How to Bridge the Gap Between Knowledge and Practice
Gertie Van Knippenberg-Gordebeke, APIC International Section Chair
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How to bridge the gap between knowledge and practice

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Teleclass sponsored by Dr. Maryanne McGuckin
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And..
Learn about a success story in the Netherlands

And...
Take notice of quotes from international highly recognized professionals.

Objectives
• Describe the gaps between process & practice
• Identify different pillars to bridge these gaps
• Describe factors for behavioral change
• Identify the tools to break through in old systems

Healthcare Associated Infections

1985
Most Nosocomial Infections are preventable, caused by inappropriate patient-care.
Robert Frey, SEINIC study

2000
We have met the enemy.
He is us.
B. Farr, ICME 2000, 21-41

We know what works but we fail to make it work.
Chandrakant S. Ruparel (Rupe) MD, MPH
Jhinga-Innovating to Save Lives
February 2014
Credence International Medical, Inc.

Disclaimer/Disclosure
Consultant Infection Prevention current & in past for:
Diversey the Netherlands, Vernacare UK, Hakerman Turkey, Medwaste Control the Netherlands,
Meiko Germany, Meiko China, Sigex Brazil, Pilasi Y Errázunz Limitada Chile,
SCA Hygiene Products Sweden,

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Why did they (we) not yet succeed in reducing Healthcare Associated Infections (HAI)
• Time pressure
• Frequent interruption
• Tiredness
• Lack of skills
• Staff shortage
• No mentorship

2014
50 Years
Infection Prevention Programmes in Healthcare
Preventive measures not imbedded in daily care
➢ Low compliance hand hygiene
➢ Healthcare settings are not clean
➢ Misuse of antibiotics

2014
50 Years
Infection Prevention Programmes in Healthcare
• Gap between Evidence & Practice
• Gap between Process & Practice

Gap between Evidence & Practice
• Healthcare institutes are full of ‘knowledge’ experts
• Few who (can) implement knowledge
• Much talking activity for action, but no little change
• Measurements that lead nowhere
• Internal competition

Gap between Process & Practice

The gap is directly linked to the reality that unlike industry we do not produce things: we help others manage their unique health reality toward wellness.

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Prevention Blood Borne Disease
• Effective vaccination program?
• Safety engineered devices?
• Surveillance for sharp injuries?
• Post exposure procedure?
• Protocols up to date?
Gap between evidence and practice

Healthcare workers do not realize what they don’t know.
Jim Gauthier, Canada, Infection Control Practitioner Past president CHICA
February 2014

Protocols are Excellent…
• Often too complicated
• Sometimes not made by bedside practitioners
• Worthless if no one reads or follows them
• Not a guarantee for compliance
• Do not automatically change behavior

Factors for Behavioral Change
• Values & standards
• Culture
• Education & training
• Age related
• Live & work environment
• Technology
• Economy
• Legislation
• Personality & attitude

Personality & Attitude
the Mind wants change
the Head wants progression
the Heart wants to keep what it got
Prof. dr. Andreas Voss, the Netherlands

Prevention Blood Borne Disease
One protocol…
Same ward… Same day…

Gap between evidence and practice
Different People

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Personality & Attitude

- I do not know → Education
- I do not have the facility → System change
- I do not (like) want it → Motivation

Pillars for Bridging the Gap

- Education
- System Change
- Motivation

Education

- When
- Where
- How
- By whom
- For whom
- Frequency
- Methods

New teaching methods?

http://www.wsp.org/content/2014-cartoon-calendar

Different Learning Methods Needed

- Baby Boomers 1945-1964
  Tell me WHAT to do

- X Generation 1965-1980
  Show me HOW to do it

- Y Generation (Millennials) 1981-now
  WHY do I need to know?

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Education Infection Prevention HOW?

• Classes
• E-learning
• Apps
• Professional journals
• Conferences
• Regular media
• Social Media
• Campaigns
• Ludic actions
• Flyers
• Posters

State of infection prevention in US hospitals enrolled in the National Health and Safety Network

Patricia W. Stone, PhD, FAAN, Monika Pogorzelska-Maziarz, PhD, MPH, Carolyn T.A. Herzig, MS, Lindsey M. Weiner, MPH, E. Yoko Furuya, MD, MS, Andrew Dick, PhD, Elaine Larson, PhD, FAAN

• Considerable variation in the organization and structure of infection prevention and control programs across the nation.
• One-third of the hospitals have no certified IPs (1000 hospitals)
• Establishing policies does not ensure clinician adherence at the bedside.
• Little time spent on prevention process education
• Evidence-based practices related to CAUTI prevention have not been well implemented.

Education by Posters is Not Enough

There is no surveillance about bad practices & bad events, to show the bad doctors or nurses when they do bad practice.

Dr. Ahmed Ebraheem
Youness, Egypt
February 2014

Education (and Lobby)
To whom and how often?

• Physicians
• Nurses
• Para-medical staff
• Technical staff
• Cleaning staff
• Management (policy-makers)
• Medical schools and universities
• Politics
• Patient groups
• Public

Emphasizing the importance of educating medical students during their training - as well as in the right behavior of medical doctors to prevent iatrogenic HAI.

Prof. Manfred Rotter
Austria
February 2014

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Power of the Media
- Repetition
- Everybody knows
- Politics awareness
- Recognition problem
- (Inter)national actions
- Generates budget
- National guidelines

System change
- Computerization
- Adequate facilities
- Workable protocols
- Clear guidelines

We accept the limitations of time, infrastructure and limited training of the people around us.

Prof. Dr. Paul Tambyah, Singapore

Motivation
- Role models
- Train the trainer
- Link nurses
- Imbedding in routine care
- Management support is necessary
- Cooperation with industry (project-based)

TEACH EVERYBODY TO:
break the chain of infection &
notify their own responsibility

Cleaning & Disinfection
Gap between evidence and practice
- Everybody is an “EXPERT”
- Correct methods?
- Correct materials?
- Protocols?
- No popular job
- Difficult to monitor
- Responsibilities not clear
Once upon a time…

One day a special task has to be performed.
Everybody was asked to cooperate.
Everybody thought Everybody would do it.
And although Everybody could have done it Nobody did it.
Somebody became angry because nobody did the task
what Everybody should and could have done.
Unfortunately, Everybody thought that Somebody would do it
But Nobody realized that Everybody would not do it.
Everybody blamed Somebody and Nobody did what Everybody could have done.

Bedpan Management

Gap between evidence and practice

Unnoticed Risks
- Contamination
  - Environment
  - Hands
- Transmission
  - Hands
  - No clean bedpan/urinal

Cleaning & Disinfection

Gap between evidence and practice

Acceptance
- Who is the user?
- Who is responsible?

Cleaned Ward of the Month
- Is essential part of infection prevention
- Make the task important
- Education and training including the cleaners
- Budget

Cleaning & Disinfection

Hazard
Analysis
Critical Control
Points

Proved to be successful in food processes

Why not used in other processes?
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Transmission via hands

Gap between evidence and practice

Rate of Compliance
A total of 175 awareness of patient contact
100% of respondents handed washing the gross rate of compliance was 37%.

Hand Hygiene
Gap between evidence and practice

- Too busy 4.9
- No equipment 4.3
- Continue old habits 3.8
- Management says nothing 3.7
- Too cumbersome 3.7
- Instructions not clear 3.4
- Against normal routine 3.5
- Disagree 3.0
- Patients do not like it 2.9

7 points score
Results Enquête Nurses
Prof. WH Seto, Hong Kong 2006

Hand Hygiene
Gap between rich and poor hospitals

Rich Hospital
No Hand-disinfection
within 2 meters of care
(easier for staff)

Poor Hospital
Hand-disinfection
within 2 meters of care
(easier for staff)

WHO Patient Safety Challenge
Do YOUR healthcare workers know this?

http://www.who.int/gpsc/5may/en

5 May 2014 International Hand Hygiene Day

No action today; no cure tomorrow.
Make the WHO 5 Moments for Hand Hygiene part of protecting your patients from resistant germs

16 376 hospitals and health-care facilities in 170 countries (Netherlands 12 / 96)
registered their commitment to hand hygiene

Hand Hygiene
Gap between evidence and practice
Acceptable?

Less dangerous then “dirty” hands!

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Knowledge will sit on a shelf or lay buried in guidelines unless the community has the resources to bring them to life in practice.

Jeanne Pfeiffer, USA
February 2014

Improvement
• Bridge the gap
• Audit
• Feedback
• Publication findings & results
• Share success stories

2014 Infection Prevention
• Prevalence HAI is too high
• Weak approach for neglecting guidelines
• Responsibilities not clear
• Acceptance of current situation

Waiting and hoping for change is not enough
Time for Action!

Behavior change

People can and will change only if they:
• Accept the change as a challenge
• Get involved
• Think it is useful
• Believe it works
• Must change

Future HAIs?
5 Steps to Change
1. Audit your own activities as IC&P professional
2. Involve CEO and management
3. Multidisciplinary approaches
4. Awareness through personnel
5. High 5s project: Action on Patient Safety
   launched by the World Health Organization (2006)

High 5s Project
Reduce the frequency of 5 challenging patient safety problems over 5 years
Facilitate implementation & evaluation of standardized patient safety solutions
within a global learning community to achieve measurable, significant and sustainable reductions in challenging patient safety problems


Gap between evidence and practice

High 5s Projects
1. Concentrated injectable medicines
2. Medication accuracy at transitions in care
3. Correct procedure at the correct body site
4. Communication failures during patient handovers
5. Addressing Health Care-Associated Infections

Dutch Action on Patient Safety 2006
Break-through Projects
- Throughout the Netherlands
- Voluntary participation by hospitals
- Quality aspect
- Recognition by management
- Multiple projects
- Multidisciplinary

Snowball-effect intramural and extramural

Dutch Institute for Healthcare Improvement CBO: http://www.cbo.nl/en

Dutch Break-through Projects
- Initiative
- Start
- Analytical phase
- What products needed
- Action plan
- Assessment phase
- Plan development phase
- Realization phase
- Sustainability

http://www.cbo.nl/en

Dutch Break-through Projects

<table>
<thead>
<tr>
<th>Participating Hospitals</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
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<tbody>
<tr>
<td>Decubitus</td>
<td>81</td>
<td>16</td>
<td>33</td>
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<tr>
<td>Medication safety</td>
<td>95</td>
<td>18</td>
<td>45</td>
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<tr>
<td>Prevention SSI</td>
<td>26</td>
<td>9</td>
<td>11</td>
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<tr>
<td>Safety reports incidents</td>
<td>38</td>
<td>18</td>
<td>22</td>
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<tr>
<td>Patient waiting list</td>
<td>68</td>
<td>18</td>
<td>50</td>
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<tr>
<td>Surgical Procedures: Okay</td>
<td>8</td>
<td>7</td>
<td>8</td>
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<tr>
<td>Processes re-design</td>
<td>77</td>
<td>17</td>
<td>49</td>
</tr>
</tbody>
</table>

Efforts:
Surgical Site Infections ± 50% reduction

http://www.cbo.nl/en

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Reduction SSI
- Reduce number of opening door in operation room
- Reduce number of employees in the operation room
- Increase discipline operation room
- Improvement wound care on the ward

Best Practices
- Minimize visitors
- Door-counters
- Pass-through hatch
- Reduction opening operating room-doors
- Reduction number of (needed) employees
- Telephone and intercom in the operating room
- Red light ‘work in progress’
- Change as little as possible during surgery

Introducing Evidence Based Measures
- Pre-operative hair removal
  - Stop shaving
- Temperature management
  - In operating room
  - Keep patient warm
- Pre-operative antibiotic prophylaxis
  - Single dose
  - Right time
  - Right antibiotic

Sustainability
- Stop Pre-operative Shaving:
  - Hospital wide
  - Patient brochure
  - Removal razors
- Preoperative Antibiotic prophylaxes:
  - Hospital wide
  - Record keeping
  - Feedback
- Temperature management:
  - Buying heating aids
  - Optimizing technical control

Surgical Site Infections 2006
- Before intervention
  - 11% SSI
  - 89% No SSI
  - N = 102
- After intervention
  - 6% SSI
  - 94% No SSI
  - N = 29

Success Break-through Achieved by:
1. Multidisciplinary collaboration (per hospital)
   - Delegate of hospital direction
   - Head nurse operating room
   - Head nurse surgical ward
   - Infection control nurse
   - Surgeon
   - Anesthesist
   - Med. microbiologist

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Success Break-through Achieved by:
- Education
- Bundle approach
- Feedback
- System changes
- Motivation
- Opinion leaders

Implementation of a Bundle of Care to Reduce Surgical Site Infections 2009

4 Bundelelementen
1. Hygiene discipline op de ICK
   Met name van het aantal douchewegingen tijdens een operatie. Maximale fijn naar deuren geparkeerd bij operatiekamer.
2. Antibioticaprophylaxe
   Het juiste middel op het juiste tijdstip: 15-60 min voor incisie en bij lange operatie verlenging tot 4 uur.
3. Niet pre-operatief anesthesie
   Alleen anesthesie met een tandenstaat en operatiebiotecnische redenen voor zijn.
4. Peri-operatieve normothermie
   De temperatuur van de patiënt moet tussen de 36 en 39 graden zijn aan het eind van de ingreep.

Results

Surgical Site Infections 2010-2011

Prevalence Surgical Site Infections (S.S.I.) the Netherlands 2007-2012

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We must Share, Learn and Use Different Methods to Bridge the Gap

What happens if you do not do what you are supposed to?

Nothing!
You still have your job.

Prof. Shaheen Methar,
Infection Control Africa Network

Thank you for listening

Coming Soon

April 8 (Free British Teleclass ... Denver Russell Memorial Teleclass Lecture)
ANTIBACTERIAL EFFICACY OF ATMOSPHERIC PRESSURE NON-THERMAL PLASMA
Dr. Brendan Gilmore, Queen’s University, Belfast, Ireland

April 9 (Free ... WHO Teleclass – North America)
HIGHLIGHTS ON SURGICAL SITE PREVENTION: THE NEW CDC GUIDELINES (AND MORE)
Dr. Joseph Solomkin, University of Cincinnati College of Medicine

April 16 (South Pacific Teleclass)
PREVENTION OF MRSA BACTERAEMIA IN EUROPEAN HOSPITALS: SECRETS OF SUCCESS
Dr. Michael Borg, St. Luke’s Hospital, Malta

April 17 CHLORHEXIDINE PATIENT BATHING AS A MEANS TO PREVENT HEALTHCARE ASSOCIATED INFECTION

www.webbertraining.com/schedulepl.php

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