



Surgical antibiotic prophylaxis

Multimodal strategy of the Namur Hospital Network (RHN)

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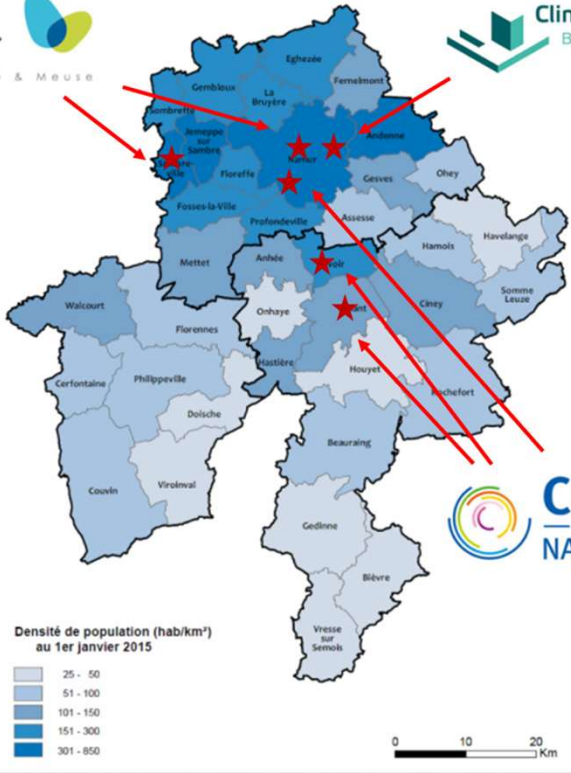


Background

3 institutions, 6 hospital sites



Site Meuse
Site Sambre



Site Dinant
Site Godinne
Site Ste-Elisabeth



- **Recent network**
- HOST : 2021 (CHU) => **12/2022 (RHN)**
- **Working experience** between infectious diseases specialists, microbiologists and hygienists (COVID, staff, procedure exchanges...)
- Pharmacists **know each other** and used to collaborate

Introduction



- **Sub-optimal surgical prophylaxis** despite recommendations ¹
- Project identified as a **priority for the 6 sites** following results of the Point Prevalence Survey (Global-PPS 2021/2022 and ECDC-PPS 2022).



- **Review of guidelines** initiated by several RHN infectious diseases specialists prior to the COVID period

¹ECDC PPS 2017

Objectives

- **Improvement of surgical prophylaxis quality indicators to reach 90% conformity to local guidelines :**
 - Drug,
 - Dose,
 - Administration timing,
 - Duration.



Project groups



- **HOST project group :**
 - GGA and HOST members from the 6 sites were invited to join it.
 - Role :
 - Project management
 - Methodology
 - Creation of tools
- **Local multidisciplinary groups :** infectious diseases specialists, pharmacists, microbiologists, anesthesiologists, surgeons, IT specialists, nurses, communications managers, ...
 - Each site can choose to implement (or not) the activities according to its specific needs.
- **Collaboration between GGA and HOST teams**



Multimodal strategy

1. Overview of local practices



Survey

- **Functional and subjective questions** about the process
- Send to **anesthetists, surgeons and nurses** (surgical unit/operating room)



Process analysis

- Prescription, delivery, administration, documentation



Pre-intervention audit

- **Retrospective** audit
- Measure of **quality criteria** (drug, dose, timing, duration)
- **Selected surgeries** (guidelines)



Feedback

- Analysis presented to **GGA, anesthesiologists and surgeons, directors**

Multimodal strategy

2. Guidelines : redaction and implementation



Guidelines

- **Update and validation** of local guidelines
- Guidelines **sharing** in the network



Tools and process adaptations

- **Process** adaptation
- Definition of **responsibilities** (care bundle)
- Review of **stocks**
- **Templates** in the computerized prescribing program



Promotion

- **Guidelines available** in the operating room
- **Email** to anesthesiologists and surgeons
- Document management local **software** (Ennov...)
- Tool for postoperative doses
- **WAAW 2023** campaign (posters, communication)



Education

- **Teaching modules** for anesthesiologists, surgeons and nurses

CHECK IT :

Multimodal strategy



LIVE IT

3. Follow up



Post-intervention audit

- **Same methodology** to the pre-intervention audit
- **Feedbacks** to anesthesiologists, surgeons, GGA and directors



Institutions culture

- HOST and GGA **strategic plan**
- **Quality program**

Results

Survey



- 32 questions
- **Topics :**
 - **Guidelines (existence, availability)**
 - Are there any guidelines for surgical prophylaxis in your hospital? Yes No Don't know
 - **PRE-op (anaesthesia consultation, ...)**
 - Is a history of allergy to antibiotics documented during the pre-operative anaesthesia consultation?
 Always Often Half the time Rarely Never Don't know Other .
 - **PER-op (prescription, documentation, timing...)**
 - The doctor responsible for choosing the surgical prophylaxis drug is The surgeon The anesthesiologist The surgeon and the anesthesiologist Other .
 - **POST-op (prescription, duration...)**
 - In your opinion, the duration of antibiotic prophylaxis in your institution does not exceed 24 hours
 Always In more than 80% of cases In 50 - 80% of cases In 30 - 50% of cases In less than 30 of cases Never Other .
- ✓ Done in 4 sites (n = 28)
- **Analysis :**
 - **Variability +++** (between sites, intra-sites, intra-speciality)
 - **Lack of internal standardization** (e.g. weight)

Results



Audit

✓ Done in 2 sites

- Orthopaedic surgery
- Pacemaker implantation
- Digestive surgery

==> Identified problems : **duration and administration timing**

- Planned in 2 sites
(late 2023/early 2024)



Process analysis

✓ Done in 2 sites

==> **Differences between sites**


- Prescription responsibility
- Prescriptions templates
- ...

==> Discussion with anesthesiologists
: **software limitations & real life**

Results

Guidelines



- Fully updated and validated on 3 sites, in progress in 1 site 
- Joint discussions between the 6 sites :
 - **Dose adjustment for obese patients**
 - Double dose of beta-lactam if weight > 100 kg and BMI > 35
 - Softening rules for patients **allergic to a penicillin derivative**
 - Cefazolin allowed if IgE-mediated allergy to a penicillin derivative (except documented allergy to a cephalosporin)

Results

WAAW 2023 campaign



— ZOOM SUR L'ANTIBIOPROPHYLAXIE —

Adapter la dose en cas d'obésité

BMI > 35 kg/m² et poids > 100 kg
La dose initiale de céfazoline
passse de 2g à 4g

Antibiotiques
Antiviraux
Antifongiques
Antiparasitaires

Pour un usage complet
sur la prophylaxie

Ceci est un message des GGA et du HOST RHN dans le cadre de la semaine mondiale pour un bon usage des antimicrobiens (campagne WAAW - World Antimicrobial Awareness Week)

chrsm
CHU
UCL
NAMUR
Clinique Saint-Luc
Soyuz

- 7 selected messages, local adjustment
 - 1 message per poster
 - Display in operating room and surgeon's medical offices
1. Choisir l'antibioprophylaxie conformément aux recommandations locales. Mise à jour disponible sur Ennov et dans la gélule Omnipro
 2. La dose standard de céfazoline est de 2 g
 3. Adapter la dose en cas d'obésité. BMI > 35 kg/m² et poids > 100 kg . La dose initiale de céfazoline passe de 2 g à 4 g.
 4. Timing non respecté = taux d'infection augmenté. La céfazoline s'administre 15 à 30 minutes avant l'incision
 5. Une dose suffit. Seules certaines interventions requièrent une couverture de 24h maximum.
 6. Documenter l'antibioprophylaxie dans le dossier du patient.
 7. Allergie à l'antibiotique de 1er choix ? Choisir une alternative uniquement en cas de contre-indication formelle.

Our expérience ...



- **Time +++**
 - Guidelines redaction, internal validation (anesthesiologists, surgeons), audits, ...



- **Differences in time implementation** between sites ==> adaptation, planning
 - Cyber-attack, lack of personnel , ...



- Support of **directors and IT**



- Difficulties to **involve anesthesiologists and surgeons** (essential !)



- Importance of **GGA** for local implementation



- **Multimodal approach** needed for a real change !



Questions

