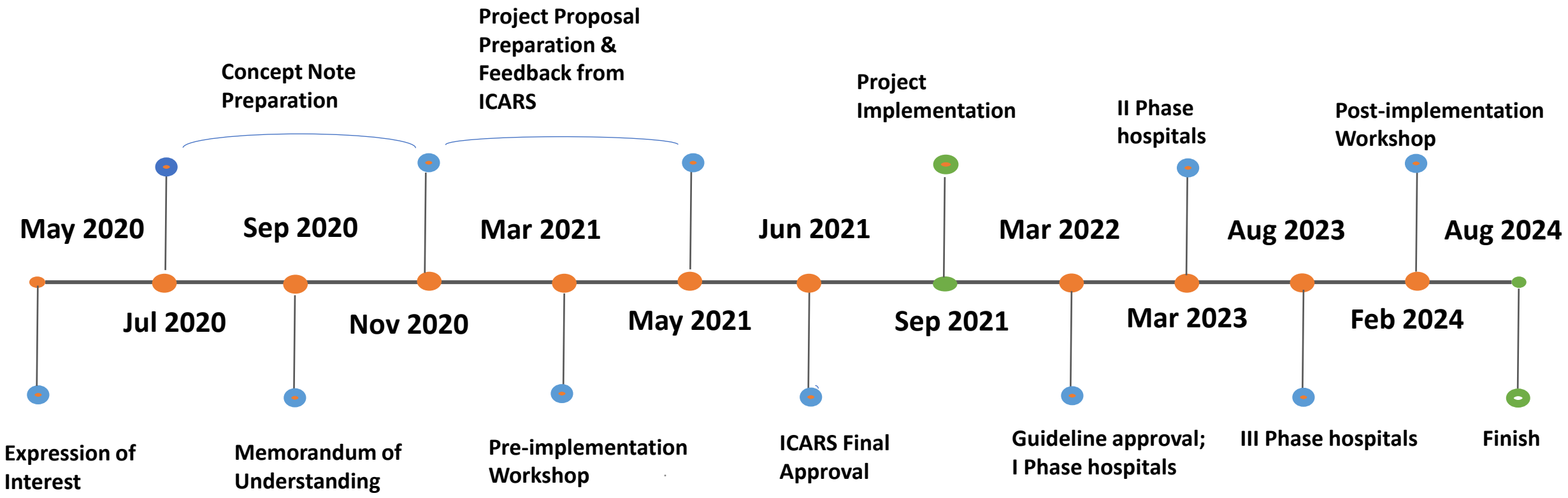
ICARS' co-development and implementation Journey

Experience from Georgia

Marika Tsereteli – Project coordinator

13-04-2025

Phases of the process



Add the key dates of the implementation phase: approval guidalines, starting implementation in each period of hospitals

IMPROVING THE QUALITY OF SURGICAL ANTIBIOTIC PROPHYLAXIS [SAP] IN A SECTION OF GEORGIAN HOSPITALS - A PILOT COLLABORATIVE AMS INTERVENTION

Aim

To improve the quality of the use of antibiotics for Surgical Antibiotic Prophylaxis (SAP) in selected departments of Georgian hospitals by implementing a **multimodal intervention** based on WHO antimicrobial stewardship tool kit to achieve **60% SAP bundle compliance** within 12 months of launching the intervention.

EVALUATION

Process measures for SAP bundle

* for each of these measures clear explanatory notes will be provided to ensure consistent and accurate recording

1. Did you comply with local guidelines for SAP ? That is, if SAP was not indicated according to local guidelines, you did not administer SAP OR

2. If SAP was indicated according to local guidelines:

2A. Choice of antibiotic/s in accordance with local guidelines

2B Dose of antibiotic/s was given in accordance with local guidelines

2B. Administer the SAP at induction [within 60 minutes of skin incision]

2C. SAP was given as a single dose except for an agreed indication *

2D. Compliance with all (2A-C)

Availability of context-specific SAP Guideline

დაწართი

ქირურგიული

ანტიბიოტიკოპროფილაქტიკა

კლინიკური პრაქტიკის ეროვნული რეკომენდაცია

(გაიდლაინი)

საქართველოს ოკუპირებული ტერიტორიებიდან დევნილთა, შრომის, ჯანმრთელობისა და სოციალური დაცვის მინისტრის

ბ რ ძ ა ნ ე ბ ა

KA030131822395122

№ 01-129/ო 14 / მარტი / 2022 წ.

„ქირურგიული ანტიბიოტიკოპროფილაქტიკა“- კლინიკური პრაქტიკის ეროვნული რეკომენდაციის (გაიდლაინის) დამტკიცების თაობაზე

„ჯანმრთელობის დაცვის შესახებ“ საქართველოს კანონის მე-3 მუხლის „კ[1]“ ქვეპუნქტის, მე-16 მუხლის პირველი პუნქტის „გ“ ქვეპუნქტისა და „საქართველოს ოკუპირებული ტერიტორიებიდან დევნილთა, შრომის, ჯანმრთელობისა და სოციალური დაცვის სამინისტროს დებულების დამტკიცების შესახებ“ საქართველოს მთავრობის 2018 წლის 14 სექტემბრის № 473 დადგენილებით დამტკიცებული დებულების მე-6 მუხლის მე-2 პუნქტის „ო“ ქვეპუნქტის შესაბამისად,

ვ ბ რ ძ ა ნ ე ბ:

1. დამტკიცდეს „ქირურგიული ანტიბიოტიკოპროფილაქტიკა“ - კლინიკური პრაქტიკის ეროვნული რეკომენდაცია (გაიდლაინი) თანდართული დანართის შესაბამისად.

2. ბრძანება ძალაშია ხელმოწერისთანავე.

Protocol for surgical site infection surveillance with a focus on settings with limited resources

https://www.who.int/infection-prevention/tools/surgical/SSI-surveillance-protocol.pdf?ua=1

Annex 2. WHO peri-operative data collection form

Surgical site infection surveillance peri-operative data collection form

ID	Patient name	Age/ Date of birth …/…/……	InPatient number	Date of admission …/…/……
	Primary diagnosis	Sex ☐ F ☐ M	Surveillance number	

1 Surgical procedure…… Operating theater [ ]
Date of surgery…… Lead surgeon name……
Grade……

2 CDC – NNIS Risk Index Variables

ASA class
☐ 1. Normal healthy person
☐ 2. Mild systemic disease (e.g. hypertension, well controlled diabetes)
☐ 3. Severe systemic disease not incapacitating (e.g. moderate COPD, diabetes, malignancy)
☐ 4. Incapacitating systemic disease that is a constant threat to life (e.g. pre-eclampsia, heavy bleeding)
☐ 5. Moribund patient, not expected to survive with or without operation (e.g. major trauma)

Weight……kg
Height……cm

3 **Surgical wound class**
Clean ☐ = Sterile tissue with no resident bacteria e.g. neurosurgery
Clean-contaminated ☐ = CONTROLLED entry to tissue with resident bacteria e.g. hysterectomy
Contaminated ☐ = UNCONTROLLED entry to tissue with bacteria e.g. acute gastrointestinal perforatio
Dirty / infected ☐ = Heavy contamination (e.g. soil in wound) or infection already established

4 **Start time** (knife to skin) [:] 24h clock
End time (skin closure) [:] 24h clock
Duration =……hrs ……mins

Urgency of operation
☐ Emergency – must be done immediately to save life (e.g. major bleed)
☐ Urgent – must be done within 24-48h (e.g. repair of fracture)
☐ Semi-elective – must be done within days-weeks (e.g. tumour removal)
☐ Elective – no time constraints (e.g. cosmetic procedur

PRE/PERI-OPERATIVE PROCESS MEASURES

5

Patient preparation
Pre-op bath / shower (full body [Y / N] Date …/…/……
Antimicrobial soap used [Y / N] Plain soap used [Y / N]
Hair removal (HR): ☐ Razor ☐ Clippers ☐ None
HR Date …… ☐ Home ☐ Ward ☐ Theatre

Surgical antibiotic prophylaxis
☐ No prophylaxis required
Required but not given due to: ☐ Unavailable
☐ Other ……

Antibiotic given:
☐ Co-amoxiclav ☐ Cefazolin ☐ Cloxacillin ☐ Vancomycin
☐ Ciprofloxacin ☐ Gentamicin ☐ Metronidazole ☐ Penicillin
☐ Other antibiotic…… Dose…… (mg)
Time given [:] 24h clock Time re-dosed [:] 24h clock

Postoperative antibiotics
Were antibiotics ceased at completion of surgery? [Y / N]
If not, what antibiotics were prescribed?
Drug…… Dose…… (mg)
Doses / day…… Duration (days) ……

Reason given
☐ Post-op prophylaxis ☐ Drain / implant inserted
☐ Treating suspected / known infection ☐ Other ……

Surgical skin preparation (under sterile conditions)
☐ Chlorhex-alc ☐ Iodine+alc ☐ Chlorhex-aq ☐ Iodine-
Appropriate skin preparation technique [Y / N]
Allowed to fully dry [Y / N]

Surgical hand preparation
☐ Alcohol-based hand rub ☐ Antimicrobial soap+water
☐ Plain soap+water
Time spent on procedure [ ] mins [ ] secs
Appropriate hand preparation technique: [Y / N]

Theatre traffic
Headcount at start of operation…… total …
Number of entries during operation……
Door openings during operation…… total …

Drain / implant
Location……
Drain inserted? [Y / N]
If YES, type of drain: ☐ Open ☐ Closed
Antibiotic given in presence of drain but no infection? [Y / N]
Implant used? [Y / N]
☐ Metal (Ortho) ☐ Skin graft ☐ Mesh ☐ Other

6 **Other measure(s) – decided at local level**……

Annex 4. WHO post-operative data collection form

Surgical site infection surveillance post-operative data collection form

ID	Patient name	Age/ Date of birth …/…/……	InPatient number	Address (town/village)
	Telephone number 1	Whose telephone number		Checked? ☐
	Telephone number 2	Whose telephone number		Checked? ☐

*All follow-up in the 30-day post-operative period should be recorded in **Box 2**. Each patient interaction should be recorded in the "Event" column from the day of surgery onwards, including: surgical procedure, wound dressing removed/changed, (each) inpatient (IP) review, discharge, outpatient (OP) review, telephone call, readmission, return to the operating theatre, surveillance discontinued (reason). At least three reviews are recommended in the 30-day follow-up period. For each "Event", please record the date, tick the "Antibx" column if antibiotics are prescribed/being taken, complete health workers' initials, and record any surgical site infection (SSI) symptoms or other important notes in the last column (see footnote 1).*

BOX 2 - Admission date to hospital for primary operation: …/…/…… **Hospital discharge date:** …/…/……

Day	Date	Event	Antibx	SSI symptoms and other notes[1]	Health worker initials
1		Surgical procedure			
2-3					
4-5					
6-7					
8-10					
11-14					
15-17					
18-21					
22-25					
26-29					
Day 30				End of SSI surveillance (standard)	

1. *At each patient interaction, first check the patient's identification. Then assess or ask about the **SSI symptoms:***
- *Drainage of fluid from wound: pus versus clear (serous) / bloody / other • Pain / tenderness beyond normal for operation*
- *Localized swelling or wound breakdown • Redness/heat of skin • Generally unwell, especially fever >38°C*

If any SSI symptoms are noted in Box 2, proceed to Box 3 to determine the SSI case definition and consult with the operating surgeon.

BOX 3

Surgical Site Infection? ☐ Yes ☐ No (Determine with case definition tick boxes below)
Patient re-admitted for Surgical Site Infection? ☐ Yes ☐ No (note reason) ……
Date of re-admission for Surgical Site Infection: …/…/…… Discharge date: …/…/……

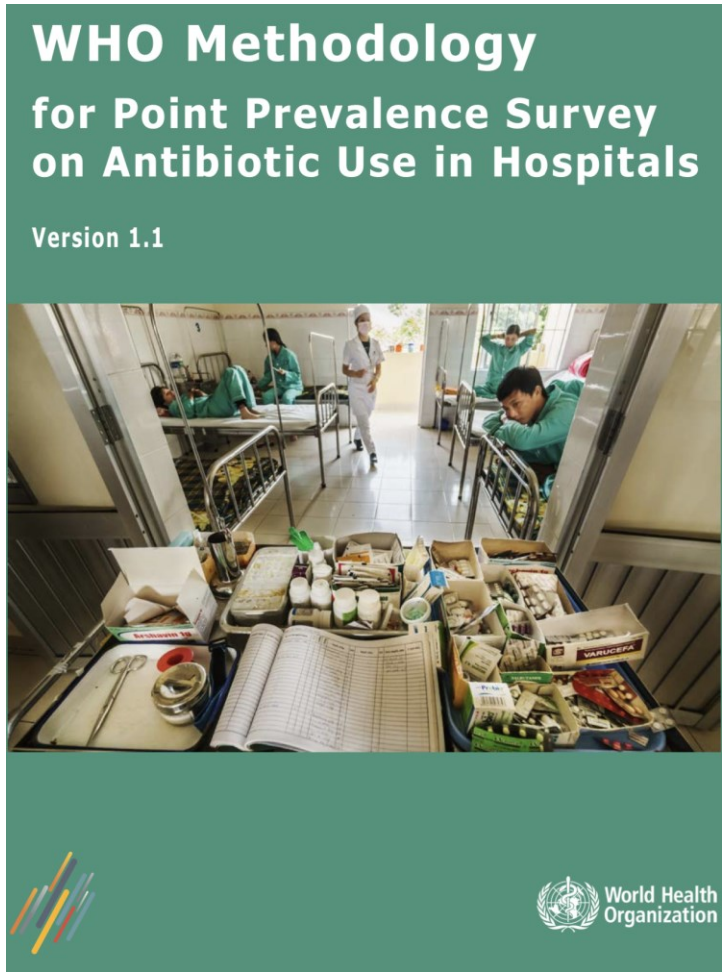
Superficial SSI (skin/subcutaneous)	**Deep SSI** (fascia/muscle)	**Organ/space SSI****
☐ e.g. cellulitis	☐ e.g. deep abscess	☐ Deeper than fascia/muscle e.g. endometritis (organ), peritonitis (space)
☐ Purulent drainage (pus) from superficial incision	☐ Purulent drainage (pus) from deep incision	☐ Purulent drainage (pus) from sterile organ or space (from an inserted drain)
OR	**OR**	**OR**
☐ Organism identified (if culture done)*	☐ Deep incision dehiscence or deliberately opened by surgeon	☐ Organ or space infection/abscess found on imaging/examination
OR	**AND**	**OR**
☐ Superficial incision deliberately re-opened	☐ Organism identified (if culture done)*	☐ Organism identified from fluid/tissue from organ/ space*
AND	**AND**	
☐ Infection symptoms[1]	☐ Infection symptoms[1]	
OR	**OR**	
☐ Surgeon/attending physician diagnosis	☐ Deep infection/abscess found on imaging/examination	

Other surgical complications
☐ Non-infectious **local** wound complications including bleeding and abnormal skin reactions
☐ Patient death: Date …/…/…… Cause of death (as far as known) ……

Microbiology culture results*	**Specimen taken** Date…/…/…… type……	**Organism(s) identifed**	**Antibiotic resistance/sensitivities**

*Note: most surgical wounds that have broken down rapidly become colonized with bacteria. Bacterial growth from a wound is only significant when a sample to identify organisms by microbiological culture is collected aseptically under sterile conditions with symptoms of infection also present.

Date form completed …/…/…… Database entry [Y / N] Signature……



Definition of hospital-associated infection[1]

Classification for hospital-associated infections (HAI) versus community-acquired infections is based on the date of onset of the infection after admission. Date of onset is defined as the date of first signs or symptoms of the infection. If unknown, record the date when treatment was started for this infection or the date when the first sample was taken. If dates are missing, please estimate. If signs or symptoms were present at admission, then the infection should not be considered as hospital-associated.

Infection categorized as HAI if date on onset is on:

Day 3 onwards

OR

Day 1 or Day 2 AND patient transferred from another hospital

OR

Day 1 or Day 2 AND patient discharged from a hospital (same hospital or another one) in preceding 48 hours

Sites for surgical prophylaxis

Code	Description
CNS	Central-nervous system
EYE	Ophthalmic
ENT	Otolaryngology
RESP	Respiratory
CVS	Cardiovascular system
GI	Gastrointestinal tract
SSTBJ	Skin, soft tissue, bone and joint
UTI	Urinary tract
GO	Gynaecology and obstetrics
UNK	Site not defined

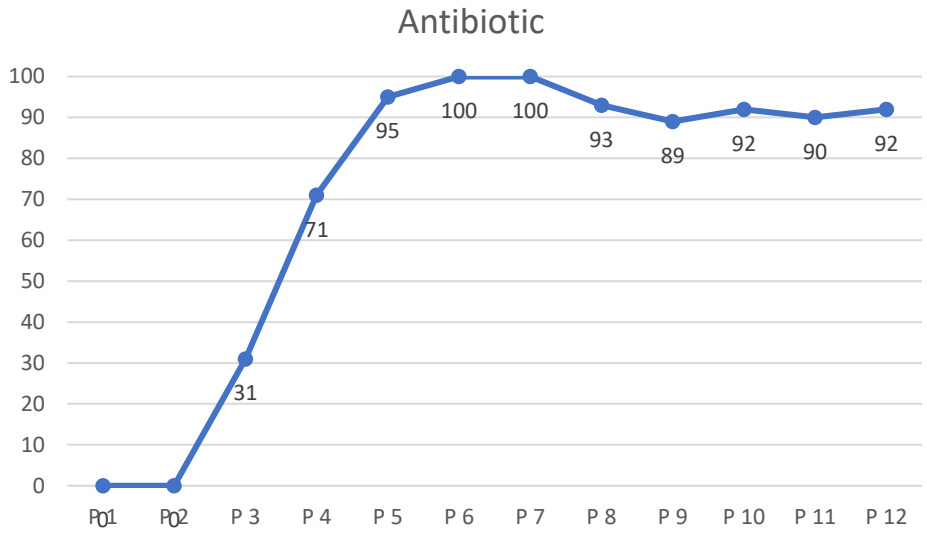
Examples

Thorax surgery is classified as RESP for lung surgery, and CVS for heart surgery
Liver and pancreatic surgery is classified as GI
Spleen surgery is classified as CVS
Kidney surgery is classified as UTI

Data Collection

- Perioperative data collection and analysis for SAP guideline compliance evaluation
- SSI surveillance with standardized questionnaire (post-surgical 30 days surveillance)
- Point Prevalence Survey (PPS)
- Focus groups with project participant involvement

Hospital I


Antibiotic
100
90
80
70
60
50
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20
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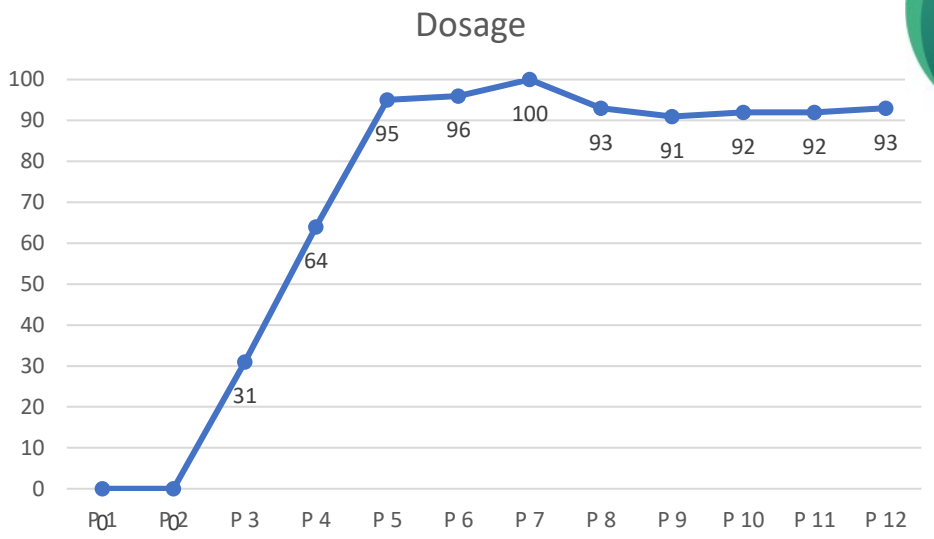
Dosage
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64
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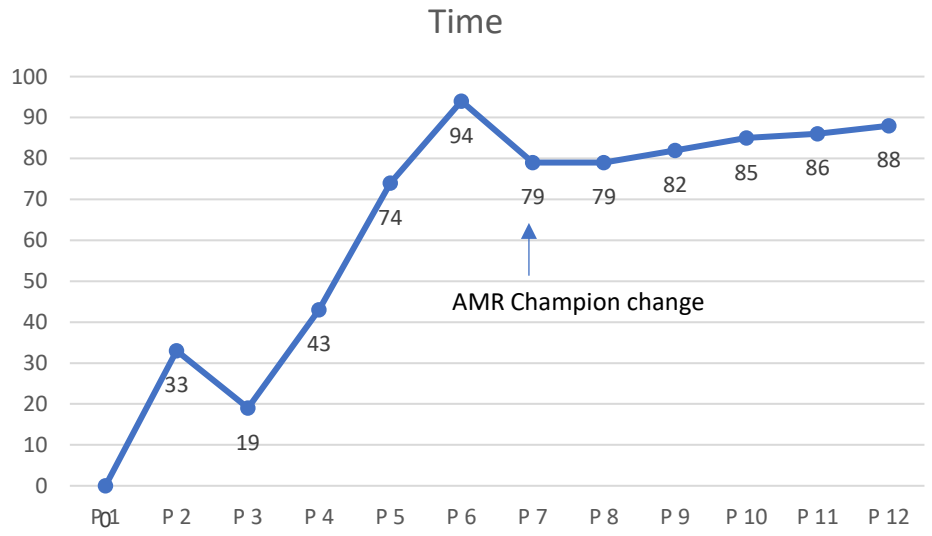
P 12


Time
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19
43
74
94
79
79
82
85
86
88
AMR Champion change
P 1
P 2
P 3
P 4
P 5
P 6
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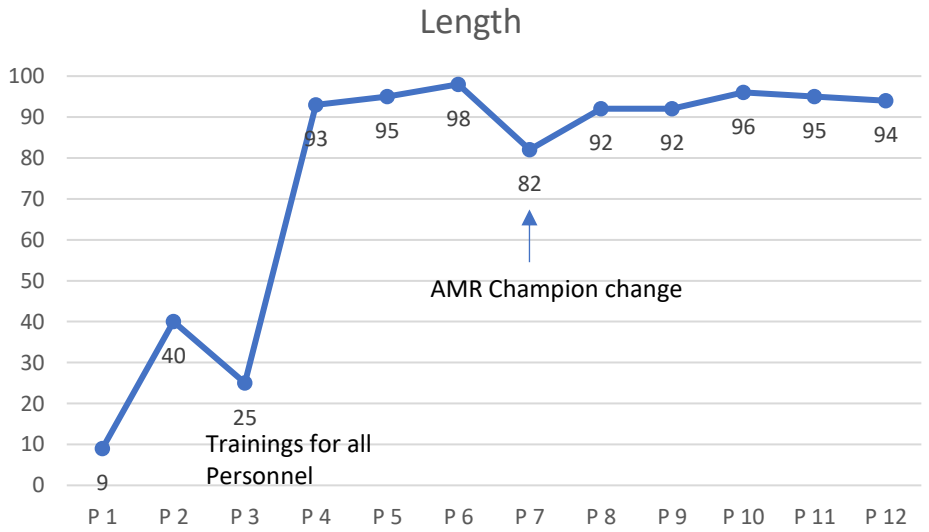
P 11
P 12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Trainings for all
Personnel
AMR Champion change
P 1
P 2
P 3
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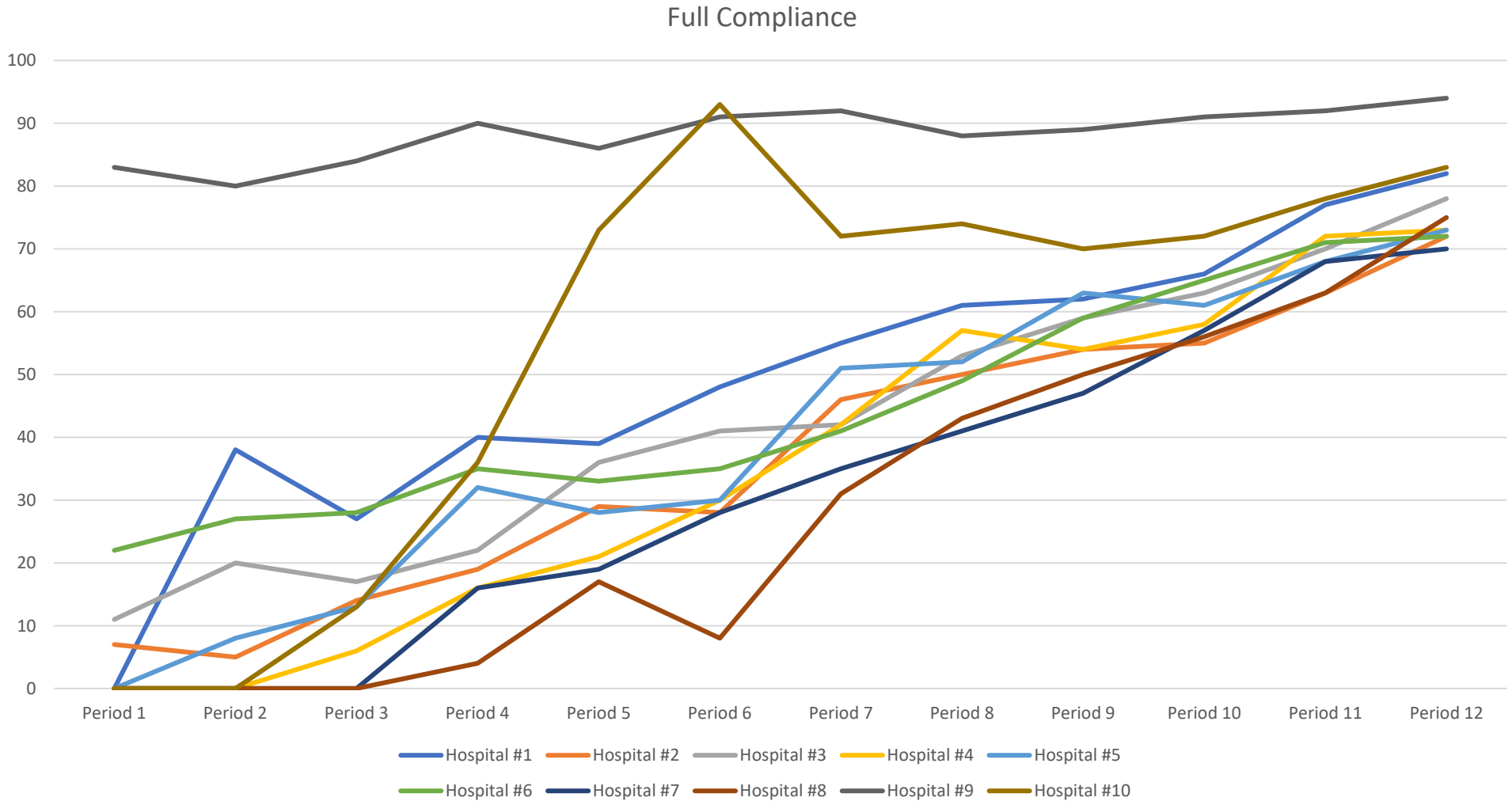
P 10
P 11
P 12

Full Compliance – 10 hospitals



Project outputs

- Educational programme on antibiotics, AMR and ASP
- SAP guideline and protocol
- National ASP
- ASP for hospitals
- SAP Inclusion in NAP 2024-2030
- AMS Certificate
- Preliminary cost-analysis
- Report on barriers and facilitators for sustainability of the ASP

Lessons learnt

- The low hanging fruit approach was key for success
- Early involvement of key actors was key for success
- Health care managers support to secure procurement of the first line antibiotics was key for success
- Having AMS champions per hospital was key for success
- Political engagement from co-development to implementation was key for success