Protocol

Surveillance of alcohol hand rub use in outpatient care institutions
HAND-KISS-AMBU

© National Reference Center for Nosocomial Infection Surveillance at the Institute for Hygiene and Environmental Medicine Charité – University Medicine Berlin

www.nrz-hygiene.de

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Table of Contents

1. Introduction .......................................................................................................... 4
2. Goals of the surveillance protocol ........................................................................ 5
3. Requirements for participation and obligations of KISS institutions ..................... 5
4. HAND-KISS Methods........................................................................................... 6
   4.1 Master data .................................................................................................................... 6
   4.2 AHR Usage ..................................................................................................................... 7
   4.3 Comparing AHR usage in outpatient care ................................................................. 7
   4.4 Further data ..................................................................................................................... 7
      4.4.1 Dispenser infrastructure ........................................................................................ 8
   Determining the desired number: ............................................................................... 8
      4.4.2 Continuing education ............................................................................................. 8
5. Documentation specifications .............................................................................. 9
   5.1 Electronic data collection .......................................................................................... 9
   5.2 Documentation specifications for webkess ................................................................ 9
      5.2.1 Registration data .................................................................................................... 9
      5.2.2 Annual data ............................................................................................................. 10
6. References ........................................................................................................... 12
7. Legal Notice .......................................................................................................... 13
1. Introduction

Regular and careful hand hygiene (HH) with an alcohol-based hand rub is indisputably one of the most important measures for nosocomial infection prevention. A low degree of compliance remains a problem, however [1], [2].

Increasing compliance by changing behavior can be supported by a concept for learning on individual and organizational levels. A basic requirement is the use of feedback information that encourages discussion of the subject. This kind of information can be generated by direct observational studies on HH frequency or by measuring alcohol hand rub (AHR) usage. Observational studies are very costly, however, and almost impossible to perform in some areas. The use of AHR is comparatively easy to measure and is an indicator quickly accessed in order to present the frequency of hand disinfection [3]. Table 1 provides an overview of the two methods for determining hand disinfection compliance.

Table 1: Methods for determining HH compliance

<table>
<thead>
<tr>
<th></th>
<th>Direct: Observation of HH frequency</th>
<th>Indirect: AHR use as indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Goal</strong></td>
<td>Direct determination of number of completed HH actions</td>
<td>A surrogate parameter: Calculation of completed HH actions from AHR use per patient day</td>
</tr>
<tr>
<td><strong>Implementation</strong></td>
<td>High personnel costs and time expenditure; can only be performed prospectively</td>
<td>Simple to perform with low time expenditure; retrospective surveillance is possible</td>
</tr>
</tbody>
</table>
| **Validity**        | • Hawthorne effect on announced observations  
                      • Anonymous observation is hardly possible  
                      • Accidental effects during short observational periods  
                      • Only few patients/workers are included | • Typical indicator  
                      • Sensitivity good, specificity limited  
                      • Overestimation is possible when AHR is used for other purposes  
                      • Dependent on the quality of usage data collection |
| **Usability**       | Appropriate for risk areas (ICUs) or to validate the results of indirect compliance studies | Appropriate for determining the situation of an entire hospital |
At present, it is not possible to determine the nominal value for necessary AHR use in different institutions and for different patient groups. However, one can assume that HH compliance is far lower than desired in many outpatient care institutions.

For this reason, HAND-KISS has the goal of stimulating compliance improvement by comparing AHR use.

To this end, participating outpatient care institutions transfer their AHR usage data yearly to the National Reference Center for the Surveillance of Nosocomial Infections (NRZ). Together with the other information required to compute usage rates, these data allow for an evaluation of average AHR usage and by extension the frequency of HD.

In addition, the data of all participating outpatient care institutions can be summarized over the entire time period to provide reference data for comparison. AHR usage is stratified by type of institution and by classification of care in invasive and noninvasive.

2. Goals of the surveillance protocol
This protocol has the primary goal of providing participating institutions with the necessary specifications and definitions to standardize data collection and analysis. It has the secondary goal of allowing interested institutions to collect and analogically analyze data according to these definitions and specifications. They can then benchmark themselves with other institutions based on the reference data.

All comments about further necessary specifications and explanations are welcome.

3. Requirements for participation and obligations of KISS institutions

Participating outpatient care institutions must fulfill the following requirements:
- Head of institution must agree to participation in the project
- Strict application of the obligatory definitions and specifications found in this protocol
- Data collection and transfer by EDP
- Preparedness to complete internal quality assurance measures upon appropriate surveillance results
• Preparedness to participate in validity measures

KISS institutions promise participants to:

• Support and advise them during surveillance

• Handle data confidentially

• Provide advice on the implementation of surveillance results for quality management

4. HAND-KISS Methods

If one healthcare provider has multiple outpatient care institutions or facilities (e.g. multiple dialysis practices or multiple emergency care stations), then each institution or station must be registered separately in the system. Multiple institutions can have the same contact person, however.

The following data are recorded at registration:

4.1 Master data

a. Contact person (Title, first and last names)
b. Name of institution
c. Street address (house number, postal code)
d. E-mail address
e. Telephone
f. Type of institution
   • Invasive or noninvasive care
   • Internal medicine, surgery, other medical fields, other surgical fields, pediatrics, interdisciplinary (see list of outpatient care units by field online)
   • Primary care practice
   • Home care
   • Outpatient dialysis
   • Outpatient surgery center
   • Emergency medical services (EMS, e.g., ambulance, rescue helicopter, other air transportation)
4.2 AHR Usage

AHR usage surveillance for outpatient care is done retrospectively with help of the usage data from the pharmacy or with the purchasing and controlling data for the previous calendar year.

The following data must be recorded by each individual area:

1. Number of cases/assignments within the outpatient care area in a calendar year
2. Total AHR in mL (= liter x 1000) used in outpatient care area in one calendar year

The following rates are calculated per outpatient care area:

\[
\text{AHR usage per case/assignment} = \frac{\text{AHR usage in mL in calendar year}}{\text{cases/assignments in calendar year}}
\]

The calculated rate represents the usage of AHR per case/assignment.

Because 3 mL of AHR is necessary on average for one HH action, the number of HH action per case can be calculated from the amount of AHR used per case.

\[
\text{AHR usage in mL per case/assignment} = \frac{\text{Total HH actions performed per case/assignment}}{3}
\]

4.3 Comparing AHR usage in outpatient care

HAND-KISS stratifies reference data by type of outpatient care area.

4.4 Further data

Because participation in the German national hand hygiene campaign (AKTION Saubere Hände) is required for participation in HAND-KISS-AMBU, data on dispenser infrastructure and continuing education is also requested.
4.4.1 Dispenser infrastructure

Information on dispenser infrastructure is collected via questionnaire every calendar year.

Only those AHR dispensers are counted that are in rooms in which patients are treated. For example: consultation or examination rooms, laboratory, patient rooms, dialysis rooms, recovery rooms, and ambulances.

- Dispenser infrastructure is not measured in: operating theaters, waiting rooms, or toilets.
- Dispenser infrastructure cannot be measured for home care, but home care facilities are asked if their employees have adequate handrub.

Determining the actual number:

- Only those dispensers are counted which are actually in rooms where patients are treated (examination room, ambulance, etc.)

- The following dispensers are counted:
  - Wall-mounted dispensers
  - Mobile dispensers, e.g. pump bottles on workspaces
  - Pocket bottles

- The following dispensers are not counted:
  - Dispensers in hallways, bathrooms and otherwise outside of consultation/examination rooms

Determining the desired number:

- Examination/consultation room: 1 dispenser per room
- Dialysis room: 1 dispenser per dialysis space
- Ambulance: 1 dispenser per vehicle
- Air rescue: 1 dispenser per treatment place

4.4.2 Continuing education

Participants are requested to submit information about whether they have had continuing education on hand hygiene in the current year and if they have implemented a quality management system in their facility.
5. Documentation specifications

5.1 Electronic data collection

The NRZ has made an electronic data collection system available for participants in the German hospital-associated infection surveillance system under www.webkess.de

It is not necessary to register for webKess to participate in HAND-KISS-AMBU. Necessary data are submitted once per year by paper form. Unlike in other KISS modules, data are not evaluated by the study center for each facility individually.

5.2 Documentation specifications for webkess

5.2.1 Registration data

<table>
<thead>
<tr>
<th>Participant number</th>
<th>Participants receive their number automatically per email upon registration.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact information</td>
<td>Submitted by participant and associated with the participant number. Can be changed anytime.</td>
</tr>
<tr>
<td>Type of facility</td>
<td>Defined by facility.</td>
</tr>
<tr>
<td></td>
<td>• Internal medicine, surgery, other medical field, other surgical field, pediatrics, interdisciplinary (see list of fields)</td>
</tr>
<tr>
<td></td>
<td>• Divided in invasive and noninvasive</td>
</tr>
<tr>
<td></td>
<td>• Primary care practice (always noninvasive)</td>
</tr>
<tr>
<td></td>
<td>• Home care (not applicable)</td>
</tr>
<tr>
<td></td>
<td>• Outpatient dialysis (always invasive)</td>
</tr>
<tr>
<td></td>
<td>• Outpatient surgical center (always invasive)</td>
</tr>
<tr>
<td></td>
<td>• EMS (not applicable)</td>
</tr>
</tbody>
</table>

Definition “invasive”: A facility is defined as invasive when procedures are performed as in inpatient care and require the following measures:

1. Patient remains for a certain time in a certain place (examination cot or bed)
2. Material and devices are used only on this patient for the duration of the procedure which have to be thrown away or prepared again for use.

3. Standard hygiene practices or barrier protections (sterile cover or gloves, e.g.) are required for the procedure.

4. Disinfection of all used devices and of all surfaces is necessary following the procedure.

- For example: dialysis, endoscopies of all kinds, joint aspiration, invasive radiological procedures, application of central venous catheters, epidural anesthesia

- Blood withdrawal, intramuscular or subcutaneous injection and bandaging are not considered invasive procedures.

**Definition “not applicable”:**
Because of the wide variety of tasks performed in home care and emergency medical services, it is not possible to categorize their work as invasive or noninvasive.

**Definition “interdisciplinary”:**
For facilities in which two or more doctors of different fields are employed, e.g. ambulatory healthcare centers.

### 5.2.2 Annual data
These data must be submitted yearly.

<table>
<thead>
<tr>
<th>Dispenser infrastructure</th>
<th>Actual number</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dispensers in consultation/examination rooms, patient rooms (e.g. with dialysis stations), laboratory, EMS vehicles and other spaces in which patients are treated, according to the instructions on the form. The total number of dispensers in a facility’s relevant rooms should be given. If pocket bottles are used in a facility, then the desired number has been 100% fulfilled.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dispenser infrastructure</th>
<th>Desired number</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A AHR dispenser must be present in each relevant room. One dispenser per dialysis station is required. One dispenser per patient bed is required for recovery rooms. In EMS vehicles except for air rescue, one dispenser per vehicle is needed; one dispenser per patient space is needed for air rescue. Give the number of desired</td>
</tr>
</tbody>
</table>

Give the number of desired
<table>
<thead>
<tr>
<th><strong>Continuing education</strong></th>
<th>Answer yes or no if your facility had a continuing education course on hand hygiene in the selected calendar year.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Quality management system</strong></td>
<td>Answer yes or no if your practice has a current quality management system.</td>
</tr>
<tr>
<td><strong>Calendar year</strong></td>
<td>The year for which data are being provided.</td>
</tr>
<tr>
<td><strong>Annual alcohol-based handrub use</strong></td>
<td>Sum in milliliters of alcohol-based handrub used in the relevant calendar year.</td>
</tr>
</tbody>
</table>
| **Total number of cases/assignment annually** | Total of cases/assignments in one year  
Ambulance= Number of cases  
Private practice= Number of cases  
Outpatient dialysis= Total dialysis cases  
Home care= Total case-days |
| **Year assessed** | The calendar year for which entry is being made (e.g. 2013). |
6. References

7. Legal Notice

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