Is it possible to limit the spread of antimicrobial resistance in nursing homes?

B. Allegranzi

WHO Service Delivery and Safety, HQ
Faculty of Medicine, University of Geneva, Geneva, Switzerland

Outline

- IC resources in LTCFs
- Infection control and prevention guidelines
- IC Interventions to limit the spread of MDROs in LTCFs
- Factors influencing implementation
- Hand hygiene

Factors associated with AMR in the elderly

- Transfer to the LTCF of colonized or infected patients from other institutions
- Excessive and inappropriate use of antibiotics, especially broad-spectrum antimicrobial agents:
  - Prescribing antibiotics for unproven bacterial infections (e.g., upper respiratory viral infections) or “prophylactic” antibiotics for residents/patients with chronic urinary catheters.
  - Prolonged use beyond the standard recommended duration
- Factors increasing the probability of microbial colonization (and subsequent infection): malnutrition, immunosuppression, urinary catheters, feeding tubes, pressure ulcers, and chronic immobility
- Inadequate adherence to infection-control measures
Outline

- IC resources in LTCFs
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- Factors influencing implementation
- Hand hygiene

HALT Point Prevalence Survey – ICP Resources in 691 LTCFs in Europe

IPC structures

- Nurse: 71%
- Nurse + MD: 23%
- Doctor: 5%

60% working at the LTCF

 IPC protocol
- MRSA/MDRO
- UC
- VC
- Ent Feeding

Figure 14. Percentage of included LTCFs with written protocols for all five selected infection prevention and control protocols**, HALT 2, 2013

** Protocols for management of MRSA and/or other multidrug-resistant microorganisms, urinary catheters, venous catheters/lines, and hand hygiene.

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Available guidelines

Guidelines for infection control in nursing homes: a Delphi consensus web-based survey
Journal of Hospital Infection 79 (2011) 75–89

© by author
• Literature review by 23 specialists preliminary list of 301 recommendations
  • Online Delphi survey
  • Recommendations rated by 8 (1 ICP & geriatrics experts)
  • Repeated in a 2nd round based on anonymous feedback from the 1st round

• 264 recommendations (240 with high-grade of consensus) retained
• 4 TOPICS:
  • Standard precautions
  • General non-specific measures for preventing HAIs (immunisations; preventing incontinence, bedsores and malnutrition; oral hygiene and residents hygiene; swallowing difficulties and dehydration)
  • Specific HAI prevention measures:
    • Urinary and venous catheters
    • Oxygen and aerosol therapy
    • Enteral feeding
  • Organisational principles

Recent reviews on IPC in LTCF

Infection prevention in long-term care: A Systematic Review of Randomized and Nonrandomized Trials

Infection prevention issues in long-term care

Recent reviews on IPC for MDROs in HCFs

Infection control strategies for preventing the transmission of meticillin-resistant Staphylococcus aureus (MRSA) in nursing homes for older people (Review)

Infection control and prevention measures to reduce the spread of vancomycin-resistant enterococci in hospitalized patients: a systematic review and meta-analysis

ESCMID guidelines for the management of the infection control measures to reduce transmission of multidrug-resistant Gram-negative bacteria in hospitalized patients
### Standard and isolation precautions (CDC, 2007)

#### Features

<table>
<thead>
<tr>
<th></th>
<th>Standard precautions</th>
<th>Contact precautions</th>
<th>Droplet precautions</th>
<th>Airborne precautions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Patient room</strong></td>
<td>Standard</td>
<td>Single room</td>
<td>Single room</td>
<td>Single room; door closed; negative pressure; 6–12 air changes/hour; appropriate discharge of air outdoors or air filtration</td>
</tr>
<tr>
<td><strong>Hand hygiene</strong></td>
<td>Before and after patient contact, after contact with blood, body fluids, excretions, mucus membranes, non-intact skin, wound dressings, between a contaminated body site and a clean body site, after contact with objects in patient surroundings, after glove removal</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Gloves

- **Before contact with body fluids and contaminated items**: non-sterile, examination gloves
- **Upon entering the room**: non-sterile, examination gloves

#### Isolation gown

- **Before contact with blood or body fluids is anticipated**: Standard
- **If contact with blood or body fluids is anticipated**: Standard; upon entering the room when contact with the patient or environmental surfaces is anticipated, or if the patient has diarrhoea, open wound drainage, secretions

#### Mask or face shield/goggles

- **Before procedures likely to generate splashes or sprays of blood, body fluids, secretions or excretions**: Standard
- **When entering the room**: standard for eye protections
- **Fit-tested, NIOSH-approved N95 respirator when entering the room

#### Examples

- **All patients, regardless of suspected or confirmed infectious status, in any setting where health care is delivered**: Multidrug-resistant bacteria (MRSA, VRE), Clostridium difficile, diarrhoea, RSV infection
- **Meningitis, pertussis, influenza, mumps, rubella, diphtheria**
- **Tuberculosis, smallpox. No recommendation on the type of mask to be used in case of measles, chickenpox.**

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**Note:** The text is a screenshot and lacks clear formatting, making it hard to extract meaningful information. The content seems to be spread over different sections, possibly indicating different parts of a larger document or presentation. The text is also not fully legible, which makes it challenging to extract complete sentences or coherent sections.
50 nursing homes (NHs) randomly assigned to either a multi-component intervention* (25 NHs) or assessment only (25 NHs) over a 5-month period

*Based on the 2011 national recommendations

**Implementation strategy:**
- Interactive educational meetings
- Color posters on hand hygiene
- Kit of hygienic products (ABHR)
- Knowledge and self-perceived compliance surveys

**Primary outcome:** first infection episode

**Results:**
Incidence rate of the 1st episodes of infections (ITT analyses):
- **Intervention group:** 2.11/1000 resident-days
- **Control group:** 2.15/1000 resident-days
- **HR=1.00** (95% CI 0.89-1.13; \( P= .93 \)) (unadjusted Cox regression model)
- **HR=0.99** (95% CI 0.87-1.12; \( P= .15 \)) (adjusted model)

**Limitations:** neither evaluation of implementation indicators or feedback (inadequate compliance?); diagnosis challenges; study not powered to detect differences smaller than 5%; not blinded intervention; short follow-up; 1st infection only; insufficient evidence to guide targeted interventions in this population.

**Objective:** to critically review and synthesize current evidence and the methodological quality of non-pharmacological IPC interventions in LTCFs for older adults
- 24 articles met inclusion criteria; 67% RCTs in which the primary purpose was to reduce pneumonia (66%) (mostly through oral hygiene).
- 50.0% had more than one component to the intervention
- 13 (54%) studies reported statistically significant results in favor of interventions
- The methodological clarity of available evidence was limited, with potential risk of bias - The largest proportion rated as of fair quality
- Gaps and inconsistencies surrounding interventions in LTCFs are evident
MDROs - Prevent infection*

1. Vaccinate
   - Give influenza and pneumococcal vaccinations to residents
   - Promote vaccination among all staff

2. Prevent conditions that lead to infection
   - Prevent aspiration
   - Prevent pressure ulcers
   - Maintain hydration

3. Remove unnecessary devices
   - Insert catheters and devices only when essential and minimize duration of exposure
   - Use proper insertion and catheter-care protocols
   - Reassess catheters regularly
   - Remove catheters and other devices when no longer essential

* From: Michigan Antibiotic Resistance Reduction Coalition (MARR) Long-Term Care Task Force
ML Moro et al. Future Microbiol. (2013) 8(8), 1011–1025

MDROs - Prevent transmission*

1. Isolate the pathogen
   - Use standard precautions
   - Contain infectious body fluids (use approved droplet and contact isolation precautions)

2. Break the chain of contagion
   - Follow CDC recommendations for work restrictions and sick leave
   - Cover your mouth when you cough or sneeze
   - Educate staff, residents, and families
   - Promote wellness in staff and residents

3. Perform hand hygiene
   - Use alcohol-based hand rubs or wash your hands
   - Encourage staff and visitors to follow hand hygiene protocols

4. Identify residents with MDROs
   - Identify both new admissions and existing residents with MDROs
   - Follow standard recommendations for MDRO case management

* From: Michigan Antibiotic Resistance Reduction Coalition (MARR) Long-Term Care Task Force
ML Moro et al. Future Microbiol. (2013) 8(8), 1011–1025

Infection control for MDROs in LTCFs

Routine control
- Monitoring MRSA and VRE culture results
- Communicating MDRO data to HCWs
- Assessing compliance with isolation precautions and HH
- Monitoring antimicrobial usage
- Notifying receiving or transmitting facilities of the presence of a MDRO
- Environmental cleaning for residents previously known to be infected or colonized with MDROs

Additional control measures
- Consultation from experts
- Intensification of education
- Increased efforts to control antimicrobial use
- Active surveillance cultures
- Point-prevalence culturing of targeted units
- Intensification of isolation with compliance assessment
- Monitoring environmental cleaning

SHEA/APIC Guidelines 2008
Selection Criteria: RCTs, controlled before and after studies and interrupted time series studies of IPC interventions in nursing homes for older people

2008 Review: NO study retrieved
2011 Update: 1 cluster RCT (Baldwin NS et al. J Hosp Inf 2010;76:36-41)
2014 Update: NO additional studies retrieved

Cluster randomised controlled trial of an infection control education and training intervention programme focusing on meticillin-resistant Staphylococcus aureus in nursing homes for older people

• MRSA prevalence did not change
• The relative risk of a resident being colonised with MRSA in an intervention home compared with a control home at 12 months: 0.99 (95% CI: 0.69-1.42) after adjustment for clustering
• Mean infection control audit scores were significantly higher in the intervention homes (82%) compared with the control homes (64%) at 12 months (P< 0.0001)
• However, hand hygiene (66%) and decontamination of equipment (75%) were still deemed poor in the intervention group

Antimicrobials were most frequently prescribed for prophylaxis or treatment of a UTI (47.5%) or of a RTI (30.1%).
UTI prevention in LTCF – same as in acute care

- Limiting use of catheters
- Insertion of catheters aseptically by trained personnel
- Use of as small diameter a catheter as possible
- HH before and after catheter manipulation
- Maintenance of a closed catheter system
- Avoiding irrigation unless the catheter is obstructed
- Keeping the collecting bag below the bladder
- Maintaining good hydration in residents
- Urinary catheters coated with antimicrobial materials: have the potential to decrease UTIs but have not been studied in the LTCF setting

SHEA/APIC Guidelines 2008

Guidelines
1. Avoid unnecessary urinary catheters.
2. Insert urinary catheters using aseptic technique.
4. Review urinary catheter necessity daily and remove promptly

Disrupting the Lifecycle of the Urinary Catheter

1. Preventing Unnecessary and Improper Placement
2. Maintaining Awareness & Proper Care of Catheters
3. Prompting Catheter Removal
4. Preventing Catheter Replacement

Multimodal is beautiful... and successful!
Multimodal is beautiful... and successful!

Preventing Catheter-Associated Urinary Tract Infections: A Case Study in Keystone Bladder Bundle Initiative in Michigan

• More frequent use of preventive practices
• 25% reduction in CAUTI rates in Michigan (6% overall decrease in the rest of the United States)

Barriers to Reducing Urinary Catheter Use
A Qualitative Assessment of a Statewide Initiative

Sarah L. Krivt, B.S.N., R.N. Christine F. Kowalski, M.P.H. Holly Harrel, P.N.S., Jani Fiorese, S.E.D., M.S., Karen Sanet, M.S., M.P.H.

Published in the March 25, 2013

CAUTI Bundle Recommendations for LTCFs

• Derived from current evidence review regarding CAUTI prevention interventions in LTCFs

• Evidence previously reviewed systematically regarding CAUTI prevention in the acute-care setting*


CAUTI Bundle for LTCFs

- Catheters in newly admitted (and re-admitted) patients should be removed to assess if still needed; every resident deserves a change to be “catheter free.”
- Keep catheter care, wound hygiene, and wound care practices clean and effective; keep the drainage bag below the bladder, no violations of “closed” drainage systems, and learn the appropriate use of leg bags.
- Incontinence care planning to address individual patient challenges and solutions are important, including behavioral interventions such as timed and prompted voiding and appropriate medical management.
- Training and mentorship of staff and family regarding catheter care is important, emphasizing the following points: keep the drainage bag below the bladder, no violations of “closed” drainage systems, and learn the appropriate use of leg bags.
- Use catheters only if indicated, routine assessments of catheter need (daily in short-term residents, monthly in long-term residents) should be conducted, and alternatives should be considered (i.e., intermittent catheterization, use of bladder scanner protocols to decrease need for catheterization, and other non-catheter solutions to incontinence).
- Use catheters only if indicated, routine assessments of catheter need (daily in short-term residents, monthly in long-term residents) should be conducted, and alternatives should be considered (i.e., intermittent catheterization, use of bladder scanner protocols to decrease need for catheterization, and other non-catheter solutions to incontinence).
- Catheters in newly admitted (and re-admitted) patients should be removed to assess if still needed; every resident deserves a change to be “catheter free.”
Conclusions

- Silver alloy-coated catheters were not effective for reduction of incidence of symptomatic CAUTI.
- Reduction in CAUTI associated with nitrofural-impregnated catheters less than that regarded as clinically important.
- Routine use of antimicrobial-impregnated catheters is not supported by this trial.

LRTI prevention in LTCF

- HH after contact with respiratory secretions
- Wearing gloves for suctioning
- Elevating the head of the bed 30 to 45 degrees during tube feeding and for at least 1 h after to decrease aspiration
- Vaccination with pneumococcal vaccine in individuals over the age of 65 years
Outbreak of Carbapenem-Resistant Enterobacteriaceae at a Long-Term Acute Care Hospital: Sustained Reductions in Transmission through Active Surveillance and Targeted Interventions

KPC-producing *K. pneumoniae*, nearly all genetically related
99 CRE transmission cases, 16 admission cases, 29 CRE bacteremia episodes
CRE prevalence: 49% vs 8%
Patients screened with newly detected CRE: 44% vs 0%
CRE bacteremia episodes: 2.5 vs 0.0 per 1,000 patient-days

Outline
- IC resources in LTCFs
- Infection control and prevention guidelines
- IC Interventions to reduce HAI in LTCFs
- Factors influencing implementation
- Hand hygiene
Factors influencing IC and MRSA decolonization in NHs:
• Organizational factors (e.g. time, financial resources, environment, management and culture)
• External factors (e.g. hospitals, regulation and general practitioners)
• Unmanageable workload (IC not adhered to)
• More financial resources necessary
• Conflict in maintaining an environment both ‘homely’ and clinical
• Difficult to achieve good ICP with confused residents, some families, GPs and members of staff resistant to change
• Risk of re-colonization, particularly from hospital admissions

Conclusions: IC and MRSA decolonization in the NH environment appear to be affected by many factors, some of which may be beyond the direct control of staff
HALT Point Prevalence Survey – Hand hygiene (HH) in LTCFs in Europe

- Written HH protocol: 96% of LTCFs
- Technique: 56% of LTCFs used alcohol-based solution
- Training on HH in previous year: 73%, but mainly for nurses (99%); for MD (27%) and others (35%)

Impact of hand hygiene to reduce transmission and infections by MDROs in health-care settings
WHO systematic literature review (2014)

Summary results

- From Jan. 1980 to Dec. 2013
- 39 studies on hand hygiene as the key intervention implemented in the study period and including data about impact on MDROs’ infection and/or transmission rates, as well as on hand hygiene indicators, were identified
- Only 4/39 studies failed to demonstrate an impact of hand hygiene interventions or improvement in the MDRO’s infection and/or colonization
  - One of these studies did not show any significant improvement of hand hygiene compliance thus explaining the failure to reduce infections, while another study was a low-quality retrospective study
- Additional 60 studies showed that hand hygiene is an essential part of interventions including other infection control measures that are successful to reduce MDRO’s infections

http://www.who.int/gpsc/5may/EN_PSP_GPSC1_5May_2014/en/
Impact mainly demonstrated on MRSA infections

<table>
<thead>
<tr>
<th>Year</th>
<th>Authors</th>
<th>Setting</th>
<th>Intervention</th>
<th>HH Compliance</th>
<th>Impact on MRSA infection</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>Larson E et al</td>
<td>MICU/NICU</td>
<td>Multiple components intervention</td>
<td>NA</td>
<td>No significant change</td>
</tr>
<tr>
<td>2000</td>
<td>Pittet D et al</td>
<td>Hospital</td>
<td>Alcohol-based HR, HH observation, training, performance feedback, posters</td>
<td>From 48% to 66%</td>
<td>Significant reduction annual prevalence of HAI (42%) and MRSA cross-transmission rates (87%).</td>
</tr>
<tr>
<td>2004</td>
<td>MacDonald A et al</td>
<td>Hospital</td>
<td>Alcohol-based HR, HH observation, posters, performance feedback, informal discussions</td>
<td>NS increase of HH compliance</td>
<td>Significant reduction in MRSA cases (from 1.9% to 0.9%)</td>
</tr>
<tr>
<td>2005</td>
<td>Johnson et al</td>
<td>Hospital</td>
<td>Alcohol-based HR, HH observation, training, posters, promotional gadgets</td>
<td>From 21% to 42%</td>
<td>Significant reduction (57%) in MRSA bacteremia</td>
</tr>
<tr>
<td>2008</td>
<td>Grayson ML et al</td>
<td>1) 6 pilot hospitals 2) all public hospitals in Victoria (Australia)</td>
<td>Alcohol-based HR introduction, HH observation, training, posters, promotional gadgets</td>
<td>1) From 21% to 48% 2) From 20% to 53%</td>
<td>Significant reduction of MRSA bacteraemia and of clinical MRSA isolates</td>
</tr>
<tr>
<td>2008</td>
<td>Cromer AL et al</td>
<td>Hospital</td>
<td>Direct HH observation, feedback</td>
<td>From 72.5% to 90.3%*</td>
<td>Significant reduction in MRSA from 0.85 to 0.52 per 1000 patient-days</td>
</tr>
<tr>
<td>2009</td>
<td>Lederer JW et al</td>
<td>Hospital, seven acute care facilities</td>
<td>Education, HH observation and performance feedback, posters, memos and poster-board communications, visitor education, internal marketing campaign</td>
<td>From 49% to 98% with sustained rates &gt;90%</td>
<td>Significant reduction of MRSA rates from 0.52 episodes per 1000 pt-days to 0.24 per 1000 pt-days</td>
</tr>
<tr>
<td>2009</td>
<td>McLaws et al</td>
<td>Hospital-wide in 208 public hospitals (statewide)</td>
<td>Alcohol-based HR introduction, HH observation, training, posters</td>
<td>From 47% to 61%</td>
<td>Significant reduction of 6% of overall MRSA infections/10,000 patient-days. 16% reductions in MRSA infection in non-sterile sites in ICU and 25% in sterile sites in non-ICU wards</td>
</tr>
<tr>
<td>2010</td>
<td>Cheng VCC et al</td>
<td>Adult ICU</td>
<td>Alcohol-based HR introduction, briefing and discussion sessions, posters, HH observation</td>
<td>From 29% to 64%</td>
<td>Significant reduction of incidence density of ICU onset bacteraemic and non bacteraemic MRSA infection</td>
</tr>
</tbody>
</table>

Impact of hand hygiene on reduction of MDROs

- **Gram negative bacteria**
  - Clinical study: incidence rates of resistant *P. aeruginosa* levels higher in compliance sites than lower compliance sites.
  - Increased in the occurrence of resistant *Acinetobacter baumannii* unit infection.
  - Increased in the occurrence of resistant *Acinetobacter baumannii* unit infection.


- **Environmental cleaning**

  *ESCMID GUIDELINES. Clin Microbiol Infect 2014; 20 (Suppl. 1): 1–55*
Gram negative MDROs – Staff education


Cost benefit analysis

Every US$1 spent on hand hygiene promotion could result in a US$23.7 benefit.


Hand hygiene compliance in LTCFs

<table>
<thead>
<tr>
<th>Organization</th>
<th>Compliance %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eveillard-</td>
<td>9-40%</td>
</tr>
<tr>
<td>Girou-Rehab</td>
<td>10-41%</td>
</tr>
<tr>
<td>Vernon-LTCF</td>
<td>17</td>
</tr>
<tr>
<td>Pan-LTCF</td>
<td>19-54%</td>
</tr>
<tr>
<td>Smith-LTCF</td>
<td>22</td>
</tr>
<tr>
<td>Huang-LTCF</td>
<td>26</td>
</tr>
<tr>
<td>Yeung-LTCF</td>
<td>38</td>
</tr>
<tr>
<td>Ho-LTCF</td>
<td>38</td>
</tr>
<tr>
<td>Pozzetti-Nursing Homes</td>
<td>38</td>
</tr>
<tr>
<td>Total</td>
<td>71%</td>
</tr>
</tbody>
</table>

Mathematical model, a 200-bed hospital incurs US$1,779,283 in annual MRSA infection-related expenses attributable to hand hygiene noncompliance; in this setting, 1% increase in hand hygiene compliance would result in annual savings of US$39,650.
### Hand hygiene improvement and HAI reduction in LTCFs (1)

<table>
<thead>
<tr>
<th>Author</th>
<th>Type of study</th>
<th>Setting</th>
<th>Intervention</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loeb M, 2003</td>
<td>Observational, prospective</td>
<td>50 Nursing Homes, Canada and US</td>
<td>Increased staffing, antibacterial soap use, number of sinks</td>
<td>Reduced risk of MRSA; Reduced risk of TMP-SMX R Enterobacteriaceae</td>
</tr>
<tr>
<td>Huang TT, 2008</td>
<td>Before-after</td>
<td>LTCFs, Taiwan</td>
<td>HH training program</td>
<td>HH compliance from 9.3% to 30.4%. Infection incidence from 1.7% to 1.9%</td>
</tr>
<tr>
<td>Makris AT, 2000</td>
<td>Controlled trial, before-after</td>
<td>LTCFs, US</td>
<td>IC educational program including HH</td>
<td>Infection incidence from 6.3% to 4.1%</td>
</tr>
</tbody>
</table>

### Hand hygiene improvement and HAI reduction in LTCFs (2)

<table>
<thead>
<tr>
<th>Author</th>
<th>Type of study</th>
<th>Setting</th>
<th>Intervention</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yeung WK, 2011</td>
<td>Clustered randomized controlled trial, before-after</td>
<td>7 LTCFs in Hong Kong</td>
<td>Pocket-sized containers of ABHR reminder materials, education</td>
<td>HH compliance from 25.6% to 33.6%, Incidence from 1.57 to 0.70</td>
</tr>
<tr>
<td>Ho M, 2012</td>
<td>Clustered randomized controlled trial, before-after</td>
<td>18 LTCFs in Hong Kong</td>
<td>ABHR (WHO formulation), ABHR racks and pull reels, a handout, video clips, training sessions, and performance feedback</td>
<td>Significant increase of HH compliance in intervention arms (27% to 81% and 22% to 49%). Decrease of respiratory outbreaks (IRR 0.12; 95% CI, 0.01-0.93; P = 0.04) and MRSA infections requiring hospital admission (IRR, 0.61; 95% CI, 0.38-0.97; P = 0.04)</td>
</tr>
</tbody>
</table>

### Effectiveness of WHO Multimodal Hand Hygiene Improvement Strategy in LTCFs in Hong Kong

- Cluster randomized controlled trial
- Nov 2009-July 2010
- 18 LTCFs with only 1 IC nurse
- 2 interventions (HH promotion with slightly powdered gloves or powderless gloves) + 1 control arms

**Results**

- 11,669 HH opportunities
- HH compliance increased from 27.0% to 60.6% and from 22.2% to 48.6% in intervention arms I and II respectively.
- Increase in HH compliance of 21.6% after intervention in both intervention arms compared to controls (both p<0.001)
- Mean knowledge score increased from 5.5 to 6.6 in the intervention arms
- Factors associated with less improvement: "Before touching patient" opportunity, activity index >40 opportunities/h, physiotherapist/occupational therapist
- Decrease of respiratory outbreaks (IRR, 0.12; 95% CI, 0.01-0.93; P = 0.04) and MRSA infections requiring hospital admission (IRR, 0.61; 95% CI, 0.38-0.97; P = 0.04)

*Ho M et al. ICHE 2012; 33:761-767*
Critical elements for evaluation of hand hygiene opportunities

- Transmission risk according to procedure
- Infection risk for the patient
- Patients’ susceptibility status
- Patients’ colonization status
- Infection risk for the healthcare worker
- Frequency of the procedure

The geographical conceptualization of the transmission risk in the hospital setting
Hand hygiene in LTCFs – expert consensus

- In specialized nursing homes (mentally or physically disabled residents and mainly cared for in a dedicated space with dedicated equipment), the patient zone concept and hand hygiene recommendations should be applied in the same way as for hospitals.

- In residential facilities (semi-autonomous residents living in a community, having their own rooms or shared accommodation and moving within the home facility) hand hygiene recommendations apply only to situations where health care is delivered to residents (e.g. rehabilitation sessions, vital signs check), i.e. at the point of care (where the care procedure takes place) and do not cover any social contacts with or among LTCF residents unrelated to health-care delivery.
Practical examples
- Public vaccination campaign
- Blood drawing in a laboratory
- Visit to a general practitioner’s office
- Mother-and-child consultation in a health post
- Consultation in an emergency policlinic
- Home care
- Chest radiograph in a diagnostic centre
- Haemodialysis in a specialized ambulatory clinic
- Labour and delivery assistance
- Dental care in a clinic
- Long-term care facilities

Monitoring hand hygiene compliance...

German National Hand Hygiene Campaign „AKTION Saubere Hände” 2008 -2013

Participating Institutions by March 2012
- Inpatient Module: 707 hospitals, 51 rehabilitation clinics
- Long Term Care Module: 115 facilities
- Outpatient Care Module: 171 facilities

Courtesy, Christiane Reichard
My 5 moments of hand hygiene: the immobile* and the mobile resident

*bedridden

Hand hygiene and aseptic tasks and method of hand rub

Before a clinical examination
Before helping the patient to mobilize

Before aseptic task

After body fluid exposure
After patient contact

After contact with patient surroundings

Hand hygiene and glove use

GLOVES PLUS
HAND HYGIENE
= CLEAN HANDS

GLOVES WITHOUT
HAND HYGIENE
= GERM
TRANSMISSION
Hand hygiene and glove use

- The use of gloves does not replace the need for cleaning your hands!
- You should remove gloves to perform hand hygiene, when an indication occurs while wearing gloves.
- You should wear gloves only when indicated (see the Pyramid in the Hand Hygiene Why, How and When Brochure and in the Glove Use Information Leaflet) – otherwise they become a major risk for germ transmission.

Wearing gloves: the worst enemy of hand hygiene?

"While numerous studies have been undertaken to improve our understanding of the determinants of hand hygiene behavior, it seems urgent to improve our understanding of the determinants of glove usage behavior as well."

Future Microbiology 2011; 6 (8), 835-837

SCCMID Online Lecture Library © by author
Conclusions

- IC in LTCFs is challenging because host, facility and HCWs factors intersect in a complex manner
- Still inadequate resources for IC
- Insufficient evidence to guide targeted IC interventions in this population
- Need for taking the peculiarity of the setting and the risks and frailty of the hosts into account
- Need for understanding barriers to behavioural change
- Effective multimodal implementation strategies poorly understood
- Successful experiences in outbreak control and hand hygiene improvement

We have a very long way to go yet...but the demand is high and our commitment and motivation too!

Thank you

WHO Clean Care is Safer Care

WHO SAVE LIVES: Clean Your Hands
5 May 2013

Find all information at
http://www.who.int/gpsc/5may/EN_PSP_GPSC1_5May_2013/en/
Send enquiries to savelives@who.int