

# How do Danish infection control units experience and handle the risk of development of antibiotic-resistant microorganisms?



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## Background

Antibiotic-resistant microorganisms constitute a global public health problem that WHO has focused on for the last 40 years. In Denmark and the other Nordic countries, a marked increase in resistance development is seen. The situation is particularly alarming in light of the fact that we expect only few new antibiotics to be developed in the near future. The increased resistance is a serious threat, particularly for seriously ill patients, but also for future patients in general.

From 2011–2012 the total consumption of antibiotics in Denmark decreased, but the decline occurred in the primary sector, whereas in the same period there was an approximate increase of three per cent in the consumption of antibiotics in hospitals.

## Purpose

The aim of the study was to see how selected doctors and nurses from the Danish infection control units perceived and handled the risk of developing antibiotic-resistant microorganisms. It also aimed to assess whether there was a need for initiatives to ensure better consistency between the official and the individual decision-maker's understanding and handling of the problem.

## Research questions

- How is the risk of development of antibiotic-resistant microorganisms experienced and handled in the Danish healthcare system?
- To what extent do professional experts agree with statements from national and international guidelines?
- What should be done in addition to existing guidelines and initiatives to restrict the development of antibiotic-resistant microorganisms?

## Method

### 1. Design:

A qualitative method suitable for gaining insight into the informants' perspective and understanding of the world as it is experienced by themselves was selected. Data were collected as individual interviews of professionals from the Danish infection control units and microbiology departments.

### 2. Selection of participants:

Request for participation was sent to selected doctors and nurses in the infection control units from 4 of 5 regions in Denmark.

### 3. Data collection:

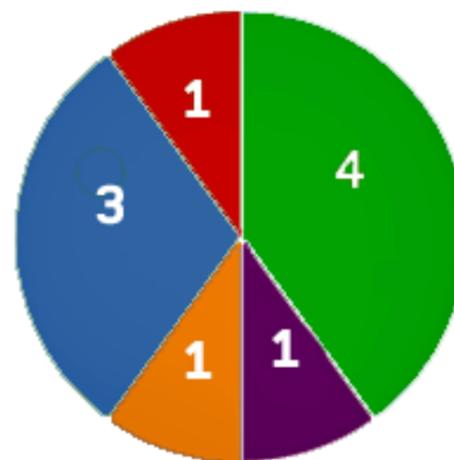
The interviews were based on a thematic interview guide with general questions regarding 1) their experience of the risk of development of antibiotic-resistant microorganisms, and 2) what they felt was needed to improve the correspondence between the individual decision-maker's understanding and handling of the problem and the official statements from the Danish Health and Medicines Authority and other national and international experts.

### 4. Data analysis:

Data were analyzed by manifest qualitative content analysis. By this method data are systematically and objectively analyzed as carefully as possible, in order to reduce and condense the answers, which are subsequently encoded and assembled into subcategories and categories.

## Distribution of the 10 informants

Informants' hospital type, profession, and responsibility;



4 University hospital chief consultants/professors responsible for infection prevention and control

1 secondary hospital infection control nurse with formal training

1 University hospital consultant with responsibility for infection prevention and control

3 University hospital infection control nurses; 2 with formal training and 1 without formal training

1 secondary hospital consultant with responsibility for infection prevention and control

## Resultat

Categories	Subcategories
Perception of efforts to reduce resistance development	
Implementation and compliance with national and local guidelines	<ul style="list-style-type: none"> <li>• Attitudes and knowledge of guidelines</li> <li>• Local implementation of guidelines</li> <li>• Reasons for non-compliance with guidelines</li> </ul>
Proposals for improving the efforts against resistance development	<ul style="list-style-type: none"> <li>• Development of competencies and anchoring within institutional management</li> <li>• Overall responsibility and management at national level</li> </ul>

## Conclusion

- Efforts until now have been insufficient
- There is non-compliance with the recommendations for the essentials of an infection control program
- No need for more national and international guidelines; instead, much improved implementation and information to all involved personnel groups is needed
- More explicit statements were called for, especially from the Danish Health and Medicines Authority, also in relation to possible sanctions for non-compliance with current rules.



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