The Clinical and Business Case for Investing in Environmental Hygiene
Mark Heller, Unisource Worldwide
A Webber Training Teleclass

The Clinical & Business Case for Investing in Environmental Hygiene

Hosted by Paul Webber
paul@webbertraining.com

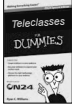*Mark Heller*
Unisource Worldwide
Toronto, Canada

www.webbertraining.com   *February 28, 2013*

Disclaimer

• I am not a certified Infection Preventionists
• I am not a certified Financial Professional
• I am Environmental Hygiene Operations Professional
  • 25 years of healthcare experience
  • lead hygiene programs in over 350 healthcare facilities
  • worked with 100's of operations managers
  • coast to coast and multi-national clients

Today, I make my living helping healthcare leaders, across North America, improve clinical outcomes and financial performance through improvements in clinical environmental hygiene.

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Agenda

Investing in Environmental Hygiene

• Traditional perspectives
• Is there a HAI problem?
• What do the experts say?
• Return on Investment
• What does good look like?
• How you can help?

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Traditional Thinking
clinician – evidenced-based practice
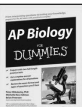
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Traditional Thinking
scientist - peer reviewed study

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Traditional Thinking
healthcare manager – standard or guideline

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Traditional Thinking
administrator – financial report
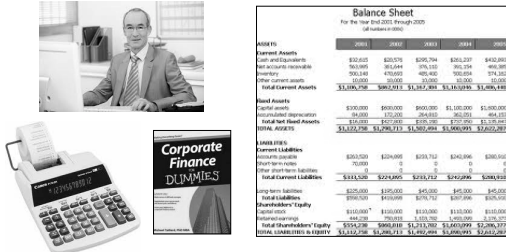
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Is the HAI problem getting worse?
clinical rates

- Some forms of HAI's are dropping
- Pervasive challenge contact-based pathogens
  - Clostridium difficile
  - Methicillin-Resistant Staphylococcus Aureus
  - Vancomycin-Resistant Enterococci
  - Acinetobacter
  - Norovirus
- Speed of emerging/global pathogens
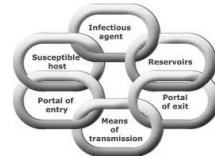
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Is the HAI problem getting worse?
media & public awareness

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Is the HAI problem getting worse?
hospital budgets & clinical environments are under stress

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Is the HAI problem getting worse?
the elephant in the room…

Wellness	Access	Cost

Clinicians   The Patient   Public (voters)

EVS Providers   Administrators   Politicians
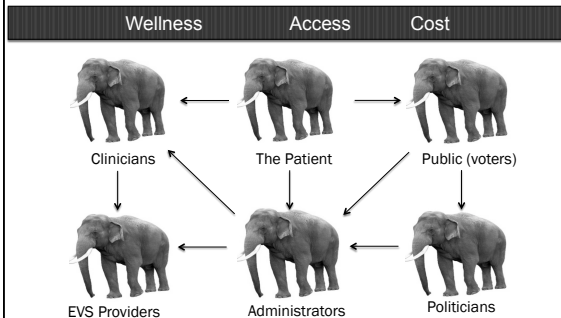
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Not all environments are created equal

Clinical Environments
- Active Patient Treatment & Care

Non – Clinical Environments
- Public, Administrative, Support

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Not all environments are created equal

- Hand hygiene compliance will only go so far

- Intended use of the equipment & surface in the patient treatment & care process

- The proximity of environmental surfaces to the point of patient treatment or care

- Risk if C-diff infection increase if the previous occupant was infected

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What do the clinical experts say?
the hygiene of the clinical environment is a matter of patient safety

J Hosp Infect. 2009 Dec;73(4):378-85. Epub 2009 Sep 1.
The role of environmental cleaning in the control of hospital-acquired infection.
Dancer SJ.
Department of ...
stephanie.danc...

Am J Infect Control. 2010 Jun;38(5 Suppl 1):S25-33.
Role of hospital surfaces in the transmission of emerging health care-associated pathogens: norovirus, Clostridium difficile, and Acinetobacter

Arch Intern Med. 2011 Mar 28;171(6):491-4.
Environmental cleaning intervention and risk of acquiring multidrug-resistant organisms from prior room occupants.
Weber DJ, Rutala WA.
Department of Medicine...

Datta R, Platt R, Yokoe DS, Huang SS.
Division of Infectious Diseases and Health Policy Research Institute, University of California Irvine School of...

Infect Control Hosp Epidemiol. 2011 Jul;32(7):687-99.
The role played by contaminated surfaces in the transmission of nosocomial pathogens.
Otter JA, Yezli S, French GL.
Directorate of Infection, St Thomas' Hospital and King's Coll...

Environmental Hygiene: What We Know from Scientific Studies

Role of hospital surfaces in the transmission of emerging health care-associated pathogens: Norovirus, *Clostridium difficile*, and *Acinetobacter* species

David J. Weber, MD, MPH, [a,b] William A. Rutala, PhD, MPH, [a,b] Melissa B. Miller, PhD, [c,d] Kirk Huslage, RN, BSN, MS [b] and Emily Sickbert-Bennett, MS [b]
Chapel Hill, North Carolina

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A Healthcare facility is NOT a hotel
patient satisfaction driven from confidence that the environment is safe, not the decor

OMG! DUMMIES

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Watch the bottom line – cut the cleaning budget
please don't blame the business school...

Traditional finance management dogma teaches:

- manage the overhead expenditures carefully
- reduce or outsource non-core competencies
- eliminate non-value adding expenses

Services to maintain the hygiene of the clinical environment are NOT an "overhead expense" !

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What do the Finance experts say?
healthcare finance management association (America)

2013 Emerging Priorities:

- *Prepare for the fiscal cliff (PPACA)*
- *Expansion of Medicaide*
- *Focus on value*

hfma

Collaboration, accountability, and communication

People and Culture

Performance Improvement

Elimination of variation, unsafe practices, and waste

Value

Data and metrics

Business Intelligence

Contract and Risk Management

Measurement, assessment, and mitigation of risk

Value Project Objectives

- Define value in health care
- Identify trends related to value
- Identify ways to enhance value
- Describe what should be done
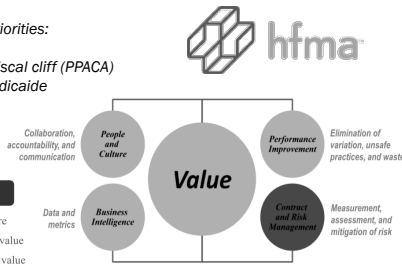
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The Business Case for Investing in Infection Prevention
return on investment

Demonstrate ROI to Make an Effective Business Case for Infection Prevention
Copyright 2012 by Virgo Publishing
http://www.infectioncontroltoday.com/
By:
Posted on: 1...

How to Solve The Cost Crisis In Health Care
The biggest problem with insurance or p...
measuring the wro...
by Robert S. Kaplan...

Special Report
September 2006

Prevention and Control of Hospital-acquired Infections

Office of the Auditor General of Ontario

The Impact of Environmental Hygiene on Healthcare-Associated Infections
One of the most frequent adverse events that occur during the treatment of other medical conditions and are associated with significant morbidity and mortality are HAIs. In the United States, an estimated 1.7 million HAIs occur in hospitals each year and these are associated with approximately 99,000 deaths. This equates to a rate of around 1 in 20 hospitalized patients will acquire an HAI during their hospitalization. HAIs also place a high economic burden on the healthcare system, costing United States hospitals an estimated $28.4 to $45 billion per year*.

The Economics of Hospital Acquired Infections: Why They Are A Bad Investment? *
Dick Zoutman, MD, FRCPC
Professor & Chair
Divisions of Medical Microbiology & Infectious Diseases
Queen's University
Medical Coordinator SEOICN

*Or why prevention is a **good** investment!

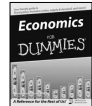© copyright 2013, Mark Heller, Toronto, Canada

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What do the ECONOMISTS say?
"measure what matters most"

- Range of cost models and benchmarks
- A number of variables enter into the assessment
  - Direct medical patient-care costs
  - Indirect patient costs
  - Non-medical costs
  - Intangible costs
- Lack of consistency of understanding
- Generally poor cost accounting practices
- Incomplete measurement of cost and outcomes

2007, CDI infections cost the US healthcare system $1.01 – $1.62 billion USD

R. Douglas Scott II, Economist, March 2009

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Menu of HAI Intervention Strategies
consider the economics & unit-cost?

- Patient Re-Admission
- Antibiotic Therapy
- Intensive Care Intervention
- Extended Inpatient Stay with Precautions
- Enhanced Hand & Environmental Hygiene

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...and what of the Chief Financial Officer ?

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Return on Investment (ROI)

Definition

- A performance measure used to evaluate the efficiency of an investment or to compare the efficiency of a number of different investments. To calculate ROI, the benefit (return) of an investment is divided by the cost of the investment; the result is expressed as a percentage or a ratio.

The return on investment formula:

$$ROI = \frac{(Gain\ from\ Investment\ -\ Cost\ of\ Investment)}{Cost\ of\ Investment}$$

www.investopedia.com

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The Business Case for Investing in Infection Prevention
return on investment (ROI)

- What will it cost?
  - Identify the Investments
    - Staffing (HOW will the work get done on Sunday evening?)
    - Supplies & Equipment
    - Supervision (WHO will check that it happened?)
    - What about the other cleaning staff?

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The Business Case for Investing in Infection Prevention
return on investment (ROI)

- What will it save?
  - Translate the measures into lower HAI rates
    - Who will track the improvement?
    - When will the improvements begin?
    - Can the improvement be sustained?
- Factors that drive HAI's are interconnected (don't over complicate this...go with what you know!)

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The Opportunity
organization-wide savings or cost avoidance

The costs of treating HAI's are rarely identified in a single cost center; however typically include:

- Additional Medical, Nursing and Clinical Interventions
- Enhanced Diagnostics & Therapeutics
- Post Discharge Monitoring
- Increased Likelihood of Re-admission
- Additional Management Oversight
- Missed Revenue Opportunities
- Public Relations, Patient Satisfaction (HCAHPS)
- Legal & Insurance Costs

Hospital Operating Funding
Multi-Year Base Funding Profile

* Source WHO, Healthcare CPI adjusted 2011

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The Opportunity
organization-wide savings or cost avoidance

Estimates vary, however current thinking is that HAI's represent 10-15% of the organization-wide cost-of care budget.

Industry experts believe that between 20-40% of HAI's are preventable; with contact-based transmission being one of the most common preventable occurrences.

Example

500 Bed acute-care Hospital

Cost of Care: $80M - $100M*

Cost of HAI: $8M – $16M

Cost to clean : $8M – $10M

HAI Savings & Cost Avoidance Opportunity: $3.2M – $6.4M

* Source WHO, Healthcare CPI adjusted 2011

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Let's Break It Down
cost of environmental hygiene

Labor Allocation:
Clinical Environment   65%
Non-Clinical Environment   35%

- $10M Annual Cleaning Budget
  - Labor Cost   85%
  - Supply Cost   5%
  - Waste Management
  - Other   5%

Example

Cost to Clean

$ 500,000 Cleaning Supplies
$ 1,000,000 Waste Management

Compensation
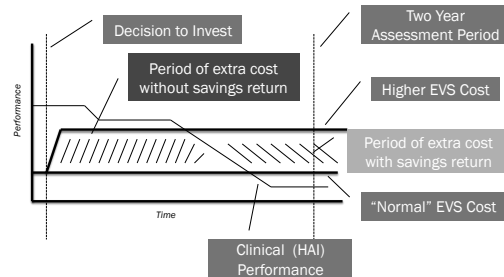$ 5,535,000 Clinical Env.
$ 2,975,000 Non-Clinical Env.

HAI Savings & Cost Avoidance Opportunity:
$3.2M – $6.4M

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Let's Break It Down
ROI: period of assessment

Decision to Invest

Period of extra cost without savings return

Two Year Assessment Period

Higher EVS Cost

Period of extra cost with savings return

"Normal" EVS Cost

Clinical (HAI) Performance

Performance

Time

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Let's Break It Down
ROI calculation (this won't hurt)

There are two phases of assessment

1. The period when upfront investment costs are not off-set by savings; this is referred to as your "investment"
2. The period when investment in enhanced cleaning are off-set by savings (lower cost of care); the degree of off-set savings is your "return"

Savings must be greater than the higher costs associated with enhanced cleaning AND allow for the payback of the up-front "investment"

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Let's Break It Down
ROI calculation (this won't hurt)

"Return" is the cumulative savings (or cost avoidance) the hospital experienced over your assessment period, after funding the higher cost AND payback of initial investment

The time it takes to pay-back the up front investment matters
- payback of less than 24 months
- missed opportunity costs
(other Projects or Activities which could not proceed because the hospital chose to invest in enhanced cleaning)

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Pitching Your Proposal

1. Define your objective
   - target Organism
   - reduction target
   - period of measure
2. Calculate the costs for enhanced clinical hygiene
   - resources to implement
   - resources to sustain
3. Determine your HAI (activity-based) cost references
4. Calculate your investment payback (weeks/months)
5. Establish your ROI objective

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Pitching Your Proposal

1. Present your Economic Argument
   - Saving money will not be the main driver of decision-making
   - Making value adding investments (without spending more) will be
2. Articulate your Value Proposition (align with corporate priorities)
   - People development / patient satisfaction
   - Evidence-based investments
   - Improved performance – optimize patient throughput & clinical resources
   - Risk Management - patient and employee safety

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What does a "Good" clinical environmental hygiene program look like?

- Competency
- Frequency
- Quality
- Consistency
- Verifiable Outcomes
- Adaptability
- Builds Sustainable Framework

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What can you do to help?

- Demand Competency
- Coach don't Compensate
- Don't worry about Monday-Friday, 8-4; focus on Sunday evening!
- Get the Data
- Enter the Lions Den (aka the CFO office)
  - Learn your facilities' approach to financial valuation, return-on-investment and activity-based costing
- Get Help If You Need It

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