National Guidelines for Infection Prevention and Control in the Netherlands

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Article

National Guidelines for Infection Prevention and Control in the Netherlands

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Abstract: Nosocomial infections in healthcare impose a heavy and potentially life-threatening burden on patients and can inflate healthcare expenditures. From 1981 to 2017, the Dutch Working Party on Infection Prevention (Werkgroep infectiepreventie [WIP]) developed infection prevention and control guidelines to minimize the impact of nosocomial infections. Despite its long standing and renowned status, the WIP lost both support from its base and financial support and was disbanded. Four years later, the Dutch Collaborative Partnership for Infection Prevention Guidelines (Samenwerkingsverband Richtlijnen Infectiepreventie [SRI]) was established to develop evidence-based guidelines for hospitals, long-term care, and public health settings. In this article, we summarize the process and methodology of infection prevention and control guideline development, within all three healthcare domains in the Netherlands.

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Introduction

In the Netherlands, the development of national infection prevention and control (IPC) guidelines started in 1981. In that year the Dutch Working Party on Infection Prevention (Werkgroep Infectiepreventie [WIP]) was founded with the primary aim of developing uniform, national IPC guidelines for hospitals. Since 1992, WIP-guidelines have functioned as the national standard for IPC applicable in all hospitals, meaning that the Inspectorate of Health Care used them to supervise IPC practices in healthcare institutions [1]. Since 2014, some of the hospital guidelines were adapted to long-term care (LTC) guidelines by a permanent subgroup of IPC-experts and elderly care physicians. In total, WIP developed approximately 140 national guidelines. Overall, WIP was a renowned IPC guideline organization, exemplary for other countries. In its final state, WIP lost support from its base as well as financial support, leading to its disbandment in January 2017.

After the disbandment of the WIP, it took nearly four years to set up a new guideline organization, the Dutch Collaborative Partnership for Infection Prevention Guidelines (Samenwerkingsverband Richtlijnen Infectiepreventie [SRI]), which was established in 2021 by the Dutch Ministry of Health, Welfare and Sport. For more information, see https://www.sri-richtlijnen.nl. During that time, no revisions of existing WIP-guidelines were done, despite the apparent need for it, which posed a potential risk for preventable morbidity and opened the field to scattered and uncoordinated advice from healthcare professionals.

WIP-guidelines were primarily based on weak evidence and mainly set up based on expert opinion of an often-monodisciplinary group of IPC experts. From the start, SRI was primarily tasked

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with developing multidisciplinary, evidence-based guidelines and recommendations for IPC in all healthcare domains (hospitals, LTC, and public health [PH]). Where needed, guidelines for all three healthcare domains were developed as generic guidelines. Each guideline was developed by one guideline development group (GDG), representing expertise from all domains.

The first SRI-guidelines are now published online (https://www.sri-richtlijnen.nl/alle-richtlijnen). Here, we summarize the methods used in the development of SRI-guidelines.

Methods

Guideline Development Process

Guidelines were developed by using recommendations of existing manuals on guideline development, including The Appraisal of Guidelines for Research and Evaluation (AGREE) [2]. The AGREE instrument evaluates the process of guideline development and the quality of reporting. For each guideline, a multidisciplinary GDG with balanced expertise was composed. Each GDG met regularly with a supporting advisor. Clinical questions for each guideline were formulated based on the old WIP-guidelines as a starting-point and were subject to external consultation and comment. This approach resulted in a modular structure for each guideline, facilitating future modular updating.

Evidence Review and Grading

Clinical questions addressed the clinical effectiveness of different aspects of IPC. To answer clinical question regarding these topics, Embase, Ovid/Medline and Cinahl were searched to identify pertinent studies published in English. Databases were searched up to date as stated in each review protocol (available upon request). Studies were selected based on study design, study population and intervention. For each of the clinical questions, data were summarized using the GRADE (Grading of Recommendations Assessment, Development and Evaluation) methodology, which assigns levels of quality (high, moderate, low, and very low) [3]. The quality of evidence is assessed for each relevant outcome and is based on study design, limitations, consistency and directness of the evidence. The higher the strength of evidence, the higher the chance that additional research confirms the current conclusion. If a GDG considered the evidence to be lacking in an area, they could choose to formulate recommendations for further research (knowledge gaps).

Guideline Recommendations

When developing guideline recommendations, the conclusions from the systematic literature analysis formed the answer to the clinical question but were not always applicable as a recommendation in daily practice. As part of the evidence-to-decision framework, each GDG had to take other aspects into consideration such as patient perspective, sustainability, preferences, costs, and organisational aspects. These considerations are based on expert opinion or literature not included in the systematic literature analyses and were described explicitly and systematically, presenting arguments both in favour and against IPC measures [4]. Recommendations were based on both the scientific conclusion following systematic literature review (if applicable) and/or other considerations. The quality of evidence and other described considerations affected the strength of the recommendation.

Publishing Guidelines

Guidelines are published in an online environment (https://www.sri-richtlijnen.nl/alle-richtlijnen), where the primary information is limited to considerations and recommendations that answer the clinical question at hand.

Results

Evidence

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Most of the first, published SRI-guidelines are so-called generic guidelines meaning they are applicable to all healthcare domains (hospital, LTC, PH). However, most of the evidence identified did not meet the inclusion criteria for literature review as it was indirect evidence or in-vitro studies where the relevance of the data was not considered applicable for the population in a hospital, LTC or PH setting. It is widely acknowledged that the number of randomized controlled trials in IPC remains low, particularly when compared to other medical specialties. This isn't due to a lack of interest or inclination towards research among IPC professionals. Instead, it primarily stems from the inherent challenges in demonstrating significant outcome differences resulting from the implementation of individual IPC measures. The cause of healthcare-associated infections is mostly multifactorial, where the individual influence of a single component is hard to estimate [5]. Moreover, many IPC measures tend to produce significantly more benefits than harms. Consequently, there's often little incentive to conduct studies aimed at establishing evidence for these measures. Given these limitations, when applying the GRADE methodology, it's not uncommon to encounter recommendations supported by low or very low levels of evidence, or even those based solely on expert opinion. Specifically, for the first five published guidelines [6–10] a total of 165 recommendations were formulated of which 55 (33%) was based on low or very low GRADE and 109 (66%) could not be graded and were based on expert opinion, observational studies, or international guidelines. One (0.6%) recommendation was based on a moderate GRADE. However, it's crucial for individual users and organizations not to dismiss these recommendations as insignificant. In the absence of definitive scientific evidence, such recommendations still represent the best available guidance and are typically more robustly justified than decisions based solely on the opinions of individual colleagues. In addition, all SRI-guidelines become ratified by the three healthcare domains and (in some cases) their individual stakeholders. Thereby, the guidelines are seen as a professional standard by the health inspectorate.

Minimal or Maximal Measures

A significant consideration within healthcare is the issue of deviating from guidelines. SRI-guidelines often aim to ensure a certain level of effectivity and safety, describing minimal IPC measures, while leaving room for additional measures when necessary. It's important to note that the regulatory framework for handling guidelines has not fundamentally changed with the transition from WIP to SRI-guidelines. Organizations still retain the freedom to do more if deemed necessary for their specific circumstances. This could be the case, for example, when implementing new measures concerning employees who are carriers of Livestock-Associated MRSA. For instance, even across different hospital departments and healthcare organizations, variations may exist in the interpretation and implementation of these guidelines, depending on the specific risks and needs of the patient/client population. However, merely having a guideline does not automatically imply that the recommendations therein are sufficient for every individual organization or patient/client population. Organizations must continue to contemplate the effectiveness and relevance of these measures within their own contexts. Thus, there may be a need to deviate from the guidelines or implement additional measures tailored specifically to the organization's situation and patient/client needs. It is important to note that when opting to do less than what is recommended in the guidelines, this must be carefully substantiated. This can be particularly challenging given the imperative to utilize as much evidence as possible when making decisions in healthcare. Organizations must ensure that any deviations from the guidelines are well-founded and based on a thorough evaluation of risks and benefits.

Feedback and Evaluation

In healthcare, IPC measures are pivotal for maintaining quality and safety. Introducing new guidelines underscores the need for ongoing evaluation and enhancement. Just like any significant change, the new SRI-guidelines will greatly benefit from a wide field feedback post-implementation. This feedback loop is invaluable for identifying potential knowledge gaps, addressing practical challenges, and enhancing guideline effectiveness. Consequently, SRI has adopted a modular

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maintenance approach, offering a flexible framework for incorporating pertinent feedback from practice and adjusting guidelines accordingly. This highlights the significance of a dynamic, iterative process where guidelines evolve based on changes in practice, practice variations, updated regulations, and emerging evidence. Moreover, planned evaluations and research post-implementation are essential for assessing guideline efficacy and adoption. These assessments yield valuable insights into guideline adherence, their impact on IPC practices, and any unforeseen repercussions. By perpetuating a cyclical process of feedback, adaptation, and evaluation, the SRI-guidelines can adapt to the evolving complexities of healthcare, bolstering care quality and safety. This not only instils confidence in healthcare providers and patients/clients regarding IPC policies but also underscores a commitment to continual improvement in healthcare standards. In the future, an evaluation amongst GDG members should give more insight into the feasibility of the guideline development process.

Discussion

It is crucial for the field of IPC in the Netherlands to have a uniform approach in drafting and implementing guidelines. By aligning with the SRI initiative, organizations can ensure that their guidelines align with the most recent and when available evidence-based recommendations. This contributes to a consistent approach to IPC at the national level.

However, during the transition from WIP to SRI, as well as presently and likely in the future, there will be organizations operating from their perspective as healthcare professionals or as representatives of professional and scientific associations, aiming to establish their own guidelines outlining IPC measures. Nevertheless, it is essential for healthcare professionals to have clarity regarding the origin of IPC guidelines, ensuring adherence to clear and unequivocal advice. Respected professional and scientific associations like the Dutch Society for Infection Prevention and Control (VHIG), the Dutch Society for Medical Microbiology (NVMM) and the Dutch Society for Internal medicine and infectiologists (NIV/NVII) are renowned for their specialized knowledge on infectious diseases and IPC, which is pivotal for formulating IPC guidelines. These organizations have now chosen to exclusively support SRI in the development of national IPC guidelines. Other Dutch professional or scientific organizations should thus contemplate aligning their guidelines with existing and forthcoming SRI-guidelines, especially if they have any representation within SRI. Aligning guidelines facilitates the consolidation of expertise and fosters a united front in the battle against infectious diseases, thereby improving patient/client outcomes. SRI encourages other professional or scientific organizations to engage with SRI or participate in aspects of the guideline development process should they desire to adopt a more proactive role. Collaboration in crafting national IPC guidelines serves as a cornerstone for standardizing IPC practices across all healthcare settings where possible.

In conclusion, the discontinuation of WIP and the establishment of SRI have enabled the transformation of WIP-guidelines into evidence-based IPC guidelines in a consistent, systematic, and methodologically robust manner. SRI is continuously engaged in further developing their methodology to best align with the needs of the field. Professional and scientific associations play a crucial role in the standardization of IPC measures across all healthcare domains. By uniting behind the SRI initiative, they can contribute to a consistent approach to guideline development and implementation. This will not only improve the quality of care but also ensure the safety of patients/clients and healthcare providers across healthcare domains.

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