Patient Empowerment & Measurement Program for Hand Hygiene
Dr. Maryanne McGuckin, McGuckin Methods International
A Webber Training Teleclass

McGuckin Methods International (MMI)

- Providing education, statistical solutions, and monitoring for the early detection and prevention of healthcare associated infections (HAIs) since 1984.
- Dr. Maryanne McGuckin has over thirty years experience as faculty and staff at the University of Pennsylvania. Currently Senior Scholar, Health Policy Department, Jefferson Medical College.

MMI’s Standardization Efforts

Hosted by Paul Webber (paul@webbertraining.com)
www.webbertraining.com
Patient Empowerment & Measurement Program for Hand Hygiene
Dr. Maryanne McGuckin, McGuckin Methods International
A Webber Training Teleclass

Presentation Objectives

- Define and identify...
  - scientific evidence for patient empowerment
  - components of McGuckin Methods International's (MMI's) Measurement & Benchmarking Program
  - steps necessary to implement the program

Patient and Healthcare Worker (HCW) Empowerment

- 1982: “Patients should be sure that any Physician, Nurse, and Therapist has washed his/her hands before touching them.”
  - McGuckin M. Medical World News 1982; Feb 15.
- 25 years later: “Encourage active patient involvement”
  - National Patient Safety Goals (NPSG) #13 – Patient Empowerment 2007

What is Patient Empowerment?

- Most definitions are found in nursing literature
- “A process in which clients participate with nurse facilitators to assist them to develop proactive healthy behaviors”
  - Advance Nursing
- WHO – Global Challenge Empowerment Models

Hosted by Paul Webber (paul@webbertraining.com)
www.webbertraining.com
Patient Empowerment & Measurement Program for Hand Hygiene
Dr. Maryanne McGuckin, McGuckin Methods International
A Webber Training Teleclass

How do we Know Patients Want to be Empowered?

• 4 out of 5 - 80% - of respondents in a national (USA) telephone survey said they would ask their HCW to wash hands if encouraged by staff.

• 52% respondents saw HCW put on gloves instead of practice hand hygiene (HH)


Consumers Ranking of Factors

• 94% rate clean as very important
• 85% low infection rates
• 93% knowing infection rates for hospital or doctor would influence their selection.


Hosted by Paul Webber (paul@webbertraining.com)
www.webbertraining.com
Patient Empowerment & Measurement Program for Hand Hygiene
Dr. Maryanne McGuckin, McGuckin Methods International
A Webber Training Teleclass

Does Empowerment Work?

- **Acute Care** – 34% HH increase in 6 weeks
- **Acute Care** – 50% HH increase in 6 weeks
- **Rehab** – 50% HH increase in 6 weeks
- **LTC** – 90 less infections in 6 months
- **ICU** – 100% increase in sanitizer usage

Empowerment Intervention Results

<table>
<thead>
<tr>
<th>Period</th>
<th>Participants</th>
<th>Median % change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>941</td>
<td>6.8996%</td>
</tr>
<tr>
<td>2</td>
<td>766</td>
<td>19%</td>
</tr>
<tr>
<td>3</td>
<td>641</td>
<td>25.087%</td>
</tr>
<tr>
<td>4</td>
<td>542</td>
<td>29.2852%</td>
</tr>
<tr>
<td>5</td>
<td>463</td>
<td>33.3333%</td>
</tr>
<tr>
<td>6</td>
<td>412</td>
<td>36.039%</td>
</tr>
<tr>
<td>7</td>
<td>362</td>
<td>33.3333%</td>
</tr>
<tr>
<td>8</td>
<td>288</td>
<td>34.758%</td>
</tr>
<tr>
<td>9</td>
<td>254</td>
<td>45.7056%</td>
</tr>
<tr>
<td>10</td>
<td>197</td>
<td>45.4945%</td>
</tr>
</tbody>
</table>

- The percent change is statistically significant: *p*-value < 0.001.
- One sample t-test, n = 412.
- There is no evidence against the intervention being equally successful in all hospital sizes and unit types.

Support is Key to Any Intervention

Hosted by Paul Webber (paul@webbertraining.com)
www.webbertraining.com
Patient Empowerment & Measurement Program for Hand Hygiene
Dr. Maryanne McGuckin, McGuckin Methods International
A Webber Training Teleclass

Empowerment Plan

- Support for Empowerment
  - NPSG #13
  - Empowerment Research
  - Consumer Attitude

Patient Materials and Tools:
Keep them Simple and Direct

Empowerment must Involve Patient and Healthcare Worker

1997-2007
Partners In Your Care / PIYC
- Focus on patients only
  - Brochure
  - Patient visual reminder: Weeble

2007 - Present
Partners In Care: All for One
- Focus on patients and healthcare workers
  - Brochure
  - Patient reminder: Weeble
  - Wallet Card

Hosted by Paul Webber (paul@webbertraining.com)
www.webbertraining.com
Patient Empowerment & Measurement Program for Hand Hygiene
Dr. Maryanne McGuckin, McGuckin Methods International
A Webber Training Teleclass

Implementing a Patient Empowerment Process

- Two Key Steps:
  - Decide on the best way to get the materials to the patient
  - Monitor process through patient satisfaction form:

<table>
<thead>
<tr>
<th>Step</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Did you read the pamphlet on hand hygiene or did you watch the T.V. channel on the program?</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>2. Did you ask anyone if they washed/sanitized their hands?</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>3. Did you ask a nurse?</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>4. Did you ask a doctor?</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>5. Were you comfortable asking?</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>6. Did you receive a positive response?</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>7. How did they respond?</td>
<td>Comments:</td>
<td></td>
</tr>
</tbody>
</table>

Empowerment

- Most patients believe they should be involved in hand hygiene

Source: National Patient Safety Agency

Measurement: Know Your Direction

- Policies and guidelines will not increase hand hygiene compliance unless measurement and feedback are part of the process

Hosted by Paul Webber (paul@webbertraining.com)
www.webbertraining.com
Patient Empowerment & Measurement Program for Hand Hygiene
Dr. Maryanne McGuckin, McGuckin Methods International
A Webber Training Teleclass

Hand Hygiene Measurement Methods

- Direct Observation
- HCW Self-reporting
- Product Usage/Volume

Table I: Methods of measuring compliance with hand hygiene with advantages and disadvantages – J.P. Haas, E.L. Larson - JHI (2007)66:6-14

<table>
<thead>
<tr>
<th>Method</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct Observation</td>
<td>Solid standard. The only method that can give specific information on who is performing hand hygiene, or what indications for hand hygiene have good or poor compliance rates. The only method that can assess technique. Highest granularity of observations.</td>
<td>Subject to Hawthorne effect. Small samples of all hand hygiene opportunities are usually observed. Can be subject to bias due to over sampling selected shifts (days) or units (ICUs) and inadequate sampling of others (nights/weekends). No standardized way to observe, some studies focus on frequency and others on technique.</td>
</tr>
<tr>
<td>Remote observation</td>
<td>Videotaped observations less subject to selection bias, as they can operate at any time.</td>
<td>Expensive to install and maintain equipment. Labour costs to review tapes. Can be subject to bias based on camera location.</td>
</tr>
<tr>
<td>Product volume use per patient day</td>
<td>Less costly to monitor. Overall measure of use, not subject to selection bias. Can not provide information about which indications for hand hygiene are being followed, or which types of staff members are in best/worst compliance. Not able to assess technique.</td>
<td></td>
</tr>
</tbody>
</table>

Product Volume Measurement

- Referenced in:
  - NPSF
  - CDC
  - WHO Guidelines
  - IHI Bundle
  - JC Monograph
Product Volume Usage

- How it works:
  - Track hand hygiene compliance through the measurement of product usage
  - Tracking
    - EVS Dates
    - Monitors

- Next screen: MMI's data submission form

Data Form
(Every Month, One per Unit)

Authorization Form
(Just Once @ Start)

Product Volume Data Submission

- Submit form via e-mail to
  - data@hhreports.com
- Fax is okay
- Mail (must arrive on time)
Patient Empowerment & Measurement Program for Hand Hygiene
Dr. Maryanne McGuckin, McGuckin Methods International
A Webber Training Teleclass

Monthly Timeline

<table>
<thead>
<tr>
<th>SUN</th>
<th>MON</th>
<th>TUE</th>
<th>WED</th>
<th>THU</th>
<th>FRI</th>
<th>SAT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>12</td>
<td>13</td>
<td>14</td>
<td></td>
<td>15</td>
<td>16</td>
<td>17</td>
</tr>
<tr>
<td>18</td>
<td>20</td>
<td>21</td>
<td>22</td>
<td>23</td>
<td>24</td>
<td>25</td>
</tr>
<tr>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29</td>
<td>30</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Reports

- Individual Client Reports
  - The standard report is sent as PDF. The file contains a compliance report for each unit (department, hospital wing, or functional area). The report contains:
    - HH/bed day rate for soap usage
    - HH/bed day for sanitizer
    - Combined HH/bed day soap + san
    - Mean, Percentile, Benchmark, and Goals
    - Chart format and Graph format

Hosted by Paul Webber (paul@webbertraining.com)
www.webbertraining.com
Patient Empowerment & Measurement Program for Hand Hygiene
Dr. Maryanne McGuckin, McGuckin Methods International
A Webber Training Teleclass

How Comparisons are Made

• Benchmarking
  The benchmarks are calculated using data from every hospital and unit in the program. The methodology used for the benchmarking is a linear regression model, and the percentile benchmarks are drawn from the same model, using prediction intervals calculated at the 10th and 90th percentiles.

• Comparative Benchmark
  These benchmarks are drawn at the average overall comparable units and at the 10th and 90th percentiles.

Compliance Goals

• Literature based
• Confirmed by observational studies

<table>
<thead>
<tr>
<th>Unit Type</th>
<th>Compliance Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICU</td>
<td>144 HH/Patient Bed Day</td>
</tr>
<tr>
<td>Non-ICU</td>
<td>72 HH/Patient Bed Day</td>
</tr>
<tr>
<td>Pediatrics</td>
<td>72 HH/Patient Bed Day</td>
</tr>
<tr>
<td>ER / Outpatient</td>
<td>6 HH/Patient Visit</td>
</tr>
<tr>
<td>Clinics</td>
<td>3 HH/Patient Visit</td>
</tr>
<tr>
<td>Rehab/LTC</td>
<td>20 HH/Patient Bed Day</td>
</tr>
</tbody>
</table>

Soap Report

Hosted by Paul Webber (paul@webbertraining.com)
www.webbertraining.com
Sanitizer Report

Soap + Sanitizer, Goal Line Indicated

Report – Bar Graph

Hosted by Paul Webber (paul@webbertraining.com)
www.webbertraining.com
Patient Empowerment & Measurement Program for Hand Hygiene
Dr. Maryanne McGuckin, McGuckin Methods International
A Webber Training Teleclass

Report: HH/bed day Summary with Percent Compliance

<table>
<thead>
<tr>
<th></th>
<th>Soap</th>
<th>Sanitizer</th>
<th>Combined</th>
<th>Percent compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>2</td>
<td>6</td>
<td>11</td>
<td>7.0%</td>
</tr>
<tr>
<td>Intervention 1</td>
<td>3</td>
<td>10</td>
<td>13</td>
<td>9.0%</td>
</tr>
<tr>
<td>Intervention 2</td>
<td>0</td>
<td>14</td>
<td>14</td>
<td>9.7%</td>
</tr>
<tr>
<td>Intervention 3</td>
<td>0</td>
<td>20</td>
<td>20</td>
<td>13.3%</td>
</tr>
<tr>
<td>Intervention 4</td>
<td>0</td>
<td>32</td>
<td>32</td>
<td>15.3%</td>
</tr>
<tr>
<td>Intervention 5</td>
<td>0</td>
<td>44</td>
<td>44</td>
<td>30.5%</td>
</tr>
<tr>
<td>Intervention 6</td>
<td>27</td>
<td>42</td>
<td>69</td>
<td>47.3%</td>
</tr>
<tr>
<td>Intervention 7</td>
<td>3</td>
<td>6</td>
<td>9</td>
<td>6.2%</td>
</tr>
<tr>
<td>Intervention 8</td>
<td>18</td>
<td>24</td>
<td>42</td>
<td>27.3%</td>
</tr>
<tr>
<td>Intervention 9</td>
<td>19</td>
<td>22</td>
<td>32</td>
<td>22.2%</td>
</tr>
<tr>
<td>Intervention 10</td>
<td>15</td>
<td>20</td>
<td>35</td>
<td>26.3%</td>
</tr>
<tr>
<td>Intervention 11</td>
<td>20</td>
<td>20</td>
<td>40</td>
<td>26.2%</td>
</tr>
<tr>
<td>Intervention 12</td>
<td>6</td>
<td>12</td>
<td>18</td>
<td>12.5%</td>
</tr>
<tr>
<td>Intervention 13</td>
<td>9</td>
<td>8</td>
<td>17</td>
<td>11.8%</td>
</tr>
<tr>
<td>Intervention 14</td>
<td>15</td>
<td>24</td>
<td>39</td>
<td>27.1%</td>
</tr>
</tbody>
</table>

This Unit Demonstrates Good Progress

After about the fifth month, they are hovering near the mean for their hospital group. But the goal is way up here!

This Unit Needs A Boost

After a brief spike, they remain below the 10% benchmark (green line).
Patient Empowerment & Measurement Program for Hand Hygiene
Dr. Maryanne McGuckin, McGuckin Methods International
A Webber Training Teleclass

Wow – Give This ICP a Raise!

- ICU Soap + San combined (Bed 101-300, Category ICU)

- ICUs seem to reach goals sooner

The Value of Reports

- Message to ICP: Use monthly reports for staff, CEO, Committee, Board, etc.
  - McCormick, et. al. The impact of feedback to HCWs using monthly reports on HH compliance. SHEA 2007
- Various interventions – no effect
- Monitor feedback (reports) to leaders and HCWs with “specific unit data” – effective in achieving their HH goals

What about Observation?

- Compliance first
- Observation second

Hosted by Paul Webber (paul@webbertraining.com)
www.webbertraining.com
Patient Empowerment & Measurement Program for Hand Hygiene
Dr. Maryanne McGuckin, McGuckin Methods International
A Webber Training Teleclass

Observation Audits

- Observation never evaluated for accuracy – 3% yield
- Mortel Thea van de, et. al. An examination of covert observation audit as tools to measure the success of hand hygiene interventions. AJIC 2006

Product Volume Measurement vs. Observation

<table>
<thead>
<tr>
<th></th>
<th>Observation</th>
<th>Product/Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resource intensive</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Staff recognize auditors and change behavior</td>
<td>Yes</td>
<td>N/A</td>
</tr>
<tr>
<td>Events are not always observable</td>
<td>Yes</td>
<td>N/A</td>
</tr>
<tr>
<td>Requires additional time/cost</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Perceived as a “management thing”</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Increases compliance evidence based</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Proven to sustain compliance</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Benchmarking capabilities</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Beginning Steps for the ICP

- Get support
- Make sure products are available
- Provide educational materials
- Use patient empowerment!
- Monitor compliance
- Provide feedback to the HCW
- Observe after compliance has increased

Hosted by Paul Webber (paul@webbertraining.com)
www.webbertraining.com
Since 2003, half the states have passed infection reporting and control laws.

Mandatory HAI rates and HH Compliance Rates

• If we are to see the value of mandatory reporting of HAIs on our health care systems, we must include rates for the significant pre-disposing factor for all HAIs
  • “Failure to Practice Hand Hygiene”
• HAI rates without HH rates can be compared to our first attempts at surveillance in which we reported rates without predisposing factors such as catheters, vent days, etc.

Thank You

Hosted by Paul Webber  (paul@webbertraining.com)  
www.webbertraining.com
Patient Empowerment & Measurement Program for Hand Hygiene
Dr. Maryanne McGuckin, McGuckin Methods International
A Webber Training Teleclass

Hosted by Paul Webber  (paul@webbertraining.com)
www.webbertraining.com