unnecessary urinary catheters
- maintenance – aseptic technique and avoid unnecessary manipulation
- review urinary catheter necessity daily and remove promptly if not indicated

Some examples reported as facilitating factors for using the BTS are; management support, local improvement process support and motivated staff with an active role in deciding/prioritize changes. Examples of barriers are; frequent change or lack of nurses, difficulties in collecting relevant data from existing systems, lack of resources and cultural aspects. Some participants report the model as time consuming. The model is also reported as useful, effective and contributing to an increased interest in improvement work.

Introduction

Antimicrobial resistance (AMR) is an increasing public health threat and calls for global, coordinated action. Infection prevention and control is a tool to limit the spread of resistant bacteria and reduce the need for antibiotics, and therefore contributing to control AMR.

The need for a systematic implementation process of policies and guidelines is often underestimated. With an increased awareness of the importance of high quality implementation the process can be better handled and result in a higher compliance to IPC measures in clinical settings.

Within the framework of the EU-JAMRAI, several partners are working on different aspects of Infection prevention and control. In line with the EU-JAMRAI objectives, WP6.2 aim to implementing guidelines preventing CAUTI using an established implementation model, The Breakthrough Series model for improvement.

Description of WP6.2

Objective

The objective of WP6.2 is to promote a bottom-up approach from clinical practice to policy level by implementing evidence-based guidelines and existing policies using an established implementation model and working in country teams.

The two focus areas are HCAI prevention and the implementation model in itself, BTS. The participants are implementing guidelines preventing CAUTI using the BTS model, in a small-scale fashion. Using the BTS model will contribute to capacity building in systematic improvement work, and the model is suitable for different kinds of improvement work within healthcare.

To reach the objective the following tasks are included:

Task 6.2.1 Introduce an evidence-based implementation model.

6.2.1.1 Selecting topics and participants, development of a framework and proposed changes.

6.2.1.2 Focus on specific topics.

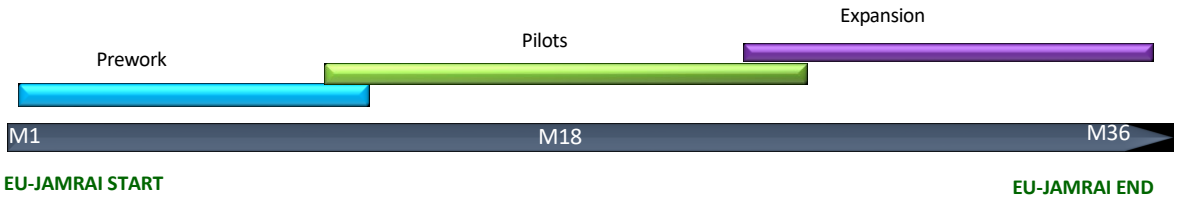
Task 6.2.2 Promote that similar working routines are implemented in non-EU countries in Europe.

Resources

The resources in terms of funding as expressed by number of person months dedicated to this WP according to the grant agreement vary between participants. This may affect the amount of work a participant is able to put into the project. However, the actual involvement and the granted number of person months do not necessarily correlate. The participants from non EU-countries have external funding received from The Swedish Institute.

Timeline

The WP6.2 work is divided in three phases, prework, pilot and expansion. For a sustained impact, the improvement process implemented is expected to be adopted and upscaled after the project.



The Breakthrough Series Model for Improvement

The Breakthrough Series Model for Improvement (BTS) is developed at the Institute for Healthcare Improvements (IHI), originally for the healthcare context. The model provides a structure and includes key elements for a successful implementation process.

The key elements of BTS are topic selection, faculty recruitment, enrollment of participating organizations and teams, learning sessions and action periods and include aims, measures and changes tested in PDSA cycles.

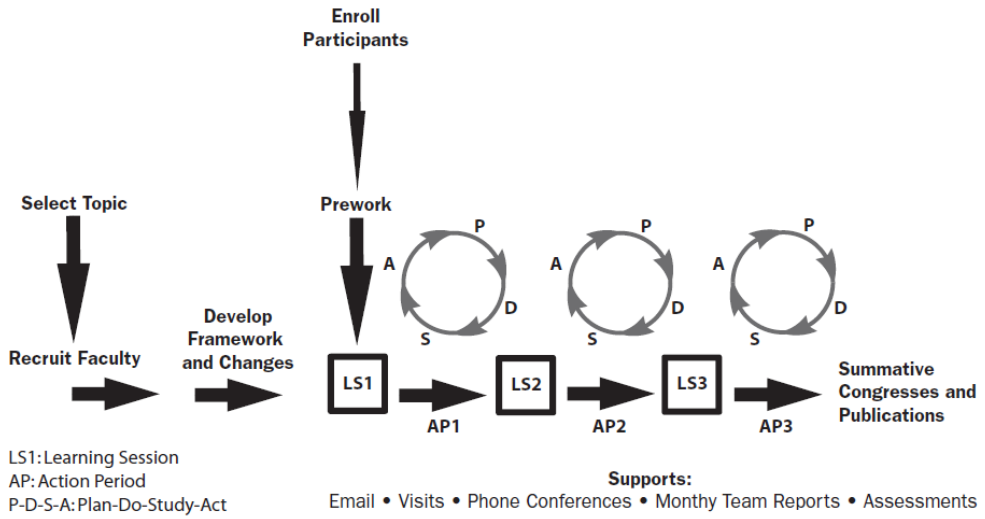


Figure 1. Breakthrough Series Model, developed at the Institute for Healthcare Improvements, IHI, Boston, USA.

The structure of the BTS is designed for learning and action promoting improvement and collaboration between different levels in health care. The BTS is providing a bottom-up approach by including the perspectives and expertise of the HCW.

Catheter Associated Urinary Tract Infections

The common topic CAUTI was chosen by the WP6.2 participants for a number of reasons; indwelling urinary catheters are common, they are estimated to be placed in up to 16% of patients admitted to hospitals, and patients with urinary catheters are found in different kinds of health care. CAUTI is one of the most frequently reported HCAI globally. Also the principles of preventing CAUTI are similar to how to prevent other device associated infections.

Project status and country report

Phase 1 – Prework

Collaboration within the project has been performed in a number of ways i.e workshops, skype meetings, webinars and country visits. The focus of the first period have been to develop a framework. Learning about implementation theory and practice and particularly the BTS, in relation to the WP6.2 work, and sharing experiences and ideas are also parts of the process.

The prework has included central and national preparation. The central prework, done by representatives for all WP6.2 participants, has included selecting the topic, developing CAUTI and BTS related documents and agree on aims and measurements. The overall aim is to reduce CAUTI, but since measuring CAUTI is not possible for a majority of the participants, the agreed measurements are instead process related; new catheterized patients (new catheters/1000 patient days) and number of catheter days (catheter days/1000 patient days).

The preventive measures are based on evidence-based guidelines and suitable for a bundle approach. The approach may need adaptations to the national situation, resources and needs. The bundle for CAUTI prevention include the areas:

- Avoid unnecessary urinary catheters
- Closed collection system
- Catheters as small size as possible
- Insertion – aseptic technique
- Maintenance – aseptic technique and avoid unnecessary manipulation
- Review urinary catheter necessity daily and remove promptly if not indicated

To identify areas for improvement in the pilot wards a survey, based on the areas in the bundle, has been developed to be used as a baseline and for follow-up.

WP6.2 UNIT/WARD SURVEY 2018	Purpose of the survey: Review the routines at the unit and compare w				
Avoid unnessecary urinary catheters					**Comment**
	Yes	**No**			
Guidelines on indications in accordance with the "Guidance for preventing CAUTI" document					
	Never	**Sometimes**	**Often**	**Always**	
Documentation on indication and time for catheterization					
Alternatives to indwelling catheters (e.g. intermittent or condom catheters, diapers) are used					
Bladder scan is used for evaluating urinary retention					
Closed collection system					**Comment**
Catheter bag with a port to allow emptying and a sampling port is used					
Connection between catheter and bag is disconnected					
Catheter size and material					
Catheter as small size as possible is used					
Antimicrobial material is avoided					
Insertion using aseptic technique					**Comment**
	Yes	**No**			
Detailed instruction for catheter insertion					

Ward survey based on areas in the bundle.

The national prework has included building a national organization including enrolling pilot wards, translating and adapting the project documents to local context.

List of number of pilot hospitals and wards per participant.
6.2.1

Country	No of Hospitals	Total no of pilot wards	Kick off/ workshops (LS)	Country team/ward team
Belgium	6	10	Yes/Yes	Yes/Yes
Czech Republic	2	3	Yes/Yes	Yes/Yes
Estonia	1	6	Yes/yes	Yes/yes
Latvia	1	4	Yes/Yes	Yes/Yes
Lithuania	3	5	Yes/Yes	Yes/Yes
Netherlands	2	5	No/No	Yes/Yes
Slovenia	1	3	Yes/Yes	Yes/Yes
Sweden	1	2	Yes/Yes	Yes/Yes

6.2.2

Country	No of Hospitals	Total no of pilot wards	Kick off/ workshops (LS)	Country team/ward team
Georgia	1	2	No/No	Yes/Yes
Moldova	1	1	Yes	Yes/Yes
Ukraine	2	4	No/No	Yes/Yes

Country experience

Data collection

The participants' experiences from the pilots are mainly from a WP6.2 specific follow up questionnaire (annex 1) developed by the lead team. The questionnaire was sent with e-mail with a response time of 4 weeks. All participants have responded on the questionnaire.

Phase 2 - Pilots

The pilots have started to some degree in all the participating countries, and the ward survey has been carried out in a majority of the pilot wards. The ward teams/ward staff responded or were involved in responding to the survey in most cases. In a majority of the participating countries the ward teams/ward staff also was deciding or was involved in deciding what changes to prioritize and test. Only in a few cases the ward teams are reported as not involved. Responding to the survey

and deciding/prioritizing is reported as a collaboration between different functions/professions for a majority of the participants.

The multiple choice alternatives	Who answered the survey?	Who decided/ prioritized changes?
Ward management	3	5
IPC	4	8
Country team leader	1	6
Ward team	6	8
Other	3	4

All participants have reported two or more areas that need improvement, referring to the ward surveys. The areas reported of a majority of the participants were Review catheter daily, Avoid unnecessary catheters and Mainenance – aseptic technique. No one of the participants reported Catheters as small size as possible as an area in need of improvement.

Avoid unnecessary urinary catheters	8
Closed collection system	4
Catheters as small size as possible	0
Insertion – aseptic technique	4
Maintenance – aseptic technique and avoid unnecessary manipulation	6
Review urinary catheter necessity daily and remove promptly if not indicated	9

One participant has not performed the survey yet and is not included in the numbers.

A number of different changes are tested or implemented with regard to the areas in the bundle e.g fixation of bags, alternatives to indwelling catheter, reminders, new forms and checklists, “host” for standard precautions, different types of easy access to guidance and reminders regarding indications.

Some participants have progressed further in the implementation process and have presented some results regarding catheter days as well as number of new catheters. The time span between the data collections varies between the wards. Some wards show a decrease and a few wards report an increase (for a range of reasons) in catheter days and new catheters.
Some examples reported:

Catheter days/1000 patient days
from 130 to 70
from 270 to 170
from 64,1 to 68,8

New catheters/1000 patient days
from 55,1 to 43,8
from 136,5 to 104,5
from 20,6 to 23,8

One ward has also been measuring compliance to standard precautions (point prevalence observations) and report an increased compliance from 40 to 80%.

Facilitators and barriers

Some examples reported as facilitating factors for using the BTS are management support, local improvement process support, motivated staff with active role in deciding/prioritize changes, involvement of ward management, discussions with the ward staff, broad survey distribution.

Examples of barriers for the work with the BTS are; frequent change or lack of nurses, difficulties in collecting relevant data from existing systems, geographic distance between the country team leader and the ward teams, lack of motivation among HCW, lack of resources, lack of financial support, problems with CAUTI registration, lack of human resources at national level.

Some details and nuances of BTS model appears as not entirely easy to grasp, the PDSA cycle in particular. Cultural aspects are mentioned from some partners as barriers with regard to the BTS. Several partners perceive the model as time and resource consuming. Aims and measures are fundaments in the model and collecting and communicating data on "problems", sharing experiences on problems - and solutions - is not common in some settings. The model is also reported as useful, effective and contributing to an increased interest in improvement work.

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Annex

Country and organization(s):
Filled in by:

WP6.2 Follow up and report questionnaire

The purpose of this questionnaire is to collect information from you as a partner of WP6.2 for the reporting of the Deliverable "*Report on experience from country teams of introducing and working with the implementation model*" and also to follow up the process for each partner to identify lessons learned and need for support.

1) Is a country team with representatives from national, regional, local and other relevant levels in any way involved in the project? Yes/No

If yes, from what levels, organizations, functions?

Comments:

2) Briefly describe if and how the ward management and the hospital management is involved?

3) Is there an appointed team at the pilot ward(s)? Yes/No

Comments:

If yes, what personnel (role and number) are included?

Comments:

4) Who has answered the ward survey?

Ward management	
IPC-unit	
Country team leader	
Ward team	
Other	Specify:

Comments:

5) Who is deciding/prioritizing what changes to test?

Ward management	
IPC-unit	
Country team leader	
Ward team	
Other	Specify:

Comments:

6) Based on the results of the ward survey:

a) In what areas - *Avoid unnecessary urinary catheters, Closed collection system, Catheters as small size as possible, Insertion - aseptic technique, Maintenance – aseptic technique, Review urinary catheter necessity daily -*
are needs of improvements identified?

Comments:

b) Briefly describe some examples of changes tested (if any).

Comments:

7) Briefly describe some results seen in the pilot wards with regard to the agreed measurements?

a) Catheter days/1000 patient days

b) New catheters/1000 patient days

c) Other

Comments:

8) Are there factors that may have facilitated your work with the BTS useful to take into consideration for the planning of the next phase (phase 3 expansion to new wards)? Examples

Comments:

9) Are there factors that may have been barriers in your work with the BTS useful to take into consideration for the planning of the next phase?
Examples

Comments:

10) General comments or concerns in your experience regarding introducing and working with the BTS?

11) Based on your experiences so far - what support do you need to improve the implementation process in the next phase?

EU-JAMRAI

Joint Action on Antimicrobial Resistance and Healthcare-Associated Infections

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