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Developing National Evidence-based Guidelines for Preventing Nosocomial Infections in National Health Service Facilities in England

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Background:
The United Kingdom National Health Service (NHS) is one of the largest providers of comprehensive healthcare in the world. To reduce the risk of infection, a nurse-led multiprofessional team of researchers and specialist clinicians were commissioned by the Department of Health and the National Institute for Health and Clinical Excellence (NICE) in England to establish the evidence base for infection prevention and control practice and then to develop national evidence-based (EB) guidelines for preventing healthcare-associated infections (HCAI) in the NHS.

Objective:
To develop a series of national EB guidelines focused on preventing HCAI in NHS care facilities to ensure that detailed local operational protocols incorporated best evidence of clinical effectiveness.

Methods:
A nationally recognised methodological framework developed by the Scottish Intercollegiate Guideline Network and NICE was used for systematically identifying, appraising, classifying and then incorporating best evidence into infection prevention and control guideline recommendations. Extensive consultation to ensure ownership and a variety of initiatives were used to support guideline implementation into clinical practice. A schedule was established for reviewing and updating the evidence base on a timely basis and adjusting guideline recommendations when necessary.

Results:
A progressive series of national EB guidelines were developed that describe the precautions healthcare workers need to take to minimise the risk of infection to themselves and to patients. Recommendations were made for the use of standard infection prevention principles which included guidance on hospital environmental hygiene; hand hygiene; the correct use of personal protective equipment; and the safe use and disposal of sharps. Additional recommendations were made for preventing infections associated with the use of medical devices, i.e., urinary catheters, central venous access devices and enteral feeding systems.

Conclusions:
These guidelines are based on the best evidence presently available, not the best evidence possible. Consequently, an integral part of guideline development is to identify areas for further research so that future guidelines can be based on better quality evidence than that which is currently available. A comprehensive strategies for guideline dissemination and support for local implementation and clinical audit need to be employed to ensure that national EB guidelines influence clinical practice decisions at local level. Clinically effective infection prevention and control practice is an essential

feature of protecting patients. By incorporating these guidelines into routine daily clinical practice, patient safety can be enhanced and the risk of patients acquiring an infection during episodes of healthcare in the NHS in England can be minimised.

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Improving Patient Safety and Compliance: Incentives for a Dedicated Infection Control Practitioner (ICP) in Ambulatory Care

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Background:
A growing number of invasive procedures involving new technologies in the ambulatory care setting require increasing Infection Control (IC) oversight. Traditionally, IC rounds in the ambulatory setting are either not performed or performed by ICPs whose primary effort is focused on the inpatient setting.

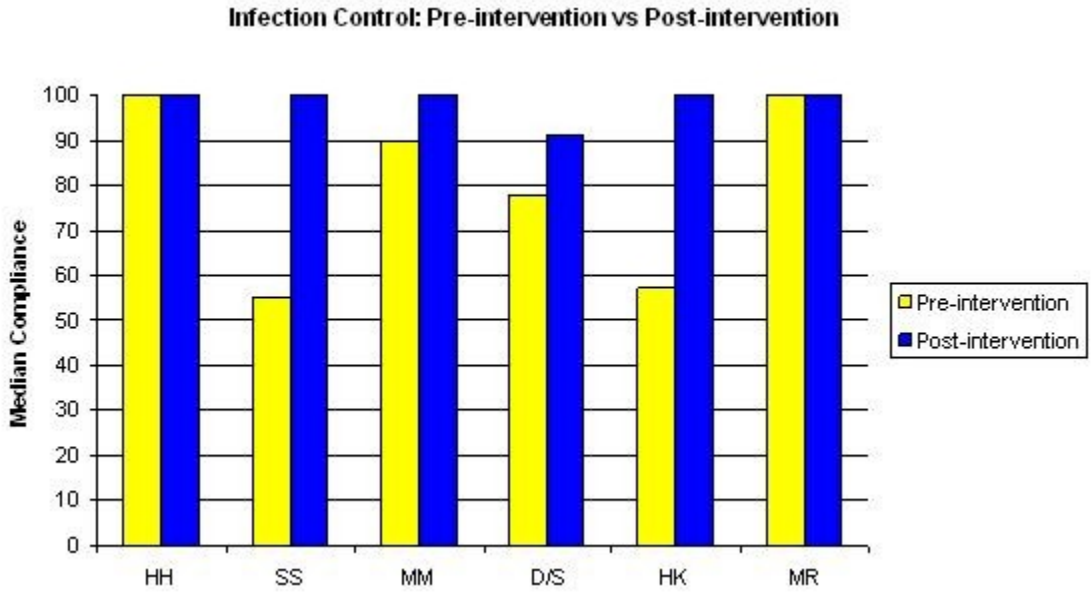
Objective:
To determine if dedicating an ICP entirely to ambulatory care will lead to higher rates of compliance with IC protocols.

Methods:
In 6/2006, DUMC hired a 1.0 FTE ICP whose entire effort was dedicated to ambulatory care. IC surveys were performed using a standardized assessment tool in order to establish baselines to allow for future benchmarking. Six categories of IC protocols were assessed: hand hygiene (HH), supply storage (SS), medication management (MM), disinfection and sterilization (D/S), housekeeping (HK), and medication refrigerators (MR). The “pre-intervention period” was defined as the 5 month period from 1/06 to 5/06. Upon hire, in 6/06, the ambulatory care ICP reviewed the pre-intervention compliance scores and performed the following focused interventions: in-service education to each outpatient location, designed and distributed algorithms and logs pertaining to high level disinfection, initiated a HH campaign, performed routine monitoring and feedback regarding SS and MM, revised and distributed a comprehensive list of approved cleaning products, and revised and distributed the refrigerator policy. The “post-intervention period” was defined as the 6 month period after the hire of the ICP, from 6/06 to 11/06. Differences in median compliance rates were compared using the Wilcoxon signed rank sum test.

Results:
Thirty-one IC surveys were performed at 18 clinics in the pre-intervention period (mean = 1.7 visits per clinic). During the post-intervention period, 29 formal surveys were performed and 16 additional visits were made (mean = 2.5 visits per clinic). Median compliance rates in the pre- and post-intervention periods for the six categories of protocols are shown in Figure 1. A significant increase in compliance was noted in 5 of the 6 categories: SS ($p=0.0003$), MM ($p=0.01$), D/S ($p=0.02$), HK ($p<0.0001$), MR ($p=0.02$). No change was noted in the rate of compliance with HH, but hand hygiene practice remained excellent (median 100%, $p=0.12$).

Conclusions:

Dedicating ICP effort to ambulatory clinics resulted in significant improvement in compliance with IC guidelines and helped to improve patient safety.



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Fall Prevention Intervention on the Medical Service in a Teaching Hospital

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Background:
Falls are the most common adverse event reported in hospitals, yet there is little evidence of the efficacy of hospital fall prevention programs.
Objectives: To implement a multifaceted fall intervention, track compliance, and evaluate efficacy in reducing fall rates over time.

Methods:
Nursing staff on two medicine floors at an academic hospital were introduced to new fall prevention procedures through self-study educational modules with pre- and post-tests and inservices (04/05 - 12/05). Two similar medicine floors served as controls. Prevention strategies were collected on each patient that fell plus three high risk patients who did not fall. Fall rates were compared using the relative risk (RR) with 95% confidence intervals (CI).

Results:
Post-test fall prevention knowledge scores were greater than pre-test scores (post-test mean 91%, pre-test mean 72%, P<0.001). There were 57 falls on intervention floors and 78 on control floors (mean age 65.5 vs 65.5, P=0.985; female 58% vs 51%, P=0.460). Use of fall prevention strategies was greater on intervention than control floors, including patient education via pamphlets (46% vs 14%, P < 0.001), toileting schedules (36% vs

24%, P=0.015), and discussion of high risk medications (51% vs 30%, P < 0.001). In the first 6 months, the intervention floors' fall rate (4.2 falls/1000 patient-days) was significantly less than control floors (6.6 falls/1000 patient-days) (RR = 0.63; CI = 0.40 - 0.98) and less than intervention floors during the 9 month pre-intervention period (6.7 falls/1000 patient-days) (RR = 0.62; CI = 0.41 - 0.93). The intervention floors' fall rate increased to 6.9 for the last 3 months of the intervention. Although the intervention floors' fall rate for the entire 9 months was less than control floors (5.0 falls/1000 patient-days vs 6.8 falls/1000 patient-days), the difference was not significant (RR = 0.74, CI = 0.53 - 1.04).

Conclusions:
Nursing staff's knowledge and use of fall prevention strategies increased. Fall rates decreased for the first 6 months of the intervention, but the reduction was not sustained.