The Future of Infection Control
Bright or Bleak?

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Hosted by Paul Webber
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www.webbertraining.com  July 12, 2018

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A discovery by accident

- A fungal spore that the wind might have blown into his lab while Fleming was on vacation in 1928, forever changed the course of medicine...
  - Fleming named the substance Penicillin, after the mould Penicillium notatum – but was unable to isolate the substance
- In the late 1930s and early 1940s, E. Chain & H. Florey managed to produce larger amounts of penicillin and ran successful trials on mice

Antibiotics

- Modern medicine has only been possible because of them
  - Chemotherapy
  - Transplants
  - Implant surgery – no prophylaxis means that joint replacements may become too risky
- Have added about 20 years to life in developed countries
- Unique medications
  - Are not targeted against the person taking it
  - Prescribed by non-specialists
What also changed?

- Ageing population
  - Increasing public expectancy that illness is treatable
  - More interventions and invasive techniques
- Medical Science moved forward, but infection control was left to specialists
  - Not good when you have little real influence
  - In 2000, ICPs in England were asked what percentage of infections we thought were preventable; we said between 5% and 20%
- So healthcare-associated infections increased

My early professional life in 1990

- 1 ICN for
  - 1000 District General Hospital beds
  - 1000 Mental Health beds
  - 200 nursing and residential homes
  - 56 General Practice Surgeries
  - 100+ schools and nurseries
- Half a medical microbiologist with no defined IC time
  - No administrative support
- Also was the Tissue Viability Nurse
Guidance on the ICN

Ayliffe et al (Control of Hospital Infection (1975))

- The Infection Control Officer usually has commitments which prevent regular visits to wards…
  - At least one ICN or other suitable person should be appointed to assist
  - If a nurse… experience as Ward Sister or Tutor..

- Of greater importance is an agreeable personality and an ability to deal tactfully with all grades of staff

Early issues with Gram-negatives


<table>
<thead>
<tr>
<th>Activity</th>
<th>No of Klebsiella (CFU)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taking pulse, blood pressure</td>
<td>1,000</td>
</tr>
<tr>
<td>Touching hand</td>
<td>1,000</td>
</tr>
<tr>
<td>Oral temperature</td>
<td>1,000</td>
</tr>
<tr>
<td>Touching shoulder</td>
<td>7,000</td>
</tr>
</tbody>
</table>

- Big outbreak
  - 17% of staff had the outbreak strain on their hands, survival time 150 minutes
  - Klebsiellas were thought to be ‘sticky’ organisms
  - No problem – lots of antibiotics were available
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![Graph showing the rise and fall of various bacterial infections and antibiotic resistance](image)

The UK Media Awaken..

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Daily Record

News

KILLER RAPIST HAS MRSA IN PERVS’ JAIL
Oct 16 2004
Superbug scare
By Amy Davey

A NOTORIOUS murderer and serial rapist is carrying the deadly superbug MRSA in jail.

Thomas Young has been moved to the hospital wing at Peterhead prison where bosses have reminded cons to wash their hands and have placed extra soap and paper towels in its halls.

But a source at the jail, where some of Scotland’s worst sex offenders are held, said: ‘Inmates and staff are scared to go near the health centre in case they catch this horrible bug.’

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Quarterly MRSA Bloodstream Infections
England: 2001-15

Surveillance | Target | Inspection

Failure

‘After 8 days the PVC inserted on admission showed signs of infection with a purulent discharge.’ Case study 4

‘For almost half of the cases reviewed, The source of the MRSA infection was an invasive device, particularly PVC and CVC.’

‘6 days postoperatively the patient was noted to have pus coming from a cannula site.’ Case Study 6

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What can we treat?

<table>
<thead>
<tr>
<th>Organism</th>
<th>Antibiotic effectiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Streptococcus pyogenes</td>
<td>++++</td>
</tr>
<tr>
<td>Staphylococcus aureus</td>
<td>++++</td>
</tr>
<tr>
<td>MRSA</td>
<td>+++</td>
</tr>
<tr>
<td>C. difficile</td>
<td>+++</td>
</tr>
<tr>
<td>E. coli</td>
<td>+++</td>
</tr>
<tr>
<td>ESBL-E. coli</td>
<td>++</td>
</tr>
<tr>
<td>CPE E. coli</td>
<td>+</td>
</tr>
<tr>
<td>Acinetobacter baumanii</td>
<td>++</td>
</tr>
<tr>
<td>CRE Acinetobacter baumanii</td>
<td>+</td>
</tr>
<tr>
<td>Colistin-resistant A. baumanii</td>
<td>-</td>
</tr>
</tbody>
</table>

Recent SSI data show the direction

Figure 10: Trends in micro-organisms reported as causing inpatient SSIs, all surgical categories*, NHS hospitals, England

% of inpatient SSI cases

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Concern over lack of antibiotics

A Series of Unfortunate Events

- Colonised person
  - Shedding of pathogens
    - Environmental contamination
    - Contamination persists
      - Failure to clean or disinfect
        - Staff acquire on hands
        - Staff fail to remove
        - Transfer to new patient
          - Patient becomes colonised
          - Patient becomes infected

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Opinions from ECCMID 2018
Jon Otter, www.reflectionspic.com

Figure 3: What is the single most important intervention to reduce the spread of MDR-GNR in hospitals?

- Cleaning / disinfection
- Antibiotic stewardship
- Screening and isolation
- Hand hygiene

Number of studies demonstrating this N=1 (or not many)

Hand hygiene, either by handwashing or hand disinfection, remains the single most important measure to prevent nosocomial infections. The importance of this simple procedure is not sufficiently recognised by health-care workers (HCWs), and poor compliance has been documented repeatedly. Although some previous


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Hand Hygiene

- In 2006 all Hospitals in England began to audit and report Hand Hygiene compliance to the Hospital Boards via the Director of Nursing
  - Which of course normally achieve >99%, so that’s all right then
- What Director of Finance will invest in a hand hygiene programme when compliance is >95%?
- If you send in a covert auditor, compliance is different..
  - But not a message that people want to hear

Hand Hygiene Audit

- Everyone is brilliant, Hospital Boards are assured
- I’m not
  - Covert audits showed compliance over three months to be 23%
  - Apart from my best unit, which was a genuine 65%

Beggs CB et al. Increasing the frequency of hand washing by healthcare workers does not lead to commensurate reductions in staphylococcal infection in a hospital ward. BMC Infectious Diseases. 2008;8(1):114
This is embarrassing

- Why do we have to do this?
- Would any other professional group spend its time monitoring other staff?
- Can we really not convince our colleagues that they really do need to do this?

When Two Become One

Petrilli et al., Journal of Infection Prevention, 2017

- Looked at what happened to hand hygiene when two ID units merged

- Medical staff had a committed IPC champion, the nurses did not
  - Medical staff goal adherence rate was 75–100%, while the nurses thought 50–70% adherence was acceptable
Evidence Shortage

- Lack of evidence has been an issue, as have national dictats (in the UK)
- Smith and Pell (BMJ, 2003) undertook a systematic review and found that there was no evidence that supports the use of parachutes in preventing death and trauma from gravitational challenge

He that complies against his will is of his own opinion still

Samuel Butler (1612–80)
Bare below the elbows

- Great idea
  - Sends a strong positive message about the organisational culture and attitude towards infection prevention
  - Never formally UK Policy, adopted by SHEA
- Terribly implemented
  - Stick not carrot
- Problem: No evidence
- Some did not like being made ‘look stupid’
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Use of Video Monitoring
Armellino et al, Clin Infect Dis (2011)

- 2-year study in a 17-bed ICU
  - Cameras with a view of every sink and dispenser, sensors in doorways
  - 16-weeks no feedback, 91 with
  - HH 60% with direct observation pre-study

- Results
  - When no feedback, compliance was 10%
  - First 16 weeks of feedback compliance 81.6%
  - Maintained through 75 more weeks at 87.9%

- Performance feedback was almost real-time on video screens

During the intervention period

Feedback via light emitting diode boards and electronic mail started

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Maintenance Period
Weekly Feedback

[Graph showing weekly feedback over time]

Reporting

<table>
<thead>
<tr>
<th>Medical intensive care unit</th>
<th>Hand hygiene rate for current week</th>
<th>Hand hygiene rate for last week</th>
<th>Hand hygiene rate for the past 30 days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient Room</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rooms 513</td>
<td>84.4%</td>
<td>92.0%</td>
<td>91.1%</td>
</tr>
<tr>
<td>Rooms 514</td>
<td>86.7%</td>
<td>89.1%</td>
<td>87.0%</td>
</tr>
<tr>
<td>Rooms 515</td>
<td>87.9%</td>
<td>82.5%</td>
<td>88.3%</td>
</tr>
<tr>
<td>Rooms 516</td>
<td>88.9%</td>
<td>90.2%</td>
<td>85.5%</td>
</tr>
<tr>
<td>Rooms 517</td>
<td>89.4%</td>
<td>92.2%</td>
<td>91.2%</td>
</tr>
<tr>
<td>Rooms 520</td>
<td>90.6%</td>
<td>93.0%</td>
<td>91.0%</td>
</tr>
<tr>
<td>Rooms 530</td>
<td>91.3%</td>
<td>90.8%</td>
<td>88.1%</td>
</tr>
<tr>
<td>Rooms 531</td>
<td>92.9%</td>
<td>83.3%</td>
<td>97.4%</td>
</tr>
<tr>
<td>Rooms 532</td>
<td>92.9%</td>
<td>85.4%</td>
<td>88.9%</td>
</tr>
<tr>
<td>Rooms 533</td>
<td>93.3%</td>
<td>89.8%</td>
<td>90.9%</td>
</tr>
<tr>
<td>Rooms 534</td>
<td>94.7%</td>
<td>93.8%</td>
<td>91.0%</td>
</tr>
</tbody>
</table>

Hand hygiene compliance for the two monitored groups

- OHCP: 82.2% (91.3%, 90.0%)
- Phys: 82.2% (86.3%, 85.1%)
- Aggregate rate: 91.3% (90.4%, 90.7%)

Number of monitored hand hygiene events

- OHCP: 3032
- Phys: 3283
- Total: 5315

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My perfect HH monitoring system

- Fully automated
  - Who has the time?
  - Standardisation of counting method
    - Includes all five moments
  - Objective not subjective
- Instant, personalised reporting
  - At the end of the shift, person logs off and they get a personal printout of how they did for the patients that they cared for

Daily Personal Report

<table>
<thead>
<tr>
<th>Patient</th>
<th>HH Opp's</th>
<th>HH performed</th>
<th>Compliance</th>
<th>HCAI</th>
<th>Chance that it was you</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seto, W. H.</td>
<td>16</td>
<td>8</td>
<td>50%</td>
<td>1</td>
<td>75%</td>
</tr>
<tr>
<td>Pittet, D.</td>
<td>10</td>
<td>9</td>
<td>90%</td>
<td>0</td>
<td>NA</td>
</tr>
<tr>
<td>Larson, E.</td>
<td>8</td>
<td>8</td>
<td>100%</td>
<td>0</td>
<td>NA</td>
</tr>
<tr>
<td>Kiernan, M.</td>
<td>20</td>
<td>2</td>
<td>10%</td>
<td>2</td>
<td>100%</td>
</tr>
<tr>
<td>Jarvis, W.</td>
<td>14</td>
<td>7</td>
<td>50%</td>
<td>1</td>
<td>50%</td>
</tr>
</tbody>
</table>

- Your hand hygiene compliance for the day was 50%
- You are 17th of 20 staff on the ward
- Your trend in hand hygiene for the past six months has declined
- Your lowest compliance is with Moment 2
- Red indicates that you have the lowest staff hand hygiene rate for this patient
Audit vs Bundle

- **Audit**
  - identifies whether individual measures are being implemented

- **Bundle**
  - To identify whether optimum care is being delivered

Are bundles effective?

- Systematic review comparing care bundles with usual care to evaluate the effects of bundles on risk of negative patient outcomes
- Very low quality evidence from controlled before-after studies suggests that care bundles may reduce the risk of negative outcomes when compared with usual care
- By contrast, the better quality evidence from six randomised trials is more uncertain.
Bundles for SSI

- Systematic review and meta-analysis
- SSI rate in bundle group 7.0% and 15.1% in standard care group
  - Compliance whole bundle ranged from 2.1% to 92%
  - direct correlation between implementation (full vs. partial) of bundle and colorectal SSI rate

So let’s see if our bundle works

- We implemented a 9-point bundle
  - Antiseptic bathing
  - 2% Alcoholic Chlorhexidine
  - MRSA Screening
  - Abx prophylaxis
  - Normothermia
  - Iodine incise drapes
  - Supplemental Oxygen
  - Glucose control
  - No hair removal or clippers
Hang on a minute..

<table>
<thead>
<tr>
<th></th>
<th>Baseline (127)</th>
<th>Cohort (166)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Superficial SSI</td>
<td>9%</td>
<td>17%</td>
</tr>
<tr>
<td>Deep SSI</td>
<td>15%</td>
<td>11%</td>
</tr>
<tr>
<td>Total SSI</td>
<td>24%</td>
<td>28%</td>
</tr>
</tbody>
</table>

Compliance with interventions

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Baseline</th>
<th>Cohort</th>
</tr>
</thead>
<tbody>
<tr>
<td>MRSA screening, decontamination</td>
<td>88%</td>
<td>89%</td>
</tr>
<tr>
<td>Pre-op wash</td>
<td></td>
<td>63%</td>
</tr>
<tr>
<td>App. hair removal</td>
<td>63%</td>
<td>100%</td>
</tr>
<tr>
<td>App. antibiotic prophylaxis</td>
<td>75%</td>
<td>73%</td>
</tr>
<tr>
<td>Skin prep 2% CHG</td>
<td></td>
<td>63%</td>
</tr>
<tr>
<td>Normothermia</td>
<td>23%</td>
<td>35%</td>
</tr>
<tr>
<td>Iodine incise drapes</td>
<td>Not used</td>
<td>100%</td>
</tr>
<tr>
<td>Supplemental oxygen</td>
<td>Not recorded</td>
<td>100%</td>
</tr>
<tr>
<td>Glucose for diabetics</td>
<td>98%</td>
<td>95%</td>
</tr>
</tbody>
</table>

19% received all elements
Do CLABSI Bundles Work?

- Systematic review and meta-analysis
  - Conclusion: Bundles work (although 37% of 79 studies say they don’t)
- Importantly, described bundle compliance in the analysis
  - Determined (or reported) in only 24% of pre-and post-implementation and in a further 11% post-implementation studies
  - That leaves 65% of papers not reporting on compliance at all
  - In the ones that did report, it was suboptimal in every one
- Blog post
  - https://reflectionsipc.com/2017/06/12/the-big-c/
Good and Bad

- The elements in a bundle are best practice based on evidence, and all should be very familiar with them
  - Sometimes the fact that clinical staff are aware of them may make them dismiss the bundle as 'nothing new'
- We must acknowledge that clinical practice is variable
  - During central line insertion, use chlorhexidine for site disinfectant and maximum sterile barrier precautions
    - 2 practices highly recommended to prevent catheter-related bloodstream infection were carried out less than 75% of the time (Saint et al, ICHE 2010)

Why was CAUTI not reducing?

- Qualitative approach: grouped challenges and successes into intervention domains
- Used rich data to construct a comprehensive ICU CAUTI reduction program include at least one strategy from each of 4 domains
  - Standardize use and care
  - Improve communication about catheter need
  - Build capacity for alternatives
  - Feedback data in real time
- Basically, professionals like to be given a choice

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Compliance
Thesaurus.com

- conformity
- consent
- acquiescence
- amenability
- assent
- compliance
- concession
- concurrence
- deference
- docility
- obedience
- observance
- passivity
- resignation
- submission
- tractability
- yielding
- submissiveness

`The Big C`

- Compliance
  - The wrong word
- It affects everything – but is often absent from published papers
  - Research showing effectiveness of interventions and likelihood of implementation
- And it is probably our fault
  - Poor implementation planning (often not described in the studies)
  - Failure of ‘selling the message’
Compliance with interventions
Buchanan et al, American Journal of Infection Control (2018) In Press (last week)

- Embedded a compliance coach (RN with experience in central line management into units managing these devices
  - conducted routine, housewide, unannounced audits of central venous access device dressings and intravenous (IV) tubing, using a model of observation, data capture, coaching, and reporting, followed by focused education

- Results
  - Clean/dry/intact dressing compliance improved from 64% to 84% (P = .0001)
  - CHG sponge placement improved from 54% to 78% (P = .0001)

- Feedback was instant and non-punitive

Peer review

- Person undertaking the procedure is primarily focusing
- Person undertaking the review is primarily scanning
- There must be excellent communication between the two for the procedure to go as expected
Everything got better

Review of a National CPE Toolkit

- Few reported consistent compliance with screening and isolation of CPE risk patients
  - Lower prioritization and weaker senior management support for CPE prevention associated with poorer compliance
- 80% did not believe that the guidance offered an effective means to prevent CPE or was practical to follow
  - Successful implementation can be hindered by a complex set of factors related to their practical execution, insufficient resources and a lack of confidence in the effectiveness of the guidance
- Future CPE guidance would benefit from substantive user involvement
Meanwhile back on the planet..
Erik Hollnagel

- Work as imagined
  - Policy, procedure etc
  - The ‘best’ way, the basis for design, training and control
- Work as done
  - What really happens, what we have to do to get the job done
  - Er.. Often suboptimal
- How well do those (us) writing a policy or guideline really understand the issues at the point of delivery?
  - A policy or guideline that has taken years to develop may fail within hours at the sharp end

Head above the parapet

- WHO Hand Hygiene technique
  - Work as imagined or work as done?
  - Easier to teach and do?
- 5 moments or ABC?
Bridging the image gap

- Problem is not that different images of work exist
  - They arise when organizations (or individuals within them) are not sufficiently aware of the gap (or the extent) between images

- Having a gap is not an indication of a dysfunctional organization, but not knowing about it and not learning why, is

- If we ignore the gap, we may be investing in the wrong things

Narrowing the gap

- We have to realize how difficult it is for the entire organization to clearly understand and “buy-in” to the vision and goals of the upper management
  - Therefore we must recognize that we have “work-as-imagined” and “work-as-done” throughout healthcare

- Before we plan an intervention, we must collect real data on this gap to allow us to see the magnitude and extent of the problem so that we can put the right resources and right methodology to close the gap

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Non-compliance index

http://errorfree.com/probability-of-rule-non-compliance-error/

Non-compliance = \frac{\text{Burden Score + Inducement Score}}{\text{Perceived Risk Score + Peer Pressure Score}}

Reducing the risk of non-compliance

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Score</th>
<th>Score</th>
<th>Score</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment of burden</td>
<td>8</td>
<td>7</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Inducement to perform</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>Perceived risk</td>
<td>1</td>
<td>3</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>Peer pressure</td>
<td>2</td>
<td>3</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td><strong>Non-compliance risk</strong></td>
<td>3</td>
<td>1.66</td>
<td>0.77</td>
<td>0.64</td>
</tr>
</tbody>
</table>

Could we make an assessment of each parameter and then work out how they could be modified?

Lowest possible risk index would be 0.5; highest is 5.5
We have to teach old dogs new tricks

- You can do that and there is science to prove it

- Humans are far more difficult but the principle is the same
  - Treats!

Motivators

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What Motivates Staff?


<table>
<thead>
<tr>
<th>Subconstruct</th>
<th>Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient needs and resource</td>
<td>Patient safety is primary motivation for prevention efforts</td>
</tr>
<tr>
<td>Available resources</td>
<td>Sufficient resources for some activities</td>
</tr>
<tr>
<td>Goals, monitoring, and feedback</td>
<td>Closer monitoring of improvements made, in combination with greater personal feedback and data transparency, would provide greater motivation</td>
</tr>
<tr>
<td>Culture</td>
<td>The idea that the organisation is “the best” motivates individuals to do their best</td>
</tr>
<tr>
<td>Leadership engagement</td>
<td>Leadership as great advocates for health care workers’ needs</td>
</tr>
</tbody>
</table>

The tools of our trade..
Be Positive!

- The power of positive reinforcement
  - Skinner (1904-90)
  - Research suggests that positive reinforcement shows a 17% increase in performance
- Studies of hand hygiene in healthcare also show this

A model of actionable feedback


- Timely?
  - Yes: Optimal Effect on Performance
  - No: No effect on performance
- Individualised?
  - Yes: Diminished effect on performance
  - No: No effect on performance
- Non-punitive?
  - Yes: Optimal Effect on Performance
  - No: Diminished effect on performance
- Customisable?
  - Yes: Optimal Effect on Performance
  - No: Possibly diminished effect on performance

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We will need leadership

- The process of social influence in which one person can enlist the aid and support of others in the accomplishment of a common task

- The art of mobilising others to want to struggle for shared aspirations

- Some have argued that leaders are born, not created
  - Galton (1869) Hereditary Genius
  - The plethora of books and self-help manuals suggests otherwise

Successful leaders in IPC
Saint et al, ICHE (2010)

- Think strategically while acting locally
  - involves canvassing before crucial committee meetings and votes
    - Deal directly with resistant staff
  - leverage personal prestige to move initiatives forward
  - form partnerships across disciplines

- Hospital epidemiologists and infection preventionists often played more important leadership roles in their hospital’s patient safety activities than did senior executives
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We will have to display leadership

Leadership inaction vs. Leadership in action

Watch for Resistors and Constipators
Saint et al, Joint Commission Journal Quality and Safety 2009 35(5)

- Two types of person impede HCAI activities
  - Active Resistors - hospital personnel who vigorously and openly oppose changes in practice; increase the difficulty of implementing new methods to prevent infection
  - Organizational Constipators - mid- to high level executives who prevent or delay actions without active resistance, thereby acting as covert barriers to change by increasing the work required to implement evidence based practice

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Overcoming the Resistor

- Effective championing by an engaged and respected change agent that can speak the language of the staff they are guiding (e.g., a surgeon to other surgeons)
- Participation in collaborative efforts that generally align hospital leadership and clinicians in the goal of reducing health care–associated infection
- Data feedback comparing local infection rates to national rates
- Data feedback comparing rates of compliance with the practices to rates of others in the same area

Hospital Management

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Dealing with Constipators

- Include organizational constipators early in group discussions in order to improve communication and obtain buy-in
- Work around individuals (only short-term solution)
- Take advantage of ‘turnover opportunities’ when the constipator leaves the organization by hiring a person who has a very high likelihood of being effective
- Terminate the constipator’s employment
Use of Leadership Rounds

- Explored unit-based HAI leadership rounds (LRs) at a large academic hospital
  - Two executive leaders (associate chief medical officer and the associate chief nursing officer) had a goal of visiting units regularly to determine whether evidence-based and best practices were being routinely integrated into daily unit operations
- Staff members disclosed unit-specific problems and readily engaged in problem-solving with top hospital leaders
  - Findings revealed that leaders used words that demonstrated fallibility and modelled curiosity, 2 factors associated with learning climate and psychologic safety

Clinical impact of LRs?

- Because of a significant and rapid reduction in CAUTI rates after LR initiation, executives continued the initiative and, over a span of 6 months, LRs expanded to include CLABSI and CDI
Interview Themes

- Listening is a strength of leaders
- Modelling curiosity is a strength
  - “There’s nothing people like better than being recognized as an expert. And if the associate Chief Medical Officer says I don’t know what you’re talking about, can you draw me a picture; that de-escalates his profile, elevates the other person in front of them even momentarily”
- Showing fallibility is a strength
  - “If you start off by showing your own fallibility, they (staff or others) start taking their armour off, and you can stand there face to face and have an honest conversation”

Unlearning

- Getting someone to discard old knowledge and practices and overwrite with new is difficult as there has to be an acceptance that they have been wrong all this time..
  - Better to argue that these should now be set aside as no longer appropriate
  - There is almost an element of negotiation
    - The art of not losing face
- This will not only apply to others, we also have to ‘unlearn’
Are Infection Preventionists good followers?
Todd Greene and Saint (2015) AJIC

- Two surveys, one looking at followership characteristics, one looking at whether IPC Interventions are in place
  - Majority fell into the ‘exemplary category (self reported, so possible social desirability bias)
  - Hospitals with truly exemplary followers in infection control roles may be more likely to use recommended prevention practices
Thoughts from a Soccer Coach
Gareth Southgate, July 2018

- "If players feel you respect them, they are more likely to follow you..."
- "I like players to have responsibility; to think about what we are asking them to do, to have an opinion on the way we are asking them to play and the way we are asking them to train,"
- "I think if the players have some ownership of what's going on then that's going to help them make better decisions on the field and also buy into the way that we are trying to progress."
- "I like the players to speak up in meetings... like them to have an opinion on the game, because in the 85th minute they have got to make a decision that might win or lose the game and we can't make all those decisions from the sideline."
- Cross out 'player' and insert colleague, nurse, doctor, manager.
- "I think it is important to listen and I think it is important to get a feel of what motivates the individual."
The Future of Infection Control – Bright or Bleak?  
Martin Kiernan, University of West London, UK  
A Webber Training Teleclass

The future of Infection Prevention  
Patel & Kallen (2018) ICHE 39(7)

- Will be based on human factors and systems engineering
  - Commentary on Leback et al ICHE (2018);39:84
- Paper looking at barriers and facilitators of injection safety
- Problems
  - Low generalizability – meaning resource intensive
  - Lack of human factors and systems engineering expertise

The overall outlook

- Is bright
  - In fact so bright, many cannot see it because of the glare
  - Infection control was our past before antibiotics; in a world without them infection prevention becomes critical if healthcare is to be provided at the same level
  - We have evidence for interventions, we must help colleagues to reliably implement them and look for new ones

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Final Points

- It is likely that new drugs will be developed at some stage but for now, this is our opportunity to embed best practice
  - Never waste a crisis

- Prevention is better than cure
  - Especially when there is no cure

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<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 17, 2018</td>
<td>HOSPITAL INFECTION CONTROL FROM A DEVELOPING COUNTRY’S PERSPECTIVE</td>
<td>Dr. Aamer Ikram, Director, National Institute of Health, Islamabad, Pakistan</td>
</tr>
<tr>
<td>July 19, 2018</td>
<td>FLOOD REMEDIATION IN HEALTHCARE FACILITIES – INFECTION CONTROL IMPLICATIONS</td>
<td>Michael Buck, University of Minnesota</td>
</tr>
<tr>
<td>August 16, 2018</td>
<td>INTERPRETING RESEARCH EVIDENCE: A KEY SKILL FOR INFECTION CONTROL PROFESSIONALS</td>
<td>Prof. Donna Moralejo, Memorial University School of Nursing, Newfoundland</td>
</tr>
<tr>
<td>September 6, 2018</td>
<td>MOLECULAR DIAGNOSTICS AND ITS ROLE IN INFECTION PREVENTION</td>
<td>Sanchita Das, University of Chicago</td>
</tr>
<tr>
<td>September 13, 2018</td>
<td>NEONATAL SEPSIS PREVENTION IN LOW-RESOURCE SETTINGS</td>
<td>Prof. Dr. Angela Dramowski, Stellenbosch University, Cape Town</td>
</tr>
<tr>
<td></td>
<td>THE SILENT TSUNAMI OF AZOLE-RESISTANCE IN THE OPPORTUNISTIC FUNGAL INFECTION</td>
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</tbody>
</table>

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