

Protocol

# Surveillance of hand disinfectant consumption in outpatient facilities HAND-KISS AMBU

© National Reference Centre for Surveillance of Nosocomial Infections

at the

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#### Note on translation

This document provides an English translation of the German version of the protocol on the surveillance of surgical site infections in OP-KISS. Only minor content-related changes were made to increase clarity for international readers. Certain terms were adapted to align with the terminology of the US Centers for Disease Control and Prevention and the European Centre for Disease Prevention and Control. Where applicable, administrative information was updated. The translation was aided by DeepL Pro, 2024.

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## 1. Introduction

Regular and thorough hand disinfection (HD) is one of the most important measures for the prevention of nosocomial infections and the avoidance of transmission. However, there are repeated complaints about the low level of compliance with hand disinfection [1], [2].

An increase in compliance through behavioural change can be supported by a concept of learning at an individual and organisational level. A basic prerequisite for this is the use of feedback information that supports cognitive engagement with the topic. One way of obtaining such information is to carry out direct observation of compliance with hand disinfection by medical staff. However, such observations are very time-consuming and in some areas hardly feasible. The consumption of hand sanitiser (HDM), on the other hand, is a surrogate parameter for the frequency of hand disinfection that is relatively easy to collect and quickly accessible [3]Table 1 provides an overview of the two methods for quantifying hand disinfection.

	Direct: Monitoring the compliance of the HD	Indirect: Hand sanitiser (HDM) consumption as an indicator
End point	Direct determination of the number of HD performed in relation to the resulting indications	Surrogate parameter only: Calculation of HD performed from HDM consumption per treatment case
Execution	Requires a high level of technical expertise, high personnel time expenditure, can only be carried out prospectively	Easy to perform, little time required, can only be performed retrospectively
Validity	<ul> <li>Observation effect (Hawthorne effect) during observation</li> <li>Random effects possible with short observation times / few patients / employees</li> </ul>	<ul> <li>Sensitivity good, but specificity limited</li> <li>Overestimates possible if HDMs are also used for other purposes</li> <li>Depending on the quality of consumption data collection</li> </ul>
Application	Well suited to risk areas, enables targeted intervention through specific behavioural analysis	Well suited for assessing the overall situation of an outpatient facility

Table 1: Methods for quantifying hand disinfection (HD)

At present, it is not possible to define a target value for the necessary HDM consumption in different facilities and for different patient groups. However, it can be assumed that in many outpatient facilities, HD compliance is far from optimal. The aim of HAND-KISS is therefore to provide suggestions for improvement measures by comparing HDM consumption with reference data and in the facility itself over time.

Accordingly, the participating outpatient facilities transmit their data on annual HDM consumption to the NRC. Together with the information on the denominators (treatment cases) required to calculate the consumption rates, this allows the average HDM consumption to be analysed and allows conclusions to be drawn about the frequency of HD performed.

In addition, the data from participating outpatient facilities can be summarised over the entire period and made available by the NRC as reference data for comparison.

This will be the case from 2017, but is currently limited to dialysis practices. The aim is to publish reference values for individual subgroups, stratified according to the type of facility and classification as invasive or non-invasive, if there are sufficient numbers of participants.

## **2.** Objectives of the surveillance protocol

The primary purpose of the surveillance protocol is to provide the necessary definitions and specifications for the outpatient facilities involved in KISS. The aim is to standardise data collection and data analysis.

Secondly, other interested institutions can also record data according to these definitions and specifications and analyse their data in the same way. This gives them the opportunity to orientate themselves on the reference data.

Any comments on further necessary specifications and explanations are very welcome.

## **3.** Requirements for the participation of outpatient facilities in HAND-KISS\_AMBU and obligations of the National Reference Centre for Surveillance of Nosocomial Infections (NRC)

The participating outpatient facilities must fulfil the following requirements:

- Consent of the person responsible for the organisation to participate in the project
- Strict application of the mandatory provisions of the surveillance protocol
- Data transmission via EDP
- Willingness to carry out internal quality assurance measures in the event of corresponding surveillance results

The institutions supporting KISS assure the participants:

- To advise and support you professionally in the implementation of surveillance,
- To handle the data of the individual organisations with strict confidentiality,
- advise you on the implementation of the surveillance results within quality management.

## 4. Methodology for HAND-KISS\_AMBU

If an organisation has several outpatient facilities (e.g. several dialysis practices or several ambulance stations), each facility must be created as an independent facility in the system. However, several facilities can have the same contact person.

The following data is recorded once:

#### 4.1 Master data:

- a. Contact person (title, form of address, first name, surname)
- b. Name of the organisation
- c. Street, house number
- d. Postcode, city
- e. Email address
- f. Telephone 1 and 2
- g. Type of facility:
- Invasive, non-invasive
- Internal medicine, surgery, other conservative disciplines, other surgical disciplines, paediatrics, interdisciplinary (for classification see list

http://www.nrz-hygiene.de/fileadmin/nrz/module/hand/HAND-KISS Liste Fachabteilungen 18 03 15.pdf )

- GP practice
- Outpatient home nursing care
- Outpatient dialysis
- Outpatient surgery centres
- Rescue service / patient transport, including the emergency ambulance (NAW), the rescue helicopter and other air transport services

#### 4.2 HDM consumption

Surveillance of HDM consumption is carried out retrospectively for the previous calendar year. HDM consumption is recorded via the purchase of HDM (specialist retailers, pharmacies, etc.).

If you select one of the previous years in the input interface, the values that you have already entered will be displayed so that you can recognise the progression over time in your direction.

The following data is recorded:

- 1. Number of treatment cases / assignments in the outpatient facility in the calendar year
- 2. Sum of the total consumption in litres of all HDMs used in the outpatient facility in the calendar year.

To analyse the data, the ml value per treatment case / operation / day of operation is calculated as follows:

HDM consumption in litres x 1000

Number of treatment cases / deployment / day of deployment

The calculated rate indicates the consumption of HDM in ml per treatment case / use.

Since an average of 3ml of HDM is required per hand disinfection procedure, the number of HDMs performed per treatment case / use can be calculated from the amount of HDM used in the outpatient facility:

HDM consumption in ml per treatment case / use

3

## 4.2.1 Comparison of HDM consumption data in outpatient facilities

HAND-KISS calculates stratified reference data according to the type of outpatient facility.

This will be the case from 2017, but is currently limited to dialysis practices. The aim is to publish reference values for individual subgroups, stratified according to the type of facility and classification as invasive or non-invasive, if there are sufficient numbers of participants.

The calculation of hand disinfectant consumption in ml per treatment case is a statistical average and does not reflect the actual hand disinfections carried out per patient treated. In order to do justice to the different spectrum of patients and procedures, outpatient facilities are roughly stratified into the following categories:

- Outpatient home nursing care
- Rescue service/ambulance transport
- **Outpatient invasive:** internal medicine, surgery, other conservative, other surgical, paediatrics, outpatient surgery centres, dialysis, interdisciplinary
- **Outpatient NON-invasive:** general practice, internal medicine, surgery, other conservative, other surgical, paediatrics, interdisciplinary

#### 4.3. further data

As participation in HAND-KISS-AMBU is linked to participation in the "Aktion Saubere Hände" ("Clean Hands Campaign"), data on donor equipment and training courses carried out are also requested.

#### 4.3.1 Dispenser equipment

Please use the data collection form <a href="http://www.aktion-">http://www.aktion-</a>

sauberehaende.de/fileadmin/ash/downloads/modul3/Datenerfassung\_Ambulante\_Medizin\_10.2014.pdf to record your donor equipment.

Enter the calendar year for the entry.

The number of HDM dispensers in all rooms in which patients receive medical care or in which measures are carried out **directly** on patients, such as examination rooms and laboratories, is recorded.

These include: Consultation / treatment room, laboratory, patient room (dialysis, recovery room), ambulance and patient transport vehicle,

- → The dispenser equipment in the operating theatre, waiting rooms and toilets is not recorded.
- → It is not possible to record the number of dispensers in outpatient home care; the online form only asks whether you provide your employees with hand sanitiser

#### Determination of the ACTUAL value:

- $\rightarrow$  Only the donors who are actually in the consultation / treatment room, patient room or ambulance are recorded
- $\rightarrow$  The following donors are recognised:
  - Permanently mounted dispensers: e.g. wall dispensers
  - Mobile dispensers: e.g. pump bottles on work surfaces
  - Kit pocket bottles
- $\rightarrow$  The following donors are not counted:
  - Dispensers in the corridor, in toilets or outside the consultation / treatment room

#### Determination of the target value

- Treatment room: 1 dispenser per consultation / treatment room
- Dialysis area: 1 donor per dialysis station
- Ambulance/medical transport vehicle: 1 dispenser per vehicle
- Air rescue: 1 dispenser per treatment station in the aircraft

If all employees in your outpatient facility use lab coat bottles, you have fulfilled 100% of the target value

#### 4.3.2 Further training

Please indicate whether you have carried out further training on the topic of hand disinfection in the calendar year reported and whether the indications according to the WHO model were the subject of this further training. In addition, you are asked whether you hang up or use information material (posters) of the "Clean Hands Campaign" in your facility (stickers). Finally, you will be asked whether you have implemented a QM system in your organisation.

## **5.** Specifications for the documentation

#### 5.1 Electronic recording of HAND-KISS-AMBU data

The NRC provides KISS participants with an electronic system for recording surveillance data. The webKess programme is used for this purpose and can be accessed at the following Internet address: www.webkess.de.

No webKess registration is necessary for HAND-KISS-AMBU. When you register your organisation, you will receive a participant number that you can use to log in to webKess HAND-KISS-AMBU again and again. The required data is entered into the form once a year.

There is currently no individual evaluation of the data entered over time. If you select one of the previous years in the input interface, the values that you have already entered will be displayed.

#### 5.2 Data acquisition for HAND-KISS-AMBU in webKess

#### Specifications for documentation in HAND-KISS-AMBU

#### 5.2.1 Master data

Participant	Assigned by webKess. This number will be sent to you by email once you have	
number	registered for the first time	
number		
Contact person	This data is entered and saved by the participant.	
(title, salutation,	When data is re-entered via the subscriber number, the master data is already	
first name,	when data is re-entered via the subscriber number, the master data is already	
surname)	saved but can be changed at any time.	
Nome of the		
Name of the		
organisation		
Street, house		
number		
Postcode city		
Posicoue, city,		
email address		
Telephone		
Type of facility	This is defined by the organisation.	
	- Internal medicine, surgery, other conservative disciplines, other surgical	
	disciplines, paediatrics, interdisciplinany	
	disciplines, paediatrics, interdisciplinary	
	(for categorisation see list	
	http://www.nrz-hygiene.de/fileadmin/nrz/module/hand/HAND-	
	KISS Liste Fachabteilungen 18 03 15.pdf)	
	ightarrow divided into invasive and non-invasive	
	- GP practice (always non-invasive)	
	- Outpatient home nursing care (not applicable)	
	- Outpatient dialysis (always invasive)	

	<ul> <li>Outpatient surgery centres (always invasive)</li> </ul>		
	<ul> <li>Rescue service / ambulance service (not applicable)</li> </ul>		
	Definition of "invasive":		
	If the following procedures are carried out in your practice, which require the following measures analogous to the inpatient area:		
	<ol> <li>The patient is in a designated place (examination or treatment couch, bed, etc.) for a defined period of time.</li> </ol>		
	<ol> <li>For the duration of the required treatment/intervention, only materials and equipment specific to this patient are used, which must subsequently be discarded or reprocessed.</li> </ol>		
	<ol> <li>Standard hygiene measures and/or barrier measures (e.g. sterile drapes, sterile gloves, etc.) must be used for the required treatment/procedure.</li> </ol>		
	<ol> <li>Following the required treatment/intervention, all surfaces must be disinfected and all equipment used must be disinfected/sterilised.</li> </ol>		
	For example: dialysis, endoscopies of all kinds, joint punctures, invasive radiological methods, insertion/use of central venous catheters, PDA, etc.		
	<ul> <li>The performance of e.g. blood sampling, i.m. or s.c. injections, dressing changes are not included in this definition list. Injections and dressing changes are not categorised as invasive measures in this definition list.</li> <li>Definition "Not applicable":</li> <li>Due to the different activity profiles in outpatient home nursing as well as in ambulance services and patient transport, it is not possible to clearly categorise these specialist areas into invasive and non-invasive.</li> </ul>		
	Definition interdisciplinary:		
	If two or more doctors of different specialities work in your facility, e.g. medical care centres.		

D'	
Dispenser equipment	The consultation/treatment rooms, patient rooms (e.g. with dialysis
	stations), laboratories, ambulances and helicopters in which patients
Actual value	receive direct medical care are counted according to the instructions
	in the data collection form. The total number of dispensers present in
	the corresponding rooms is indicated.
Dispenser equipment	There must be one HDM dispenser in each of these rooms. In dialysis
TARGET value	practices, there should be one dispenser per dialysis station, in
	recovery rooms one dispenser per patient bed, one dispenser per
	ambulance or patient transport vehicle and helicopter. There should
	be one dispenser per treatment station in air rescue aircraft. Enter
	the calculated target value.
Kit pocket bottles	Indicate with a yes or no whether you provide all employees with
	hand sanitiser in lab coat bottles.
Further training	Please indicate with yes or no whether you have carried out further

# 5.2.2 Documentation of the annual data

	training on hand disinfection in the selected calendar year on the basis of the information provided by "Aktion Saubere Hände".
Further training	If you have carried out further training, select yes or no to indicate whether the WHO model for the indications was a component of this
WHO model	training.
QM system	Please indicate with yes or no whether there is an up-to-date QM system in your practice
Information material	Select yes or no to whether you hang up or use information material
	(posters) from the "Clean Hands Campaign" in your organisation (stickers)
Year of recording	Select the calendar year (e.g. 2015) for which the information is provided
Annual consumption of hand	Specify the HDM consumption of the year in the outpatient facility in
sanitiser in ml	litres. If several different HDMs are used in your facility, calculate the
	sum of all preparations.
Number of treatment cases /	The number of treatment cases or assignments must be entered .
assignments / of the year	here.
	Established practices = treatment cases
	The treatment case is defined in § 21 Para. 1 BMV-Ä or § 25 Para. 1
	EKV as treatment of the same insured person by the same doctor's
	practice in a calendar quarter at the expense of the same health insurance fund.
	Rescue service/ambulance transport = number of deployments
	Outpatient dialysis = number of dialysis treatments
	Outpatient home nursing care = number of assignments
	One patient treated per day = one operation

### 6. Literature

- 1. Eckmanns, T., et al,*Compliance of hand disinfection in intensive care units*. Dtsch med Wschr, 2001. **126**: p. 745-49.
- 2. Eckmanns, T., et al,*Compliance with antiseptic hand rub use in intensive care units: The Hawthorne effect.* Infect Control Hosp Epidemiol, 2006. **27**: p. 931-34.
- 3. Eckmanns, T., et al, *Hand rub consumption and hand hygiene compliance are not indicators of pathogen transmission in intensive care units.* J Hosp Infect, 2006. **63**: p. 406-11.

## 6. Imprint

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