The 3 issues that were identified are:

1. **Correct measurement of HAI**s is a precondition for reducing HAI. Current data however is insufficient, not standardized and the system for surveillance and screening in hospitals are lacking. To tackle this, a digital highway can be created with meaningful indicators, implement better surveillance in hospitals, and better screening.

2. **Need for the right skills, more education and better collaboration** is crucial for the prevention of HAI. Staff shortages that result in the lack of time to spend on HAI prevention, together with lacking skills and awareness ask for a structured approach that can lead to behavioral change. To tackle this, clear evidence-based guidelines can be developed together with better education and training based on these guidelines.

3. **The system is also untransparent and tends to exclude the patient.** Next to the fact that it does not foresee the right (financial) incentives for HAI prevention. To tackle this, a patient centric approach can be developed together with a culture of public disclosure. Next to that, the financial model should be developed in a way that it incentivizes HAI prevention.
**ISSUE 1**

Correct measurement of HAI is a precondition for reducing HAIs

A correct overview of the type and number of HAIs is an absolute precondition for developing adequate solutions. The current measurement of quality indicators (e.g. Sciensano quality indicators, VIP2, etc.) need to be expanded and improved. Be aware that some indicators are not measured at all.

1. **The current data is delayed and insufficient:**
   Currently, financial and administrative data is recycled to be included in the nominators in the HAI surveillance systems. Sometimes there is a delay of 3 to 18 months (e.g. for AMR-prescriptions) which makes adequate follow-up and quick decision making impossible. Furthermore, real-time monitoring of different disease by policy makers is impossible. The first level of the problem is at the hospital itself. If data is delayed, it means that hospitals are not following up on what is happening with patients. A correct follow-up is a precondition for improving practices in the field.

2. **Data and quality indicators are different to different governments:**
   One of the problems is that the issue is fragmented and spread across different levels: the staff, hospital management, regional and federal levels. There is no standard on the registration of data and indicators. For example, different sets of indicators are being developed on a regional and federal level, which creates extra workload for the hospitals as they have to comply with the different authorities.

3. **Lack of surveillance systems in hospitals**
   Based on the findings from the 2019 Scienano report (Quality indicators for hospital hygiene in acute hospitals), only 58% of hospitals in Belgium report having a surveillance system in place for surgical site infections. While this figure represents an increase compared to previous years, there is still much room for improvement. Moreover, for certain HAIs, participation in nationally organized surveillance is extremely low. This is, for example, the case for surgical site infections.

4. **Lack of screening in hospitals**
   Currently there is no active screening of *at risk patients* upon admission to hospitals. Screening is seen as an important factor in prevention of HAIs and AMRs.
The Covid-19 epidemic has demonstrated that aggregation of real-time data and cross-functional collaboration drives clear, rapid response and decision making.

**Recommendation 1: Create a data highway and clear, meaningful indicators:**

- Quality indicators should be clear and meaningful to all levels involved. They can be developed in cooperation with the people in the field (HCP & hospital management) and need to be consistent on all policy and government levels. The different government levels need to organize themselves to facilitate this process (as demonstrated during Covid-19).
- People in the field should also be able to check and verify data in the entire process to ensure the data is correct. This will allow to identify bottlenecks and problems and install a process of continuous improvement.
- The system of a data-highway and the dashboard that was created during the Covid-19 pandemic can be recycled and expanded to other public health threats like HAI and AMR.

Clear, meaningful data, indicators and validation protocols will allow better patient follow-up, quick decision making and better infection prevention and control. There is a need for common goals and objectives that can be achieved together. Policy makers can provide and create a framework for data gathering. Only based on data, can sustainable evidence-based medicine be practiced.

**Recommendation 2: Better surveillance in hospitals**

- Assess the reasons behind the low participation rate in certain forms of national surveillance
- Assess whether the introduction of a ‘light version of the national surveillance - in which a different and/or less extensive methodology is used – would result in higher participation rates
- Assess the reasons behind the lack of surveillance in certain hospitals and address the barriers

**Recommendation 3: Better screening**

Active screening of ‘at risk’ patients upon admission to hospital is an effective method to determine whether patients are carriers of multi-resistant bacteria [such as Carbapenemase-producing enterobacteria (CPE), Vancomycin Resistant Enterococci (VRE) and Meticillin-Resistant Staphylococcus Aureus (MRSA)].
 ISSUE 2
Need for the right skills, more education and better collaboration

Especially in primary care and nursing homes, there is a clear need for the right skills, tools and education. As a result of the 6th state reform, the various competences of public health were divided. This hampers collaboration between hospitals primary care and nursing homes resulting in bottlenecks and a lack of collaboration.

Staff shortage, lack of time, skills and awareness:
Hospitals are usually supported by Infection Prevention and Control teams (IPC) if they work accurately, however support is not available in primary care units such as nursing homes. This became painfully clear during the Covid-19 pandemic. It is an issue that is the result of the chronic lack of personnel and the scattering of competences. But even in hospitals, there are little financial resources allocated to these teams. This remains an acute problem.
On top of this, there is also insufficient awareness of the importance of infection prevention and a clear need for a structured approach to improve practices in the field and create real behavioral change.
Recommendations

Improve education and training, create more behavioral change and develop clear guidelines for prevention

Education and training, in combination with the correct evidence-based guidelines are seen as a key driver to reduce HAIs in the future. This can include:

- Develop clear guidelines that go beyond hand hygiene that are generally accepted within teams, hospitals and care institutions and that can be actually implemented, standardized and, if needed, enforced [e.g. OR-door only opens when hands are disinfected]. These guidelines will ensure that people know what good and evidence-based practices are. International guidelines, such as the WHO guidelines on SSI prevention or the NICE guidelines could function as a source of inspiration. The right equilibrium between a bottom-up and top-down approach in imposing these guidelines and practices is key.
- Making patients aware of these guidelines can increase compliance, and ensure a patient-centered approach.
- A policy based on a common framework and evidence-based guidelines can be implemented into practice. Successful practices of other countries and physicians should be structurally shared with a wider community. In addition to developing guidelines, it is therefore also important to ensure the adoption and implementation of international, evidence-based guidelines (as mentioned above) on a Belgian level.
- Make training and education on infection prevention mandatory. There are (online) educational programs for nurses, reference nurses on IPC, nursing homes in place or under development. Today these are voluntary, but they can become mandatory and subsidized.
- Make an IPC responsible mandatory in nursing homes.
- Integrate behavioral change techniques in the awareness campaigns so they can result in actual change in the field [at the level of physicians, nurses, caretakers] rather than only have increased attention for the issue during a short period of time and then fade away.
- Facilitate and foster collaboration and sharing of information and best practices between 1st, 2nd and 3rd line in healthcare and rebuild the links between nursing homes and general hospitals.
- Develop a script on how to handle HAIs that is based on shared best practices, like the care bundle approach, and scientific evidence. Foresee financial support for a group of [University] hospitals to define Belgian care bundles. These care bundles are general recommendations a hospital should follow in the fight against HAIs. This is a practice that can be closely evaluated, to make sure the effectiveness is guaranteed.
The system is untransparent, excludes the patient does not foresee in the right incentives for infection prevention

HCP’s outside the hospital and patients are currently being insufficiently informed about HAI’s which hinders an adequate follow-up, treatment and, in the end, prevention.

**Patients are not aware of HAIs and information possibilities**

Today there is no guarantee that patients are systematically informed about HAIs, sometimes out of fear that this might result in legal proceedings. Although scientific evidence argues the contrary, an involved patient is part of the solution. We want to develop patient-centered care, meaning the patient has to be involved in his/her treatment. A patient should be aware of what is happening. Being transparent about the issues facing the patient, can increase and keep the trust of all people involved. The sooner the patient and his/her relatives are aware the better, as they can also help in the treatment of an adverse event like HAI.

**Public disclosure of indicators**

Public disclosure has a major impact on compliance and the accountability of the results. It gives hospitals an incentive to improve their indicators and publish them. Hospitals get feedback on their results and have an idea on their overall position towards other hospitals on the different measurements. But these indicators are not being released to the general public. Public disclosure can lead to higher awareness about the prevention of HAIs.

**Complications such as HAI are financially interesting for hospitals**

The current financing system of hospitals does not foresee in the right incentives for infection prevention.

Hospitals receive higher financing when treating complications as opposed to normal clinical practice as the degree of care is lower than for a complication. There is an incentive for a complication, and thus not provide positive incentives for quality/HAI prevention. Taking financing away from complications however is not the solution, as the risk of negative selection by hospitals can become reality.
Recommendations

Create a culture of disclosure and transparency and investigate the possibilities of public disclosure

By having the patients involved the systems improve, they reveal bottlenecks and unknown problems. By providing public disclosure and transparency in a privacy covered way, we create empowered patients that are part of the solution to the prevention and treatment of HAIs:

**Patient centric**

- The patient is part of the solution for better treatment and prevention of HAI. Patients and their environment (GP, Home Nurse) have to be informed about the patient’s condition and what to do post-discharge, especially in case of an HAI. This can be integrated with the discharge procedure and, to be considered, mentioned in the discharge letter.
- Patients and their environment need to be informed on sources where they can find more information on their condition such as the app of the COSO-platform.
- Create involvement of the patient, a warned and informed patient is a direct solution to avoid HAIs. The education of patients can drive safe care.
- Policy makers can empower patients by offering tools to improve the public disclosure and transparency.

**Public Disclosure**

- HCP’s need to be supported and acquire the necessary skills on how to disclose adverse events, such as an HAI, that happen during hospitalization.
- The stakeholders can come up with meaningful quality improvement projects. These projects should be based on data. Data can be tool to inform, but also engage the general public. Improved data is essential for all stakeholders.
- Public disclosure can be part of the solution, there is a very implicit tendency to improve quality just by having the results publicly available. However, this must be part of a broader strategy that is also linked to the “Pay for performance program” and that is based on clear, validated data and indicators. In some European countries, like the Netherlands, public disclosure is standard practice.

Create a financing model based on preventio of HAI, by using macro data and local cooperation

An adequate financing model can incentivize the reduction of the number of complications based on (validated) macro data. Pay for performance is an interesting system but needs to gain scale and is only a part of the solution:

- To prevent the possible negative effects the policymakers can opt to only give bonuses for good outcomes and not penalize bad outcomes. The risk of bias in under-registration and over-registration of indicators is real. The possible bias of data can be tackled by choosing the right indicators, but also by incentivizing the completeness and quality of data.
- Separate the nomenclature of hospitals, a part can be invested in funds [governed by physicians] for quality improvement in hospitals.
- Incentives that focus on local cooperation can play an important role in the future. This type of financing makes value-based financing possible and can improve the quality of the healthcare system on every level. Local networks can allocate resources to prevention and first-line caretakers in order to reduce the high cost of complications related to HAIs.
Round Table Report
Healthcare-Associated Infections