Health Care Quality Performance (HCQP) Program

HOSPITAL-ACQUIRED INFECTIONS AND PREVENTION ADVISORY SUBCOMMITTEE

8:00-9:00am, September 27, 2010
Department of Administration, Conference Room C

Goals/Objectives

- To discuss HAI work to date and make policy recommendations for pending and upcoming reports

Members

✓ Nicole Alexander, MD	✓ Maureen Marsella, RN, BS	✓ Janet Robinson, RN, Med, CIC
✓ Rosa Baier, MPH	✓ Linda McDonald, RN	✓ Melinda Thomas
☐ Utpala Bandy, MD	✓ Leonard Mermel, DO, ScM	✓ Nancy Vallande, MSM, MT, CIC
✓ Margaret Cornell, MS, RN	✓ Pat Mastors	✓ Cindy Vanner
✓ Marlene Fishman, MPH, CIC	✓ Robin Neale, MT (ASCP), SM,CIC	✓ Samara Viner-Brown, MS
✓ Julie Jefferson, RN, MPH, CIC	✓ Kathleen O'Connell, RN	
✓ Andrew Komensky, RN	✓ Lee Ann Quinn, RN, BS, CIC	

Time	Topic/Notes

8:00am **Welcome & Administrative Updates**
Leonard Mermel, DO, ScM

- Len opened the meeting and reviewed today's objectives.
- Rosa shared the September issue of the Rhode Island Medical Society's journal, Medicine/Health RI, which she and Stefan Gravenstein edited. The issue is entirely devoted to HAI and includes a number of articles by HEALTH staff members and HAI Subcommittee members. For example, Melinda and Sam co-authored an article on the Subcommittee's work to publicly report HAIs.

8:05am **Data Updates**
Rosa Baier, MPH

- The recurring data reports were included on the agenda:

Report	Frequency	Data Period	Status
Current:			
1. SCIP I, II, and III measures	Quarterly	Q1 09-Q4 09	Sep 10
2. CLABSI rates	Quarterly	Q2 10	Sep 10
3. Hand hygiene measures	Annually	2010	Feb 10
Proposed:			
4. Employee flu vaccination	Annually	2009-2010	Expected Sept 10
5. MRSA	Quarterly	TBD	Pending
6. C diff	Quarterly	TBD	Pending

- Rosa provided updates on the CLABSI report, which was recently posted, and SCIP report, which is ready for release as soon as the CMS embargo on the data is lifted.
- Len then opened discussion about the employee flu vaccination reports:
  - 2009-2010 data report: Rosa shared that program staff have eliminated the 'Other' category, per Subcommittee recommendation, and incorporated edits received from hospitals during the 5-day preview period. The report is undergoing data-checking and will be posted in the next 1-2 days.
  - 2010-2011 communication to hospitals:
    - Len then shared John's email to Hospital Employee Health Directors, which included the data collection/submission forms and reminders about the definition of healthcare workers as those with direct patient contact (defined by the Subcommittee as face-to-face interaction).
    - Robin suggested that the Subcommittee consider including all employees in the data reported to HEALTH, rather than limiting reporting to healthcare workers. She indicated that separating out healthcare workers and non-healthcare workers is difficult within her IT system, and suggested expanding 'Other' to include non-healthcare workers. John responded that this makes good public health sense, but that amending the current language would require a regulatory change, but that the Subcommittee may be able to recommend such a change to the Director.
    - Robin also commented that most hospitals define healthcare workers as those who provide direct patient care (easy to obtain within hospitals' IT systems), rather than those with direct patient contact (face-to-face patient interaction; harder to obtain). Amending the restriction to direct patient care (vs. direct patient contact) or eliminating it entirely could help ensure 'apples to apples' comparisons between facilities, while also ensuring the focus is on vaccinating all who are at risk of flu exposure and therefore transmission to patients.
    - Len commented that limiting to healthcare workers is an attempt to risk-stratify and also asked whether expanding reporting to include employees who are not healthcare workers would result in reporting lower vaccination rates if the vaccine supply doesn't allow facilities to vaccinate all healthcare workers and non-healthcare workers. John clarified that the forms include employees vaccinated at the facility and elsewhere. Gina suggested that the forms provide an explanatory note if there is insufficient vaccine to meet hospitals' demand.
    - **Vote**: After discussion, the group approved (1) recommending to Dr. Gifford that HEALTH expand the regulations to include hospital employees who are not healthcare workers in the 2010-2011 flu season and (2) publicly reporting data for all hospital employees (Yes – 13, No – 3, Abstain – 2).
    - Gina suggested sending a letter to hospital CEOs and Employee Health Directors to ensure that everyone is aware of the reporting requirement. Rosa indicated that HEALTH sent a letter last year and can send a reminder using the recent nursing home letter as a template. If approved by Dr. Gifford, this letter can include notification of the regulatory change the Subcommittee recommended (above).

8:30am **MRSA & C. difficile Reporting**
Leonard Mermel, DO, ScM

- Len led the group in discussion of the MRSA and C. difficile reporting timelines. At the last meeting, the group agreed to push back reporting for both topics (in recognition of hospitals' requirement to enroll in NHSN and begin submitting CLABSI data by January 2011) but did not recommend timeframes.
- MRSA:
  - The group began discussion with MRSA, reiterating earlier recommendations to use NHSN's MRSA CLABSI definitions and have hospitals submit data using the NHSN system. Rosa asked whether Q1 2011 could serve as the pilot, but Julie responded that she did not see any need for a pilot. The general consensus was that hospitals are prepared to begin collecting and reporting simultaneously.
  - **Vote**: After discussion, the group approved publicly reporting MRSA CLABSIs in ICU patients beginning with Q1 2011 data (Yes – 17, No – 0, Abstain – 1).
- C. difficile:
  - After discussing MRSA reporting, the group turned to C. difficile. Since previous Subcommittee and ICP SNE group discussions focused primarily on MRSA, there are a greater number of outstanding questions regarding C. difficile (e.g., should we report infections? Lab IDs?).
  - Given the late hour, Len deferred the discussion to the October meeting. The agenda will focus specifically on C. difficile reporting, with an objective of identifying a timeline. Marlene suggested sharing relevant literature on recommendations that may affect the CDC's definitions for C. difficile infection.

8:55am **Action Items & Next Steps**
Rosa Baier, MPH

- Gina asked Maureen for a brief update on the HAI Collaborative and hospitals' enrollment in NHSN, specifically. Maureen responded that the Collaborative met in August and will reconvene in the coming weeks. She has been in touch with all hospitals on their NHSN enrollment plans, and is aware of seven hospitals that have enrolled. Others may have also completed the process.
- **Action items***:*
  - Share Subcommittee recommendation with Dr. Gifford (Len/Sam/Rosa)
  - Approve or disapprove the Subcommittee Recommendation (Dr. Gifford)
  - Send a letter to hospital CEOs and Employee Health Directors (Sam/Rosa)
  - Create October agenda focusing on C. difficile (Len/Sam)
  - Share links to the NHSN training module and toolkits (Maureen)
- Next meeting: 10/25/10

From:	John Fulton
To:	Baier, Rosa
Subject:	Vaccinating HCWs against influenza 2010-11
Date:	Friday, September 03, 2010 1:21:35 PM
Attachments:	HCW-Vacc-Form3.doc HCW - Letter - 9-1-2010.doc HCW-Vacc-Form1.doc HCW-Vacc-Form2.doc

---

Dear Health Care Facility Manager,

The Rhode Island Department of Health (HEALTH) wishes to remind you of the continuing requirements concerning the offering of influenza vaccine to health care workers (HCWs) in your facility.

Please see the documents attached, including a memorandum from the Rhode Island Department of Health and three reporting forms with updated reporting format for the 2010-2011 influenza vaccination season.

Please address all questions to me, by email or telephone.

Thank you for your attention to this matter.

John P. Fulton, PhD
Rhode Island Department of Health
3 Capitol Hill
Providence, RI 02908-5097

John.Fulton@health.ri.gov

401-222-1172 (vc)

Chief Health Program Evaluator (RI Dept Health)
Clinical Associate Professor of Community Health (Brown University)

Rhode Island Department of Health
Three Capitol Hill
Providence, RI 02908-5097

www.health.ri.gov

Date: 1 September 2010

To: All Licensed Health Care Facilities

From: John P. Fulton, PhD

Re: Influenza Vaccination – Health Care Workers

Dear Health Care Facility Manager,

The Rhode Island Department of Health (HEALTH) wishes to remind you of the continuing requirements concerning the offering of influenza vaccine to health care workers (HCWs) in your facility. "Health care worker" means any person employed or volunteering for a health care facility who has, or may have, direct contact with a patient in that facility (per Rhode Island R23-17-HCW, Rules and Regulations Pertaining to Immunization, Testing, and Health Screening for Health Care Workers, attached).

Since July 1, 2007, every health care facility in the state of Rhode Island has been and is responsible for offering annual vaccination against seasonal influenza to all HCWs.

The goal of this effort is to protect patients from exposure to HCWs infected with influenza, by preventing cases of influenza among HCWs.

Influenza vaccination season is traditionally defined as October 1 through April 30. However, this year, influenza vaccine will be available in September. **Therefore, please report on influenza vaccine offered and given from September 1, 2010 through April 30, 2011.**

Vaccine should be offered to all personnel – employees and volunteers – who are expected to have direct patient contact during influenza vaccination season, as soon as vaccine becomes available (or upon hiring, for those workers hired during the influenza season.) Please note that during years in which influenza vaccine availability is limited, the Director of Health may adjust these requirements in accordance with contingencies.

The offering of vaccine shall include education and training on the severity of influenza, especially among high-risk patients, with the intent that HCWs understand their role in influenza transmission and its prevention. Unvaccinated HCWs with direct patient contact represent efficient routes of influenza transmission to high-risk patients, who may suffer severe complications from influenza, including the risk of death. Based on Rhode Island Vital Records reports, 200-300 deaths occur every year in the state as a result of influenza-associated complications.

The offering of vaccine shall also include an "active declination policy" and related record keeping. HCWs are permitted to decline influenza vaccination, but health care facilities must assure that HCWs who remain unvaccinated have personally declined the vaccine. As well, health care facilities must record a reason for each declination.

Health care facilities are responsible for recording the numbers of HCWs in their employ during influenza season and their influenza vaccination status, including a breakdown of reasons for declining influenza vaccination. These numbers must be reported by each health care facility to HEALTH annually, between May 1 and June 30, inclusive, for the influenza season immediately preceding the report.

Please note the three forms which accompany this letter. Please use **Form 1** as an individual HCW influenza vaccination record. Please use **Form 2** to aggregate vaccination statistics for employees at the end of influenza vaccination season and **Form 3** to aggregate vaccination statistics for non-employees at the end of influenza vaccination season. HEALTH will notify all health care facilities before May 1 of each year, specifying the manner of reporting aggregate influenza vaccination statistics from each facility.

Please refer all questions to Dr. John Fulton by email (john.fulton@health.ri.gov) or telephone (401-222-1172). Thank you for your attention to these matters.

From: Rhode Island R23-17-HCW, *Rules and Regulations Pertaining to Immunization, Testing, and Health Screening for Health Care Workers*

Section 1.0 *Definitions*

1.6 "**Health care facility**" means any institutional health service provider, facility or institution, place, building, agency, or portion thereof, whether a partnership or corporation, whether public or private, whether organized for profit or not, used, operated, or engaged in providing health care services, including but not limited to hospitals; nursing facilities; home nursing care provider (which shall include skilled nursing services and may also include activities allowed as a home care provider, or as a nursing service agency); home care provider (which may include services such as personal care or homemaker services or as a nursing service agency); rehabilitation centers; kidney disease treatment centers; health maintenance organizations; free-standing emergency care facilities, and facilities providing surgical treatment to patients not requiring hospitalization (surgi-centers); hospice care, physician ambulatory surgical centers and podiatry ambulatory surgery centers providing surgical treatment and nursing service agencies licensed under the provisions of Chapter 23-17.7.1 of the Rhode Island General Laws, as amended. The term "health care facility" also includes organized ambulatory care facilities which are not part of a hospital but which are organized and operated to provide health care services to outpatients such as central services facilities serving more than one health care facility or health care provider, treatment centers, diagnostic centers, outpatient clinics, infirmaries and health centers, school-based health centers and neighborhood health centers; providing, however, that the term "health care facility" shall not apply to organized ambulatory care facilities owned and operated by professional service corporations as defined in chapter 5.1 of title 7, as amended (the "Professional Service Corporation Law"), or to a private practitioner's (physician, dentist, or other health care provider) office or group of the practitioners' offices (whether owned and/or operated by an individual practitioner, alone or as a member of a partnership, professional service corporation, organization, or association). Individual categories of health care facilities shall be defined in rules and regulations promulgated by the licensing agency with the advice of the Health Services Council. Rules and regulations concerning hospice care shall be promulgated with regard to the "Standards of a Hospice Program of Care", promulgated by national hospice organization. Any provider of hospice care who provides such hospice care without charge shall be exempt from the licensing provisions of Chapter 23-17 of the Rhode Island General Laws, as amended, but shall meet the "Standards of a Hospice Program of Care." Facilities licensed by the Department of Mental Health, Retardation and Hospitals, and the Department of Human Services, and clinical laboratories licensed in accordance with chapter 16.2 of Title 23, as well as Christian Science institutions (also known as Christian Science Nursing Facilities) listed and certified by the Commission for Accreditation of Christian Science Nursing Organizations/Facilities, Inc. shall not be considered health care facilities for purposes of Chapter 23-17 of the Rhode Island General Laws, as amended.

1.7 "**Health care worker**" means any person who has or may have direct contact with a patient in a health care facility. This may include, but not be limited to, a physician, dentist, nurse, optometrist, podiatrist, physical therapist, social worker, pharmacist, psychologist, student, on-site faculty, receptionist, dietary staff, housekeeping staff, security personnel, and any officer, employee or agent of that provider acting in the course and scope of his or her employment or agency related to or supportive of health services. For the purposes of these regulations, as they apply to hospitals, "health care worker" shall also mean those non-employee staff, such as volunteers, who are involved in direct patient contact. Transient employees not involved in direct patient contact or outside contractors not involved in direct patient contact are exempt from the requirements stated herein.

Section 6.0 *Requirements for All Health Care Workers: Seasonal Influenza Vaccine*

6.1 Each health care facility shall offer annual vaccination against seasonal influenza to all health care workers involved in direct patient contact.

6.2 On and after July 1, 2007, each health care facility shall be responsible for providing, on an annual basis, to those health care workers having direct patient contact education and training on the severity of influenza, particularly in high-risk patients, and the safety and efficacy of vaccination. The health care facility shall include an active declination policy and related record keeping in this process. Provided, however, the Director may suspend this requirement when there is insufficient vaccine supply, as determined by the Department.

6.3 The health care facility shall develop an active surveillance program to track and record influenza vaccination levels among health care workers, including vaccinations obtained outside of the formal health care facility program. Each health care facility shall be responsible for documenting and reporting to the Center for Epidemiology at the Department annually (by July 1st of each year commencing on July 1, 2008): 1) the number of health care workers who are eligible for said vaccination; 2) the number of health care workers who accept said vaccination; and 3) for those who declined, the reason(s) for such declination. Such reporting shall occur according to procedures and format outlined by the Center for Epidemiology.

FORM 1

INDIVIDUAL HEALTHCARE WORKER INFLUENZA VACCINATION ASSESSMENT

Revised 03/09/09 RRB

INSTRUCTIONS: This form **may** be used to record information on influenza vaccination of healthcare workers (HCWs) engaged in direct patient contact in your facility between September 1st and April 30th (influenza vaccination season). Information should be collected from each HCW who is employed by you during that period of time. Information aggregated from the responses recorded on this form **or its equivalent** must be reported to the Rhode Island Department of Health between May 1st and June 30th (inclusive), in a manner prescribed by the Department. (The Department will specify modes of report transmission prior to May 1st.)

FACILITY NAME: _____ **DATE:** ____ / ____ / _____

HCW Name: _____

HCW Status: Employed by facility? YES ☐ NO ☐

HCW Type: CNA ☐ Nurse (RN, LPN) ☐ Physician+ (MD, DO, NP, PA) ☐ Other (e.g., student) ☐

HCW ID: _____

YES ☐ NO ☐ Did you have any direct patient contact (defined as any face-to-face interaction with patients) at this facility between September 1st and April 30th (influenza vaccination season)?

IF YES, which one of the following statements best describes you? (**Check one option.**)

- ☐ I **RECEIVED** the influenza vaccine* **offered by THIS facility** for this year's influenza season (September 1st to April 30th)
- ☐ I **RECEIVED** the influenza vaccine* **at ANOTHER location** (facility or site) for this year's influenza season (September 1st to April 30th)
- ☐ I **DID NOT RECEIVE** the influenza vaccine* for this year's influenza season (September 1st to April 30th)
- ☐ I **DO NOT KNOW** whether or not I received the influenza vaccine* (offered by this or any other facility) for this year's influenza season (September 1st to April 30th)

DECLINATION

If you **DID NOT RECEIVE** the influenza vaccine,* what is the **main** reason? (**Check one option.**)

- ☐ I have a medical exemption.**
- ☐ I do not think I am at risk for getting the flu – or – I do not think my patients are at risk of getting the flu from me.
- ☐ I do not want to put anything unnatural in my body.
- ☐ I do not think the vaccine works.
- ☐ I think the vaccine makes me sick.
- ☐ Other reason. Specify: _____

HCW Signature: _____

HCWs are defined based on R23-17-HCW: http://www2.sec.state.ri.us/dar/regdocs/released/pdf/DOH/4465.pdf

* Vaccine includes either intranasal vaccine (e.g. Flu Mist) or injected vaccine

** HCWs are considered exempt if: (1) They produce a written document signed by a physician, physician assistant, or certified registered nurse practitioner, stating that they have a medical exemption from the vaccine offered, or (2) A physician, physician assistant, or certified registered nurse practitioner acting for the health care facility in which they are employed determines that they have a medical exemption from the vaccine offered. ACIP Guidelines specify the following medical exemptions: 1) severe egg allergy; 2) hypersensitivity to thimerosal; and/or 3) Hx of Guillian-Barre Syndrome within 6 weeks of flu vaccination.

FORM 2a

AGGREGATE EMPLOYEE HCW INFLUENZA VACCINATION ASSESSMENT

Revised 03/09/09 RRB

INSTRUCTIONS: This form may be used to aggregate information on influenza vaccination of **employee** healthcare workers (HCWs) engaged in direct patient contact in your facility between September 1st and April 30th (influenza vaccination season). (The Rhode Island Department of Health will specify modes of report transmission prior to May 1st)

FACILITY NAME: _____ **DATE:** ____ / ____ / _____

Facility Administrator: _____ **Phone:** (_____) _____ - _____ **Email:** _____

Person Reporting: _____ **Phone:** (_____) _____ - _____ **Email:** _____

Vaccinations for this year's flu season (September 1st to April 30th):

	CNA	Nurse (RN, LPN)	Physician+ (MD, DO, NP, PA)	Other (e.g., student)	Total (sum rows)	
A						Number of HCWs who **RECEIVED** the influenza vaccine* **offered by THIS facility**
B						Number of HCWs who **RECEIVED** the influenza vaccine* **at ANOTHER location**
C						Number of HCWs who **DID NOT RECEIVE** the influenza vaccine*
D						Number of HCWs for whom it is **UNKNOWN** whether or not they received the influenza vaccine* (offered by this or any other location)
				E		**TOTAL NUMBER** of HCWs engaged in direct patient contact (any face-to-face interaction with patients) that worked in this facility between September 1st and April 30th (influenza vaccination season) *(= sum of Total column)*

Primary reasons for **declinations:**

	CNA	Nurse (RN, LPN)	Physician (MD, DO)	Other (e.g., student)	Total (sum rows)	
C1						Have a medical exemption**
C2						Do not think they are at risk for getting the flu – or – do not think their patients are at risk of getting the flu from them
C3						Do not want to put anything unnatural in their bodies
C4						Do not think the vaccine works
C5						Think the vaccine makes them sick
C6						Other reason. Specify most common: _____
				C7		**TOTAL NUMBER** of declinations *(= C row total)*

HCWs are defined based on R23-17-HCW: http://www2.sec.state.ri.us/dar/regdocs/released/pdf/DOH/4465.pdf

* Vaccine includes either intranasal vaccine (e.g. Flu Mist) or injected vaccine

** HCWs are considered exempt if: (1) They produce a written document signed by a physician, physician assistant, or certified registered nurse practitioner, stating that they have a medical exemption from the vaccine offered, or (2) A physician, physician assistant, or certified registered nurse practitioner acting for the health care facility in which they are employed determines that they have a medical exemption from the vaccine offered. ACIP Guidelines specify the following medical exemptions: 1) severe egg allergy; 2) hypersensitivity to thimerosal; and/or 3) Hx of Guillian-Barre Syndrome within 6 weeks of flu vaccination.

FORM 2b

AGGREGATE NON-EMPLOYEE HCW INFLUENZA VACCINATION ASSESSMENT

Revised 03/09/09 RRB

INSTRUCTIONS: This form may be used to aggregate information on influenza vaccination of **non-employee** healthcare workers (HCWs) engaged in direct patient contact in your facility between September 1st and April 30th (influenza vaccination season). (The Rhode Island Department of Health will specify modes of report transmission prior to May 1st)

FACILITY NAME: _____ **DATE:** ____ / ____ / _____

Facility Administrator: _____ **Phone:** (_____) _____ - _____ **Email:** _____

Person Reporting: _____ **Phone:** (_____) _____ - _____ **Email:** _____

Vaccinations for this year's flu season (September 1st to April 30th):

	CNA	Nurse (RN, LPN)	Physician+ (MD, DO, NP, PA)	Other (e.g., student)	Total (sum rows)	
A						Number of HCWs who **RECEIVED** the influenza vaccine* **offered by THIS facility**
B						Number of HCWs who **RECEIVED** the influenza vaccine* **at ANOTHER location**
C						Number of HCWs who **DID NOT RECEIVE** the influenza vaccine*
D						Number of HCWs for whom it is **UNKNOWN** whether or not they received the influenza vaccine* (offered by this or any other location)
				E		**TOTAL NUMBER** of HCWs engaged in direct patient contact (any face-to-face interaction with patients) that worked in this facility between September 1st and April 30th (influenza vaccination season) *(= sum of Total column)*

Primary reasons for **declinations:**

	CNA	Nurse (RN, LPN)	Physician (MD, DO)	Other (e.g., student)	Total (sum rows)	
C1						Have a medical exemption**
C2						Do not think they are at risk for getting the flu – or – do not think their patients are at risk of getting the flu from them
C3						Do not want to put anything unnatural in their bodies
C4						Do not think the vaccine works
C5						Think the vaccine makes them sick
C6						Other reason. Specify most common: _____
				C7		**TOTAL NUMBER** of declinations *(= C row total)*

HCWs are defined based on R23-17-HCW: http://www2.sec.state.ri.us/dar/regdocs/released/pdf/DOH/4465.pdf

* Vaccine includes either intranasal vaccine (e.g. Flu Mist) or injected vaccine

** HCWs are considered exempt if: (1) They produce a written document signed by a physician, physician assistant, or certified registered nurse practitioner, stating that they have a medical exemption from the vaccine offered, or (2) A physician, physician assistant, or certified registered nurse practitioner acting for the health care facility in which they are employed determines that they have a medical exemption from the vaccine offered. ACIP Guidelines specify the following medical exemptions: 1) severe egg allergy; 2) hypersensitivity to thimerosal; and/or 3) Hx of Guillian-Barre Syndrome within 6 weeks of flu vaccination.

The NEW ENGLAND JOURNAL of MEDICINE

Perspective

Public Release of Clinical Outcomes Data — Online CABG Report Cards

Timothy G. Ferris, M.D., M.P.H., and David F. Torchiana, M.D.

On September 7, 2010, Consumers Union (publisher of *Consumer Reports*) reported the results of coronary-artery bypass grafting (CABG) procedures at 221 U.S. cardiac surgery programs.[1]

The voluntary reporting of risk-adjusted outcomes in approximately 20% of U.S. cardiac surgery programs is a watershed event in health care accountability.

The reported ratings derive from a registry developed by the Society of Thoracic Surgeons (STS) in 1989. More than 90% of the approximately 1100 U.S. cardiac surgery programs participate in the registry. Registry data are collected from patients' charts and include key outcomes such as complications and death, the severity of preoperative illness, coexisting conditions, surgical technique, and medications. These data are maintained by the Duke Clinical Research Institute and are analyzed with the use of well-tested statistical methods. The data-collection and auditing methods, specifications of the measures, and statistical approaches have evolved over the course of two decades and reflect a substantial commitment by cardiac surgeons and their leadership.[2,3]

For years, participants in the STS registry have been examining these data and using them to make improvements. What does the public now get to see? Each surgical program that has chosen to make its data public is assigned a rating of one, two, or three stars. Stars are assigned on the basis of results on 11 performance measures (see table) that have been endorsed by the National Quality Forum. The rating depends on whether the risk-adjusted outcomes in a program fall below, are equal to, or exceed the average performance range. The performance thresholds are designed to ensure a 99% probability that outlier programs — those rated significantly below or above the mean and therefore given one and three stars, respectively — are truly below or above average. With the use of this method, 23 to 27% of the programs have been identified as outliers over the past 3 years. In addition to the star rating for overall performance, consumers see the star rating and actual performance scores (on a scale from 0 to 100) in four subcategories: 30-day survival ("patients have a 98% chance of surviving at least 30 days after the procedure and of being discharged from the hospital"), complications ("patients have an 89% chance of avoiding all five of the major complica-

The New England Journal of Medicine
Downloaded from www.nejm.org on September 7, 2010. For personal use only. No other uses without permission.
From the NEJM Archive Copyright © 2010 Massachusetts Medical Society.

Measures of Quality Used by the Society of Thoracic Surgeons in the Ratings of Coronary-Artery Bypass Grafting (CABG) Programs.

Measure	Description
Postoperative renal failure	Percentage of patients (without preexisting renal failure) undergoing isolated CABG in whom postoperative renal failure developed or dialysis was required
Surgical reexploration	Percentage of patients undergoing isolated CABG who required a return to the operating room because of bleeding, tamponade, graft occlusion, or other cardiac reason
Antiplatelet medication at discharge	Percentage of patients undergoing isolated CABG who were receiving aspirin, safety-coated aspirin, or clopidogrel at discharge
Beta-blockade at discharge	Percentage of patients undergoing isolated CABG who were receiving beta-blockers at discharge
Antilipid treatment at discharge	Percentage of patients undergoing isolated CABG who were receiving a statin or other pharmacologic lipid-lowering regimen at discharge
Risk-adjusted operative mortality after CABG	Percentage of patients undergoing isolated CABG who died during the hospitalization in which the CABG was performed or within 30 days after the procedure
Preoperative beta-blockade	Percentage of patients undergoing isolated CABG who received beta-blockers within 24 hours before surgery
Prolonged intubation (ventilation)	Percentage of patients undergoing isolated CABG (without preexisting intubation or tracheostomy) who required intubation for more than 24 hours
Rate of deep sternal-wound infection	Percentage of patients undergoing isolated CABG in whom a deep sternal-wound infection developed within 30 days after the procedure
Stroke or cerebrovascular accident	Percentage of patients (without preexisting neurologic deficit) undergoing isolated CABG in whom a postoperative neurologic deficit developed that persisted for more than 24 hours
CABG using of an internal thoracic artery	Percentage of CABG performed using an internal thoracic artery

tions"), use of appropriate medications ("patients have a 90% chance of receiving all four of the recommended medications"), and surgical technique ("patients have a 98% chance of receiving at least one optimal surgical graft").

The move on the part of the STS to make results available to the public will certainly trigger a cascade of responses. Advocates of transparency will point to the shortcomings of the ratings — the voluntary and therefore selective participation of programs (50 of the programs that have chosen to report their data have received three stars, whereas only 5 have received one star), the lack of long-term outcomes (e.g., 10-year survival, graft patency, and functional improvement), and the lack of physician-specific ratings. Expect such advocates to push for more. Nonparticipating cardiac surgery programs will come under pressure to allow the outcomes in their programs to be reported. Physicians in other surgical specialties that are amenable to this type of approach, such as orthopedics or vascular surgery, may be expected to follow suit. And this event will fuel the debate regarding the risks and benefits of public reporting, including the question of whether it assists patients in discriminating among sites of care. While these issues play out, several aspects of this release of ratings deserve attention.

First, years of pressure from policymakers, health care purchasers, and patient-advocacy groups to provide greater accountability played a major role in bringing this publication to fruition. Public reporting of outcomes has widespread support, and cardiac surgeons have been among the principal targets of these efforts. The first statewide report card on cardiac surgical performance was mandated in New York in 1989. Early experiences with public reporting of the outcomes of cardiac surgery spurred efforts by the STS and others to improve cardiac surgery.[4] Although some consumer advocates pushing for transparency may view this release as a glass four-fifths empty — given the selectivity and number of programs reporting — the external pressure has been critical in stimulating improvement efforts within the medical profession.

Second, the publication of definitive analyses derived from clinical data can be a double-edged sword for providers. When performance reports are based on

10.1056/NEJMp1009423 NEJM.ORG

The New England Journal of Medicine
Downloaded from www.nejm.org on September 7, 2010. For personal use only. No other uses without permission.
From the NEJM Archive Copyright © 2010 Massachusetts Medical Society.

administrative data, physicians often justifiably argue that the data are flawed and the conclusions suspect. In contrast, with these new ratings, not only have the participants endorsed the methods, but they have volunteered to display performance results that carry the imprimatur of the physicians' specialty society. Experience with performance reporting in Massachusetts has shown that when the data and analyses are as good as possible, a public report of suboptimal performance requires a substantive public response: state Department of Public Health officials suspended a Massachusetts cardiac surgery program to conduct an external review, amidst substantial media attention, when the program was identified as a high-mortality outlier.

Third, the process of moving clinical data from the STS registry into the public domain has been long, complex, and expensive. As a member-supported organization, the STS navigated treacherous waters to bring its members to the point of permitting the publication of their data. Some key decisions facilitated this process: the STS reported group-level rather than physician-level data, rigorously validated its data-collection and risk-adjustment models, and selected a performance-classification system that maximized specificity. Such choices helped to mitigate physicians' biggest fear: the risk of misclassification. Moreover, cardiac surgery programs have been looking at these data for years, so there shouldn't be any surprises. The success that the STS has had in leading a nontrivial fraction of its members to agree to participate suggests that public reporting can be done in a way that doesn't alienate the profession.

There is no question about the need for accountability on the part of health care providers or the central role of measurement in the improvement of health care. Nonetheless, questions remain about the role of public reporting in improving health care. Performance measurements audited by regulators are one alternative, especially in situations in which the information is too complex for patients to use in discriminating among care sites. Insofar as public reporting drives improvement of all outcomes, it benefits everyone; insofar as risk aversion leads to changes in the population receiving an indicated service, the net effect can be nil or even negative.[5] Given the heterogeneity in the delivery of medical services, it should come as no surprise that we have developed multiple methods for assessing performance and encouraging accountability. Regardless of which approach proves most beneficial to patients, public reporting will increasingly be a fact of life for physicians.

By publishing ratings using the best available data, the STS has responded to the public in a way that attempts to both inform patients and mitigate physicians' fears. We hope that the experience of the STS can be applied to other initiatives that are aimed at bringing performance data derived from clinical sources to the public, thereby reducing the time and expense of this process. For example, this experience may contain lessons for the Centers for Medicare and Medicaid Services as it prepares to handle the wave of clinical data it will receive through the Physician Quality Reporting Initiative and the "meaningful use" program for electronic health records. At least some of these data will almost certainly be publicly reported. The STS's success suggests that reporting can be done in a way that physicians will support. Whether the STS approach is an anomaly or a precedent that other specialty groups will emulate remains to be seen.

Disclosure forms provided by the authors are available with the full text of this article at NEJM.org.

From the Massachusetts General Physicians Organization, Massachusetts General Hospital, Boston.

This article (10.1056/NEJMp1009423) was published on September 7, 2010, at NEJM.org.

1. Consumer Reports home page. (http://www.consumerreportshealth.org.)
2. Shahian DM, Edwards FH, Ferraris VA, et al. Quality measurement in adult cardiac surgery: part 1 — conceptual framework and measure selection. Ann Thorac Surg 2007;83:Suppl:S3-S12.
3. O'Brien SM, Shahian DM, DeLong ER, et al. Quality measurement in adult cardiac surgery: part 2 — statistical considerations in composite measure scoring and provider rating. Ann Thorac Surg 2007;83:Suppl:S13-S26.
4. O'Connor GT, Plume SK, Olmstead EM, et al. A regional intervention to improve the hospital mortality associated with coronary artery bypass graft surgery. JAMA 1996;275:841-6.
5. Dranove D, Kessler D, McClellan M, Satterthwaite M. Is more information better? The effects of "report cards" on health care providers. J Polit Econ 2003;111:555-88.

Copyright © 2010 Massachusetts Medical Society.

The New England Journal of Medicine
Downloaded from www.nejm.org on September 7, 2010. For personal use only. No other uses without permission.
From the NEJM Archive Copyright © 2010 Massachusetts Medical Society.

Public Reporting of Hospital Hand Hygiene Compliance—Helpful or Harmful?

Matthew P. Muller, MD, PhD
Allan S. Detsky, MD, PhD

PUBLIC REPORTING OF HOSPITAL PERFORMANCE HAS been proposed as a means of improving quality of care while ensuring both transparency and accountability.[1] Organizations feel pressure to perform well, deriving from their desire to protect market share and defend reputations. This pressure, if effectively harnessed, can lead to an increase in quality improvement activities and better patient outcomes, although the evidence supporting the latter claim is mixed.[1]

In 2002, it was estimated that approximately 1.7 million hospital-acquired infections (HAIs) and 99 000 HAI-related deaths occurred in the United States each year.[2] Hand hygiene is considered the most important strategy to prevent HAIs.[3] Since 2002, an increasing number of US states have mandated public reporting of quality indicators related to HAI prevention; to date, none have included reports of hand hygiene compliance in their mandates. This Commentary suggests the need for caution by states considering publicly reporting hand hygiene compliance as a mechanism to reduce HAI.

Evidence-Based vs Indicator-Based Strategies

Public reporting creates an incentive to maximize performance but does not specify the manner in which this is achieved. Broadly speaking, 2 approaches are possible. Hospitals can adopt evidence-based strategies designed to improve patient outcomes that will also improve the publicly reportable indicator, or they can adopt indicator-based strategies designed to improve the reported indicator that may not improve outcomes and may even cause harm. Evidence-based improvement strategies would be favored in an environment in which organizations focus on improving patient outcomes—when such strategies exist and are easy to implement. Conversely, indicator-based improvement strategies would be favored in an environment in which the hospital focuses on protecting its reputation, when evidence-based improvement strategies are unproven or resource intensive, or when measurement of the indicator is easily manipulated to show improvement.

This framework can be applied to a specific example. Observational studies suggest that patients with community-acquired pneumonia (CAP) who receive early antibiotic administration (ie, within 4 hours of emergency department arrival) have better outcomes than those receiving delayed antibiotic therapy.[4] However, public reporting of time to first antibiotic dose within 4 hours as a quality indicator had an unintended consequence—widespread antibiotic treatment of patients without CAP. Some hospitals even adopted policies mandating that antibiotics be administered to patients with suspected CAP before chest radiographs were obtained.[5] Ultimately, time to first antibiotic dose within 4 hours was withdrawn as a reportable indicator.[4]

In this example, an evidence-based improvement strategy would have focused on early identification of patients with suspected CAP, rapid confirmation of the diagnosis, and prompt initiation of antibiotic treatment if indicated. Evidence-based improvement strategies might have required additional nursing, physician, radiology, or pharmacy resources. If early treatment is better, this approach would have improved patient outcomes. Conversely, indicator-based improvement strategies such as protocols that require antibiotic administration prior to chest radiography were easy to implement with existing resources but were unlikely to benefit patients.

Other publicly reportable indicators also lead to the use of indicator-based improvement strategies. Public reporting of post–cardiac surgery mortality has been associated with a decrease in access to care for high-risk patients and an increased coding of comorbidities.[6] The reporting of hospital-standardized mortality ratio in Canada led to reductions in this outcome to an extent that was inconsistent with the use of evidence-based improvement strategies.[7] When public reporting is mandated without guidance on how improvement should be achieved or without additional resources to support improvement, it is not surprising that indicator-based improvement strategies are used.

Application to Hand Hygiene

A large body of evidence supports the association between improvements in hand hygiene and reductions in HAI.[3] However, no evidence-based strategy exists that will reliably im-

Author Affiliations: Departments of Medicine (Drs Muller and Detsky) and Health Policy Management and Evaluation (Dr Detsky), University of Toronto; Department of Medicine, St Michael's Hospital (Dr Muller), Mount Sinai Hospital, and University Health Nework (Dr Detsky), Toronto, Ontario, Canada.
Corresponding Author: Allan S. Detsky, MD, PhD, Mount Sinai Hospital, 429-600 University Ave, Toronto, ON M5G 1X5, Canada (adetsky@mtsinai.on.ca).

©2010 American Medical Association. All rights reserved.

Downloaded from www.jama.com at Brown University on September 23, 2010

prove the hand hygiene compliance of health care workers.[8] Multimodal interventions may be successful but are resource intensive, require sustained effort, and have not been associated with levels of compliance greater than 80%.[3]

The criterion standard for measuring hand hygiene compliance is direct observation, a method subject to observer bias, selection biases, and the Hawthorne effect.[3] Minor changes in measurement methods can evoke these biases and lead to spurious improvement. For example, measured compliance can be increased by using an auditor who works on the unit (observer bias and Hawthorne effect); delaying audits on poorly performing units (selection bias); or instructing the auditor to actively inform health care workers that their hand hygiene compliance is being monitored (Hawthorne effect).

Hospitals may have good reasons for selecting an auditing method that will overestimate compliance. For example, audits may be delayed on poorly performing units to allow time to implement quality improvement or auditors may inform health care workers they are being auditing because they believe it is unethical to monitor covertly. However, as the pressure to perform increases, organizations seeking rapid improvement will be more likely to maintain or substitute methods that overestimate compliance than to use methods that measure true (ie, worse) compliance because doing so would make their hospitals appear to be underperforming relative to their peers. With no simple evidence-based improvement strategy available and with a plethora of indicator-based improvement strategies from which to select, the public reporting of hand hygiene compliance should lead to an increase in the use of indicator-based improvement strategies.

Ontario provides a real-world example. In 2009, reporting hand hygiene compliance became mandatory for all 211 Ontario hospitals, and 2 years of data on individual hospital performance are now publicly available.[9] Median compliance with hand hygiene performed before patient contact (or contact with a patient's environment) increased from 52% to 67% in the second year of reporting and levels were even higher for compliance after patient contact.[9] Considering that a recent systematic review reported a median level of hand hygiene compliance of 21% for hand hygiene before patient contact,[10] these results are remarkable. Additionally, although credible studies describing sustained levels of overall hand hygiene compliance exceeding 80% are scarce,[3] 23% of Ontario hospitals reported hard hygiene compliance before patient contact above this threshold, including 6 hospitals with before-contact compliance greater than 95%. The high and rapidly increasing levels of hand hygiene compliance in Ontario are more consistent with indicator-based improvement than evidence-based improvement strategies, although only time and a lack of improvement in HAI rates can confirm this hypothesis.

If indicator-based improvement strategies predominate, they may undermine the incentive to achieve substantive, evidence-based improvement. Consider the situation at Ontario hospitals that report top performance. Even if HAI rates remain high, what would motivate health care workers or administrators to develop, fund, and operate quality improvement efforts for hand hygiene when compliance is already nearly perfect? Conversely, hospitals with poorer performance will find the pressure to improve rapidly escalating as patients, hospital boards, and the media ask why compliance is better at other hospitals. As additional hospitals switch from evidence-based to indicator-based improvement strategies in order to achieve rapid improvement, a vicious cycle of pseudoimprovement is created with resources increasingly directed away from the evidence-based improvement strategies most likely to benefit patients.

Public reporting of hand hygiene compliance places clinicians in a position in which they must choose between protecting patients by striving for real hand hygiene improvement or protecting their reputations by reporting high rates of hand hygiene compliance. The first path is difficult and often unsuccessful. To encourage progress along this path, it would be better to avoid public reporting before evidence-based improvement strategies are implemented and direct resources toward identifying better ways of measuring and improving hand hygiene.

Financial Disclosures: None reported.
Additional Contributions: We thank Kaveh Shojania, MD, University of Toronto, and Christine Moore, BSc, Mount Sinai Hospital, Toronto, Ontario, for comments on earlier drafts. Neither received compensation.

REFERENCES

1. Fung CH, Lim YW, Mattke S, Damberg C, Shekelle PG. Systematic review: the evidence that publishing patient care performance data improves quality of care. *Ann Intern Med*. 2008;148(2):111-123.
2. Klevens RM, Edwards JR, Richards CL Jr, et al. Estimating health care-associated infections and deaths in US hospitals, 2002. *Public Health Rep*. 2007;122(2):160-166.
3. World Health Organization. WHO guidelines on hand hygiene in health care: first global patient safety challenge clean care is safe care. http://whqlibdoc.who.int/publications/2009/9789241597906_eng.pdf. 2009. Accessed July 8, 2010.
4. Wachter RM, Flanders SA, Fee C, Pronovost PJ. Public reporting of antibiotic timing in patients with pneumonia: lessons from a flawed performance measure. *Ann Intern Med*. 2008;149(1):29-32.
5. Pines JM, Isserman JA, Hinfey PB. The measurement of time to first antibiotic dose for pneumonia in the emergency department: a white paper and position statement prepared for the American Academy of Emergency Medicine. *J Emerg Med*. 2009;37(3):335-340.
6. Green J, Wintfeld N. Report cards on cardiac surgeons: assessing New York State's approach. *N Engl J Med*. 1995;332(18):1229-1232.
7. Shojania KG, Forster AJ. Hospital mortality: when failure is not a good measure of success. *CMAJ*. 2008;179(2):153-157.
8. Gould DJ, Chudleigh JH, Moralejo D, Drey N. Interventions to improve hand hygiene compliance in patient care. *Cochrane Database Syst Rev*. 2007;18(2):cd005186.
9. Ontario Ministry of Health and Long-Term Care. Hand hygiene. http://www.health.gov.on.ca/patient_safety/public/hh/hh_pub.html. Updated March 25, 2010. Accessed July 8, 2010.
10. Erasmus V, Daha TJ, Brug H, et al. Systematic review of studies on compliance with hand hygiene guidelines in hospital care. *Infect Control Hosp Epidemiol*. 2010;31(3):283-294.

©2010 American Medical Association. All rights reserved.

Downloaded from www.jama.com at Brown University on September 23, 2010