Nationales Referenzzentrum
für Surveillance von
nosokomialen Infektionen

Krankenhaus-Infektions-
Surveillance-System

HAND KISS

Protocol

Surveillance of hand disinfection compliance

Hand sanitizer consumption, Compliance monitoring, Dispenser equipment

HAND-KISS_S HAND-KISS_F

at the

Institute of Hygiene and Environmental Medicine
Charité - Universitätsmedizin Berlin

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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.

Contact address:

National Reference Centre (NRC) for Surveillance of Nosocomial Infections
(Director: Prof. Dr. med. Christine Geffers)
at the
Institute of Hygiene and Environmental Medicine
Charité - Universitätsmedizin Berlin

Hindenburgdamm 27
12203 Berlin
Tel.: +49 30/450 577 612
Fax: +49 30/450 7 577 920

E-Mail: nrz@charite.de
Homepage: https://www.nrz-hygiene.de /

Table of contents:

List of tables

List of illustrations

1. Introduction

Regular, thorough hand disinfection (HD) is undisputedly one of the most important measures for preventing nosocomial infections and avoiding pathogen transmission [1, 2]. However, low compliance with hand disinfection is frequently reported [3].

An increase in compliance through behavioural change can be supported by a concept of learning at an individual and organisational level. A basic condition for this is the use of feedback mechanisms that support cognitive engagement with the topic. One way of obtaining such information is to carry out direct compliance observations (CB) in relation to the indications for hand disinfection. Such observations are time-consuming. The consumption of hand sanitizer (HDM), on the other hand, is a surrogate parameter for the frequency of hand disinfection that is relatively easy to collect and quickly accessible [4].

Table 1 provides an overview of the two methods offered for quantifying hand disinfection.

Table 1Methods for quantifying hand disinfection compliance

	Directly: **Monitoring the compliance of the HD**	**Indirectly:** **Hand sanitizer 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 consumption of alcohol-based hand sanitizer in ml per patient day
Realisation	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	• Observation effect (Hawthorne effect) during observation • Random effects possible with short observation times / few patients / employees	• Sensitivity good, but specificity limited • Overestimates possible if HDMs are also used for other purposes • Depending on the quality of consumption data collection
Application	Well suited for a precise, intensive examination of hand disinfection behaviour, enables targeted intervention through specific behaviour analysis	Well suited for assessing the overall situation and development over time

In addition, the availability of hand sanitizer at the point of care is an essential prerequisite for high hand disinfection compliance [5, 6]. This "point of care" is determined by three elements: the encounter of the patient with the medical staff caring for or treating them in one place. Here it is necessary for the hand sanitizer to be easily accessible and as close as possible - at arm's length. It should be accessible without having to leave the patient area. To make this possible, appropriate equipment with hand sanitizer dispensers is necessary.

1.1 HAND-KISS structure

The Hand-KISS surveillance module can be found in the VARIA section of webKess. HAND-KISS is provided by the National Reference Centre for Surveillance of Nosocomial Infections (NRC). VARIA contains several surveillance modules with identical structural data. This allows participants to create cost centres, wards or functional areas once in order to use them for various activities.

By participating in HAND-KISS, the participating institutions undertake to enter data on hand disinfectant consumption (HDMV) in webKess. Entering data on compliance monitoring and the provision of hand sanitizer dispensers is voluntary and optional.

Due to its different structure, HAND-KISS distinguishes between four different modules. Up to three measurement methods are available within each module. These map different quality parameters:
Outcome quality by determining the HDMV, process quality by determining the CB, structural quality by determining the donor equipment.

Table 2 shows all HAND-KISS modules and the measurement method options.

Table 2: Domain-specific HAND-KISS modules

Name	Range	Measuring method
HAND-KISS_S	Hospital ward	Measurement of hand sanitizer consumption (mandatory) Compliance monitoring (voluntary) Recording of donor equipment (voluntary)
HAND-KISS_F	Functional area in the hospital	Measurement of hand sanitizer consumption (mandatory) Compliance monitoring (voluntary) Recording of donor equipment (voluntary)
HAND-KISS_AMBU	Outpatient medicine	Measurement of hand sanitizer consumption (mandatory) Recording of donor equipment (voluntary)
HAND-KISS_P	Retirement and nursing homes	Measurement of hand sanitizer consumption (mandatory)

This protocol describes the HAND-KISS_S and HAND-KISS_F areas. Separate protocols are available for the HAND-KISS_AMBU and HAND-KISS_P modules.

2. Objectives of the surveillance protocol

The primary purpose of this surveillance protocol is to provide the necessary definitions and specifications for the hospitals participating in KISS. This standardises data collection and data analysis.
In addition, other interested hospitals can also collect data according to these definitions and specifications

and analyse it in the same way. This also gives these hospitals the opportunity to orientate themselves on the reference data.
This surveillance protocol is intended for interested hospital hygienists and hygiene specialists as well as clinical staff who wish to carry out surveillance using the KISS method. Any comments on further necessary specifications and explanations are expressly welcome.

3. Requirements for hospital participation and obligations of the NRC

Participating clinics must fulfil the following requirements:

- Approval of the responsible persons for the wards and areas to participate in the project
- Completion of a KISS introductory course at the NRC
- Strict application of the mandatory provisions of the surveillance protocol
- Data collection and transmission via a data management system provided by the NRC (VARIA in webKess)
- Regular entry of surveillance data in webKess
- Willingness to communicate descriptive parameters (structural and process parameters of the ward and areas and of the hospital, e.g. number of beds, patient days)
- Willingness to carry out internal quality assurance measures
- Willingness to participate in validation measures by the NRC

The NRC assures the participants:

- to advise and support them professionally in the implementation of surveillance
- to enable participants to create a data analysis
- advise them on the implementation of the surveillance results for quality management
- to handle the data of the individual wards and functional areas with strict confidentiality

4. Specification for the documentation of structural data for HAND-KISS

Within HAND-KISS, a distinction is made between bed-managing departments (wards) (HAND-KISS_S) and functional areas (HAND-KISS_F) in hospitals. The underlying structural features are described in the following chapters

4.1 Electronic recording

The NRC provides KISS participants with an electronic system for recording survey data. Data is entered via the webKess system, which can be accessed at the following Internet address: www.webkess.de.
WebKess makes it possible to record the monitoring data for wards and functional areas. In addition, every KISS participant can create ward or area-related analyses independently at any time.
In order to enter data in webKess, the registration of a user (natural person) and the registration of the clinic (legal entity) is required. Detailed information about the registration procedure can be found on the following website: www.webkess.de.

4.2 Master data

This data forms the basis for the structure of a hospital. They must be entered once when registering the hospital. All details are listed in Table 3.

Table 3: Master data

Hospital name	
Supply level	• Basic supply • Standard care • Specialised care • Specialist hospital • Maximum care - University Hospital • Maximum care - Other • other
Carrier	• ecclesiastical • Public • private • non-profit • other
Number of KRH beds	
Street / house number, Postcode, town, country	
Hospital abbreviation	The hospital code is assigned by the NRC after registration of the clinic for HAND-KISS.

4.3 Structural data for areas with beds

Bed-keeping areas are all wards that have patient beds. Patients remain in their beds overnight for care and treatment. The day of admission is the first patient day; the day of discharge is no longer counted.
The following data must be documented for each ward: OU name (organisational unit), ward type, ward type, KISS abbreviation (if available, if the ward also participates in another KISS module, e.g. ITS-KISS).

Definition of Intermediate Care

The distinction between an intensive care unit and an intermediate care unit (IMC) is based on the possibility of ventilation. Patients requiring care and monitoring who do not require special intensive medical care (such as ventilation or extracorporeal therapies) but do require further intensive monitoring are treated and cared for in an IMC. A more detailed description is provided by the Federal Association of German Anaesthetists [7].

4.4 Structural data functional areas

Functional areas are areas in which a patient stays exclusively for a diagnostic or therapeutic intervention. Once this has been completed, the patient leaves the area again.
The following data must be documented in relation to the functional area:
OU name, station type.

4.5 Special case of rehabilitation clinics

Rehabilitation clinics are divided into two categories: Rehabilitation clinic with early rehabilitation and rehabilitation clinic [8]. The term early rehabilitation (phase B) has the following definition:

"Early rehabilitation is rehabilitation during acute treatment after the immediate threat to life has been eliminated and vegetative functions have been stabilised with resilient cardiovascular functions, with correspondingly intensive medical and nursing care".

Rehabilitation clinics with early rehabilitation choose the same specialities as hospitals as the type of ward. Rehabilitation clinics without early rehabilitation differ significantly from hospitals in terms of their structure. Patient care/patient contacts mainly take place in centralised areas (treatment rooms, examination rooms, physiotherapy rooms). In this case, ward-based recording does not make sense, which is why the data is recorded on a hospital-wide basis. No differentiation is made according to speciality; in the input interface in webKess, the ward type "Rehab" is selected and only one organisational unit is created for the entire hospital.

4.5 Data on the organisational unit (OU) ward and functional area

The data must be defined as an organisational unit each time a new ward/functional area is created. Table 4 describes all the necessary data.

Table 4: Data collection organisational unit

OU name	Internal name of the ward
Station type	• Normal ward • Intensive care unit • Intermediate care/wake-up ward
Station type	• Burn victims • Surgical • geriatric • gynaecological • haematological/oncological • interdisciplinary • internistic • cardiosurgical • cardiological • neonatological • neurosurgical • neurological • paediatric • Rehab • traumatological • Other conservative subjects • Other surgical subjects
	If these are specialist wards, they are assigned to the corresponding speciality. Wards that cannot be assigned to an individual specialist discipline (e.g. anaesthesiology-led ITS) are assigned to the "interdisciplinary" category.
KISS station	If the ward already has a KISS ward abbreviation due to participation in another KISS module (ITS-KISS, DEVICE-KISS)

OU name of the functional area	Internal name of the functional area
Type of functional area	• Dialysis • Endoscopy • Radiology • Rescue centre • Polyclinic - surgical subjects • Polyclinic - conservative subjects • Polyclinic - Paediatrics • Delivery room • Anaesthesia/recovery room • Other

Organisational units can be deactivated in webKess. This can be helpful, for example, if an OU has been closed or important structures, such as the ward type or ward type, have changed.

5. Hand sanitizer consumption

HAND-KISS is carried out at the level of the individual wards and functional areas (with the exception of rehabilitation clinics). Accordingly, the participating medical facilities transmit their data on the annual consumption of HDM per ward and functional area to the NRC. Together with the information on the denominators required to calculate the consumption data (patient days or treatment cases), this allows the average HDMV per ward and functional area to be calculated with the measured value ml/patient day, thus enabling conclusions to be drawn on the frequency of HD performed.

The main function of this measuring instrument is to provide figures for feedback to the individual ward or functional area.

The data from all wards and functional areas participating in HAND-KISS are analysed annually as a whole and published as reference data.
The HDMV is stratified according to the type of functional area or ward (intensive care unit/intermediate care unit/peripheral ward) and the medical speciality. In this way, the main underlying diseases and treatment intensity of the patients are taken into account. In this way, significant predisposing and exposure risk factors of the patients, and thus their influence on the frequency of necessary HD, are taken into account. This differentiation can reveal differences in the in-house evaluation and the reference data over the years, between the ward types and specialities, and provide indications that can then be examined in more detail.

In addition, the in-house data and the reference data for the intensive care unit are analysed stratified according to the application rate of invasive ventilation (ventilation rate), provided the intensive care unit participates in ITS-KISS. This allows differences in the treatment intensity of patients in an intensive care unit to be taken into account [9].

Participation of psychiatric wards in HAND-KISS_S is not recommended due to the problematic storage and accessibility of alcohol-based hand disinfectants and the infrequent opportunities for hand disinfection.

However, if it is a geriatric psychiatric ward that is associated with many patient contacts, this ward can be entered as an organisational unit in HAND-KISS_S with the ward type "geriatric psychiatry".

At the present time, it is not yet possible to define specific target values for the necessary HDMV.

It is recommended to use hand disinfectants that are authorised by the VAH (Verbund für Angewandte Hygiene e.V.) and the Robert Koch Institute. The most important active ingredients are alcohols - primarily n-propanol, ethanol and isopropanol [10]. Since 2016, newly authorised disinfectants with the purpose of hygienic hand disinfection can only be authorised as biocides. The authority responsible for this is the Federal Institute for Occupational Safety and Health (BAuA). Products with an existing medicinal product authorisation remain unaffected by this, as Section 2 No. 2 of the Biocidal Products Regulation (EU) No. 528/2012 excludes medicinal products from being affected by the regulation. This means that disinfectants that already have a medicinal product authorisation can still be marketed under medicinal product legislation [11].

HDMV surveillance is carried out retrospectively using consumption data from the pharmacy, purchasing or controlling for the previous calendar year (data year).
Data must be entered by 31 March for the previous year. No NRC certificate can be obtained if data is entered after 31 March. However, it is technically possible to enter data throughout the year.

The quantities are recorded according to the delivery date on the ward or functional area. If different HDMs are used, totalling must be carried out here.
This means that there may be fluctuations due to storage effects. For this reason, recording is only based on annual intervals and not on shorter observation periods (irrespective of this definition, shorter recording periods, e.g. every six months, can also be selected and analysed internally for internal evaluations).

The following ward-specific selection was possible once for the data year 2020: "Due to the coronavirus pandemic, it was not possible to determine the exact consumption of hand sanitizer for 2020."

It is possible to participate in HAND-KISS_S or _F with individual wards or functional areas of a hospital, but the aim should be to fully record the HDMV for all wards and functional areas of a hospital.

If all wards or functional areas of the hospital participate in HAND-KISS-S, enter "Yes" in webKess for the question "Participation of all wards of the hospital in HAND-KISS". If only individual wards or functional areas of the hospital are participating, enter "No".

5.1 HAND-KISS_S

Data entry

- Number of patient days in the calendar year from the midnight statistics
- Sum of the total consumption in ml (= litres x 1,000) of all HDMs used on the ward in the calendar year.

Note on recording patient days on a labour ward/obstetric ward: here, too, the days of patients who are on the ward overnight are counted. Patients are the mothers and the newborns (as medical and nursing measures are carried out on both groups of people), but not the relatives who are also on the ward as part of rooming-in. Accompanying persons are not recorded in HAND-KISS.

Data analysis

The following rate is calculated per station for analysing the data:

$$\text{HDMV per patient day} = \frac{\text{HDM consumption in ml per calendar year}}{\text{Patient days per calendar year}}$$

The calculated rate indicates the consumption of HDM in ml / per patient day.

As an average of approx. 3 ml of HDM (often 1.5 - 2 ml) is required per hand disinfection procedure, the number of HDMs carried out per patient day can be calculated from the amount of HDM used per patient day:

$$\text{Number of HD performed per patient day} = \frac{\text{HDM consumption in ml per patient day}}{3}$$

Comparison

HAND-KISS calculates annually stratified reference data according to the station type and the type of station.

From a number of 20 participating intensive care units, 20 IMC or 50 normal wards, a speciality that was previously assigned to the superordinate group "other surgical disciplines" or "other conservative disciplines" is evaluated separately.

In the in-house evaluation, the values from the reference data are also given, matching the ward type and specialisation.

In addition, the in-house data and the reference data for the intensive care unit are analysed stratified according to the ventilation application rate (ventilation rate) if the intensive care unit participates in ITS-KISS. This allows differences in the treatment intensity of patients to be taken into account.

5.2 HAND-KISS_F

Data input

- Number of treatment cases within the functional area (e.g. number of patients with endoscopic examinations performed per day or the number of patients with dialysis treatment per day or the number of treatment cases in the emergency department) in the calendar year
- Sum of the total consumption in ml (= litres x 1,000) of all HDMs used in the functional area in the calendar year

If a patient is examined several times in one day (e.g. several x-rays), he is still only counted once as a treatment case in one day.

In principle, the inclusion of the operating theatre area is not planned, as it will only rarely be possible in this area to separately determine the consumption of hand disinfectant exclusively for hygienic hand disinfection and to separate it from the consumption for surgical hand disinfection.

Data evaluation

The following rate is calculated for each functional area when analysing the data:

$$\text{HDMV per treatment case} = \frac{\text{HDM consumption in ml per calendar year}}{\text{Number of treatment cases in the calendar year}}$$

The calculated rate indicates the consumption of HDM in ml / per treatment case.
As an average of 3ml of HDM (often 1.5 - 2ml) is required per hand disinfection procedure, the number of HDMs carried out per treatment case can be calculated from the amount of HDM used per functional area:

$$\text{Number of HD performed per treatment case} = \frac{\text{HDM consumption in ml per treatment case}}{3}$$

Comparison
HAND-KISS calculates annual reference data stratified by type of functional area in the hospital.
In the in-house evaluation, the values from the reference data matching the specialisation are also specified.

5.3 Dealing with the HAND-KISS_S and _F results

The results on the consumption of hand disinfectant per patient day or treatment case serve to improve hand disinfection compliance and should definitely be presented and jointly analysed on the relevant ward or in the relevant functional area. They should also be communicated to the medical and nursing hospital management.

All data collection details for HAND-KISS_ and HAND-KISS_F are summarised in Table 5.

Table 5: Data acquisition HDMV

Participation of all hospital wards in HAND-KISS	If all wards or functional areas of the hospital participate in HAND-KISS-S, enter "Yes" in webKess for the question "Participation of all wards of the hospital in HAND-KISS". If only individual wards or functional areas of the hospital are participating, enter "No".
For the data year	Select the calendar year for which the information is provided (data year).
Annual consumption of hand sanitizer in ml	Specification of the HDM consumption of the year of the ward / functional area in millilitres (litres x 1,000). If several different HDMs are used on a ward, a total must be calculated here.
Patient days of the ward of the year	In general, hospital administrations count patient days as follows: The day of admission is the first patient day; the day of discharge is no longer counted.
Number of treatment cases in the year	The number of treatment cases in the functional area must be entered here. For example, the number of dialysis treatments per year for the functional area, or the number of cases per year in a polyclinic. If a patient is examined several times in one day (e.g. several x-rays), he is still only counted once as a treatment case in one day.

6. Compliance monitoring

The direct observation of medical staff with regard to their hand disinfection carried out according to indications during their daily work is currently considered the gold standard for determining hand disinfection behaviour / compliance [6]. Observation provides a picture of the current situation and gives the opportunity to analyse behaviour and identify errors.
The results allow conclusions to be drawn about the extent to which findings from training courses are implemented, or which knowledge gaps or difficulties exist in implementation. In this way, suitable starting points for improving hand disinfection can be determined at the level of the individual wards and functional areas.

The observation is based on the "5 indications for hygienic hand disinfection" model developed by the WHO [12].

The data on the number of indications counted and the number of hand disinfections carried out accordingly are transmitted to the KISS. Based on this data, hand disinfection compliance is calculated as the percentage of hand disinfections actually carried out in relation to all indications for hand disinfection. An in-house data analysis can be created directly after data entry has been completed. The aim should be to achieve 100% compliance, which would mean that hand disinfection was carried out for all indications. In particular, this should be aimed for in relation to the indication "Before aseptic activities", as the patient is at particular risk of infection here.

Through prospective recording and the possibility of prompt feedback on the compliance recorded, it is possible to specifically address potential for improvement and increase hand disinfection compliance through targeted intervention [13].
Annual reference data, which is derived from the total number of all data transmitted to the KISS, is made available for comparison with our own data. These are stratified according to ward type, medical speciality and the occupational group observed.

The following pages describe the procedure for compliance monitoring and data entry. As this demanding activity is influenced by many factors, good preparation is highly recommended.

6.1 Preparation

The following points should always be taken into account when monitoring compliance.

- The observer should have experience in patient care.
- Open, visible observation should be used to obtain a picture of hand disinfection behaviour. Even if the presence of the observer influences behaviour (so-called "Hawthorne effect", increases compliance by up to 10-25%), overt observation is preferable to covert observation [14, 15].
- Studies have shown that the agreement in the assessment of observed compliance by different observers can be relatively low (interrater reliability). If several observers are used, all observers should therefore be intensively trained in advance in order to achieve the highest possible level of agreement. Agreement should be checked in a joint real-life observation situation.

Recommended times for the observation phases

- Before the start of an intervention phase as initial data to obtain an overview of the initial situation.
- Promptly after implementation/realisation of intervention measures to measure effectiveness.
- Then once a year as a long-term measure or as an instrument in outbreak situations.

6.2 Realisation

- The person making the observation should introduce themselves to the staff and patients and explain the reason for their presence (the planned compliance observation could possibly be announced in advance as part of a ward meeting/team meeting).
- It is important to observe as many different employees as possible. Limiting the observation to a few employees means that the results are not representative of the entire ward or functional area, as the differences in hand disinfection compliance between different employees are considerable.
- If the situation allows, several employees can be observed at the same time.
- The person observing should choose a location from which a good view is possible but which does not disrupt operations. Under no circumstances should this interfere with patient care.
- Direct feedback on the observed compliance should only be given if this is requested by the employees. In principle, the evaluation of an entire observation period is analysed jointly and anonymously with the entire divisional team.
- The documentation of compliance is always anonymous and is not used for employee appraisals.

6.3 Indications / hand disinfection opportunity

The WHO model serves as the basis for determining the indications:

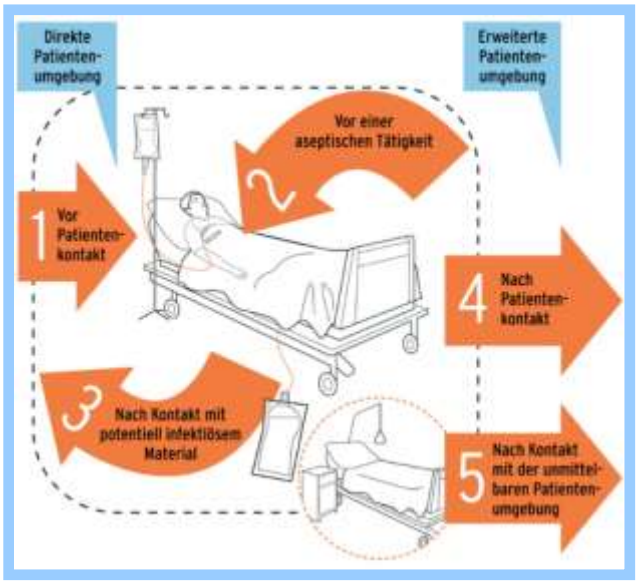

Illustration 1WHO model of the 5 indications for hand disinfection

© based on "My 5 Moments of Hand Hygiene", WHO 2009

If hand disinfection is carried out immediately in relation to an indication, this is counted as hand disinfection carried out in accordance with the indication for determining compliance. If the expected hand disinfection does not take place, this is also documented and categorised as a failure to disinfect hands.

- There are situations in which hand disinfection was observed without a corresponding indication. These are not counted towards compliance as they do not correspond to an indication and therefore do not contribute to preventing the transmission of pathogens.

- In complex work situations, it is possible that two indications arise but only one hand disinfection is necessary if the course of action is not interrupted. For example, after leaving a patient and continuing directly with the next patient = "After patient contact" - hand disinfection - "Before patient contact". In this case, both indications are categorised as "performed" with hand disinfection.

- Whether the indication-related disinfection of gloves is counted as compliant depends on whether this is generally permitted in the hospital.

- If an action fulfils two indications at the same time, the more invasive one should be selected, see Figure 2

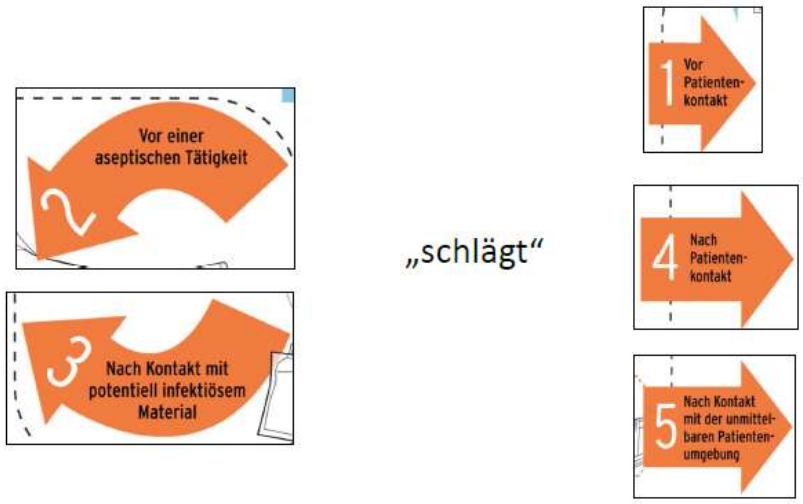

Figure 2: Recommended choice in the case of several applicable indications for one action

Stratification of indication 2 "Before aseptic activities"

If the indication "Before aseptic activities" is selected, it is possible to further differentiate the aseptic activity and assign it to one of six fields of activity.

This differentiation is optional and serves to identify existing "knowledge gaps" in specific fields of activity. If the observer does not differentiate the aseptic indication, "no information" is selected in the documentation.

Table 6 describes the fields of activity in more detail using examples:

Table 6Fields of activity for the indication "before aseptic activities"

Designation of the fields of activity	**Ventilation**	**i.v. medication**	**Manipulation I.V. and I.A. accesses**	**Dressing change / Manipul. Drains**	**Punctures / Create access points**	**Contact us Mucous membranes**
Examples of actions/measures	Inhalation Suction Changing ventilation tubes Changing the tracheostomy tube Intubation Bronchoscopy	Preparation of: - Infusions - i.v. medication - Antibiotics - Cytostatics - Blood products	Application of intravenous medication and infusions BGA, ZVD Arterial blood pressure measurement Dialysis (haemofiltration) ECMO	Wounds CVC, PVC, arterial, port, Sheldon Drains (wound, thorax, suprapub. BK, PEG tube) Tracheostomy tube	Lumbar, ascitic, pleural, joint and ventricular punctures Suprapubic bladder puncture CVC, PVC, arterial, port, s.c., i.m., i.v. injections	Eye care Invasive oral and nasal care Laying, manipulation, Care HWK Placement, care of feeding tube

6.3.1 Differentiation of information in the event of hand disinfection not being carried out

It is known that the wearing of gloves and the poor availability of hand sanitizer at the point of care in particular can have a negative impact on compliance. HAND-KISS therefore offers the option of documenting the presence/absence of these risk factors in the event of a failure to disinfect hands.

Documentation of the use of gloves
If no hand disinfection was observed during an action despite an existing indication for hand disinfection, it can also be documented whether gloves were worn during the action.

The documentation on the use of gloves is based on the consideration that wearing gloves could lead to the necessary hand disinfection not being carried out.

Documentation relating to the availability and accessibility of hand sanitizer

If no hand disinfection was observed during an action despite an existing indication for hand disinfection, it can also be documented whether hand disinfectant was readily available in the immediate vicinity of the action. In this way, any deficits can be recognised directly and rectified in a targeted manner.

6.4 Data entry of compliance monitoring data

Data can be entered continuously throughout the year, there is no fixed point in time.
An observation period on a ward/functional area may not last longer than 6 weeks. This ensures that the team there can establish a link between their behaviour during a specific, manageable period of time.

Observation sheet
The documentation of the observed compliance is recorded using a form and then transferred to webKess. Alternatively, the data can also be entered directly into the input interface in webKess. The advantage of direct recording via tablet or smartphone is that the observations can be entered directly into the system.

The observation sheet can be downloaded from the following link:
https://www.aktion-sauberehaende.de/krankenhauser/messmethoden/beobachtung-der-compliance

Händedesinfektion – Compliance Beobachtungsbogen KISS

Krankenhaus KISS-Kürzel: ________ Name Station / Funktionsbereich: ________________ Datum (TT / MM / JJ): __ __ / __ __ / __ __

Berufsgruppe	Indikation	Zuordnung aseptische Tätigkeit
☐ Arzt/Ärztin	☐ vor Patk	☐ Beatmung
☐ Pflege	☐ vor asept	☐ i.v. Medikamente zubereiten
☐ Andere	☐ nach inf	☐ Manip. i.v. / i.a. Zugänge
	☐ nach Patk	☐ Verbandsw. / Manip. Drainage
	☐ nach Um	☐ Punktionen / Zugänge legen
		☐ Kontakt Schleimhäute
		☐ keine Angabe
Händedesinfektion ☐ Ja ☐ Nein		Wenn keine Händedesinfektion durchgeführt wurde: ☐ Handschuhe statt HD ☐ HD-Mittel nicht unmittelbar verfügbar

Berufsgruppe	Indikation	Zuordnung aseptische Tätigkeit
☐ Arzt/Ärztin	☐ vor Patk	☐ Beatmung
☐ Pflege	☐ vor asept	☐ i.v. Medikamente zubereiten
☐ Andere	☐ nach inf	☐ Manip. i.v. / i.a. Zugänge
	☐ nach Patk	☐ Verbandsw. / Manip. Drainage
	☐ nach Um	☐ Punktionen / Zugänge legen
		☐ Kontakt Schleimhäute
		☐ keine Angabe
Händedesinfektion ☐ Ja ☐ Nein		Wenn keine Händedesinfektion durchgeführt wurde: ☐ Handschuhe statt HD ☐ HD-Mittel nicht unmittelbar verfügbar

Berufsgruppe	Indikation	Zuordnung aseptische Tätigkeit
☐ Arzt/Ärztin	☐ vor Patk	☐ Beatmung
☐ Pflege	☐ vor asept	☐ i.v. Medikamente zubereiten
☐ Andere	☐ nach inf	☐ Manip. i.v. / i.a. Zugänge
	☐ nach Patk	☐ Verbandsw. / Manip. Drainage
	☐ nach Um	☐ Punktionen / Zugänge legen
		☐ Kontakt Schleimhäute
		☐ keine Angabe
Händedesinfektion ☐ Ja ☐ Nein		Wenn keine Händedesinfektion durchgeführt wurde: ☐ Handschuhe statt HD ☐ HD-Mittel nicht unmittelbar verfügbar

Berufsgruppe	Indikation	Zuordnung aseptische Tätigkeit
☐ Arzt/Ärztin	☐ vor Patk	☐ Beatmung
☐ Pflege	☐ vor asept	☐ i.v. Medikamente zubereiten
☐ Andere	☐ nach inf	☐ Manip. i.v. / i.a. Zugänge
	☐ nach Patk	☐ Verbandsw. / Manip. Drainage
	☐ nach Um	☐ Punktionen / Zugänge legen
		☐ Kontakt Schleimhäute
		☐ keine Angabe
Händedesinfektion ☐ Ja ☐ Nein		Wenn keine Händedesinfektion durchgeführt wurde: ☐ Handschuhe statt HD ☐ HD-Mittel nicht unmittelbar verfügbar

Berufsgruppe	Indikation	Zuordnung aseptische Tätigkeit
☐ Arzt/Ärztin	☐ vor Patk	☐ Beatmung
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☐ Andere	☐ nach inf	☐ Manip. i.v. / i.a. Zugänge
	☐ nach Patk	☐ Verbandsw. / Manip. Drainage
	☐ nach Um	☐ Punktionen / Zugänge legen
		☐ Kontakt Schleimhäute
		☐ keine Angabe
Händedesinfektion ☐ Ja ☐ Nein		Wenn keine Händedesinfektion durchgeführt wurde: ☐ Handschuhe statt HD ☐ HD-Mittel nicht unmittelbar verfügbar

Durchgeführte Händedesinfektionen ohne Indikation
☐ ☐

Beobachtungen, Hinweise für Feedback

Illustration 3Hand disinfection - compliance observation sheet

The observation form also allows the number of non-indicated hand disinfections to be documented if required and includes a field for individual comments. However, these two items of information are not sent to KISS; they are used for internal evaluation.

Table 7 lists all the information relating to compliance monitoring:

Table 7Data collection Compliance monitoring

Start date and end date	Date of the first day of observation and date of the last day of observation = observation period An observation period must not last longer than 6 weeks
Professional group	A→ Doctor (incl. medical students) PF→ Nursing staff (incl. trainees) AND→ Physiotherapists, radiographers, interns, Federal Voluntary Service, FSJ, transport, etc.
Indication	1. Before patient contact 2. Before aseptic activities 3. After contact with potentially infectious materials 4. After patient contact 5. After contact with the immediate patient environment It is recommended to observe 200 indications per ward or functional area for an observation period. For an evaluation, however, there must be at least 150 indications in total per ward or functional area, and at least 20 indications per individual indication
Subgroups for indication "Before aseptic activities"	If the indication "Before aseptic activities" is selected when entering data in webKess, a new window opens with specific activity fields relating to this indication. 1. Ventilation 2. prepare i.v. medication 3. Manipulation i.v. / i.a. accesses 4. Changing dressings / manipulation of drainages 5. Punctures / accesses 6. Contact mucous membranes 7. Not specified The differentiated aseptic fields of activity can only be documented if this was activated at the beginning when a new data record was created.
Action	Yes = hand disinfection is carried out No = Hand disinfection not carried out
Gloves for action "no"	If you click on "No" for Action (i.e. no hand disinfection was carried out despite the indication), a further selection option "Gloves" opens. The following statements are associated with this: Yes = gloves were worn, No = no gloves were worn. The use of gloves can only be documented if this was activated at the beginning when a new data record was created.

Availability of hand sanitizer (HD sanitizer) for action "no"	If "no" was selected for the action (i.e. no hand disinfection was carried out despite the indication), a further selection option "Availability of HD agent" opens. The following statements are associated with this: Yes = a disinfectant dispenser (permanently installed or mobile) or a lab coat bottle was immediately available (at the point of care), No = hand disinfectant was not easily accessible. The availability of HD funds can only be documented if this was activated at the beginning when a new data record was created.

6.5 Data analysis en and results

In-house evaluation of compliance monitoring

Compliance is calculated from the number of indications and the number of hand disinfections observed:

$$\text{Compliance in \%} = \frac{\text{Number of hand disinfections} \times 100}{\text{Number of indications}}$$

In the evaluation of an observation period, the overall compliance is specified, as well as the compliance stratified by indication, for the indication "Before aseptic activities" additionally by field of activity. The evaluation also includes the evaluation by occupational group.

The evaluation of the use of gloves is also given in %. The value indicates the percentage of cases where hand disinfection was not carried out in which gloves were worn.

The evaluation of the availability of hand sanitizer is also given in %. The value is interpreted as follows: in x% of cases where hand disinfection was not carried out, no hand sanitizer was immediately available.

Optionally, graphics including a desired target value can be displayed in the analysis. A corresponding target value is entered when the analysis is created. In a graphical representation of the results, this target value is presented as a red line.

The observation periods are listed chronologically.

Reference data for compliance monitoring

On the NRC homepage and in webKess under KISS-Intern you will find the overall evaluation of all observations carried out by all participating hospitals per year. This reference data can support the interpretation of in-house data.
In the in-house evaluation, the values from the reference data are also given, matching the ward type and specialisation.

Dealing with the results
The results of the observed compliance during an observation period serve to improve hand disinfection compliance and should be presented and jointly analysed promptly on the relevant ward/functional area. In addition, they should be communicated to the medical and nursing hospital management and/or other decision-makers.

7. Dispenser equipment

As the availability of hand sanitizer at the point of care is an essential prerequisite for high hand sanitizer compliance, HAND-KISS has been designed to systematically document this. This is done by recording the available equipment in each patient room (actual) and documenting the optimum value (target).

In medical facilities for inpatient care, alcohol-based hand sanitizer should be easily and quickly accessible within the scope of the indications. In patient rooms and treatment rooms, hand sanitizer should therefore be available in the immediate vicinity (e.g. bed, bedside table, infusion stand) at every patient bed or treatment station.

The use of lab coat pocket bottles can compensate for missing dispensers individually and/or temporarily.

Documenting and analysing the donor equipment can reveal deficits that can then be compensated for in a targeted manner.

By determining the actual value for donor equipment, the actual equipment in each patient room of a ward and each treatment room of a functional area is documented. The target value is used to document the required donor equipment.

Only dispensers located in the patient room or treatment room are recorded. The immediate and reliable accessibility at the moment of the nursing or medical action ("point of care") is essential. The maximum distance of just over an arm's length from the donor can be used as a guide.

Both permanently mounted wall dispensers and mobile pump bottles (remaining in the patient's room or treatment room) or bedside dispensers are categorised as dispensers. It is therefore not necessary to use only permanently mounted wall dispensers.

The registration should be carried out in cooperation with the users, i.e. the medical staff on the ward/functional area. This makes it possible to discuss the actual accessibility and practicability of the existing or planned dispensers directly on site and to enable user-orientated specifications.

The aim is to achieve 100% equipment in relation to the target value on every ward and in every treatment room.
The results should definitely be presented to the relevant ward and analysed together. Even with 100% equipment, it is important to reflect together on whether the dispenser equipment is also subjectively sufficient and whether the dispensers are positioned appropriately.

Data can be entered into webKess on an ongoing basis throughout the year, there is no set time. Regardless of the results, it is recommended that hand sanitizer dispensers are installed in every patient room and treatment room every 2 years.

The data output contains a house evaluation, not reference data.

A record sheet is available as an aid. This is used to document the dispenser equipment for each individual room in a ward or treatment room in a functional area. The total for actual and target is then calculated.
https://www.aktion-sauberehaende.de/krankenhauser/datenerhebung

7.1 Data entry and evaluation

The structural conditions in webKess, described in the previous chapters, also apply in the context of data entry for donor equipment.
It is possible to enter data for individual wards or functional areas of a hospital, but the aim should be to record all donor equipment for all wards and functional areas.

Bed-carrying areas
The following data must be recorded for each ward:

1. Indication of the actual value of the donor equipment
   (sum of all patient rooms/treatment rooms)
2. Specification of the target value for donor equipment
   (sum of all patient rooms/treatment rooms)
3. Regular and traceable use of lab coat bottles - Yes / No

The target value corresponds to the following equipment:
- Intensive care unit, IMC (Intermediate Care) and normal ward = The number of donors corresponds to the number of patient beds (1:1)
- Treatment room = 1 dispenser per treatment room

Data analysis
To analyse the data, the following value is calculated for each station:
Equipment of the entire ward with hand sanitizer dispensers in %:

$$\frac{\text{Actual value dispenser equipment}}{\text{Target value dispenser equipment}} \times 100$$

Coat pocket bottles can also be useful to ensure the availability of hand sanitizer. Especially in areas where permanently installed or freely accessible dispensers are not sufficiently available due to the structural conditions or the patient clientele, this deficit can be compensated for by using coat pocket bottles. If the ward is supplemented with kit bag bottles, the ward has reached the target value and is therefore 100% equipped. However, the prerequisite for this is that the lab coat pocket bottles can also credibly compensate for such deficits.

NOTE (section between the red lines)

The following target requirement for normal stations applies until 31 December 2024. The house evaluation in webKess will be carried out on this basis until this date.

- Normal ward = 1 dispenser on 2 patient beds
  - 1 bed room = 1 dispenser
  - 2 bed rooms = 1 dispenser
  - 3 bed room = 2 dispensers

Functional areas

The following data must be recorded for each functional area:

1. Indication of the actual value of the dispenser equipment (total of all treatment rooms)
2. Specification of the target value for dispenser equipment (total of all treatment rooms)
3. Use of lab coat pocket liners - Yes / No

The target value corresponds to the following equipment:

- Per treatment room = 1 dispenser per treatment station

Data analysis

The following value is calculated for each functional area when analysing the data:
Equipment of the functional area with hand sanitizer dispensers in %:

$$\frac{\text{Actual value dispenser equipment}}{\text{Target value dispenser equipment}} \times 100$$

Fitting kit bottles can also be useful here to ensure the availability of hand sanitizer. If permanently installed dispensers are not sufficiently available due to the structural conditions, this deficit can be compensated for by using coat pocket bottles. If additional kit bottles are used in the functional area, the functional area has reached the target value and is therefore 100% equipped. However, the prerequisite is that the lab coat pocket bottles can also credibly compensate for such deficits.

Table 8 lists all information relating to the donor equipment:

Table 8: Data collection of donor equipment

Participation of all hospital wards in HAND-KISS	If all wards or functional areas of the hospital participate in HAND-KISS-S, enter "Yes" in webKess for the question "Participation of all wards of the hospital in HAND-KISS". If only individual wards or functional areas of the hospital are participating, enter "No".
For the data year	Select the calendar year for which the information is provided (data year).
Indication of the actual value of the donor equipment	The actual value for donor equipment is used to document the actual equipment of the entire ward or functional area.

Specification of the target value for the dispenser equipment
 	
Calculation until 31.12.2024 in red font
	The target value corresponds to the following equipment:
	• Intensive care unit, IMC (Intermediate Care) Normal ward = The number of donors corresponds to the number of patient beds
	• Normal ward = 1 dispenser on 2 patient beds
	  ○ 1 bed room = 1 dispenser
	  ○ 2 bed rooms = 1 dispenser
	  ○ 3 bed room = 2 dispensers
	• Treatment room = 1 dispenser per treatment room
	• Treatment room Functional area = 1 dispenser per treatment station

Specification for the use of lab coat pocket bottles	Are lab coat pocket bottles used in a ward or functional area as a supplement/replacement for fixed or mobile dispensers in a comprehensible manner "yes" or "no".

8. Imprint

National Reference Centre (NRC) for Surveillance of Nosocomial Infections
at the Institute of Hygiene and Environmental Medicine (Director: Prof. Dr Christine Geffers)
Charité - Universitätsmedizin Berlin
joint institution of Freie Universität Berlin and Humboldt-Universität Berlin
Hindenburgdamm 27
12203 Berlin
Phone: 030/450 577 612
Fax: 030/450 577 920

Contact persons and addresses can be found on the NRC homepage (www.nrz-hygiene.de).
Status: December 2024

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