Appendix 1
Published reviews related to the impact of feedback on physician performance
January 31, 2003


Appendix 2: Coding Form  11/20/03
Systematic Review of the Literature:  
Physician Assessment,  
Feedback, and Performance

### A. CITATION, REVIEW TRACKING

<table>
<thead>
<tr>
<th>A1. Reference Mgr ID</th>
<th>__________</th>
</tr>
</thead>
<tbody>
<tr>
<td>A2. 1st Author, last name</td>
<td>__________________</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>A3. Date data entry</th>
<th><strong><strong>/</strong></strong>/2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>A4. Initials data entry</td>
<td>_________</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>A5. (Reference Manager cover sheet)</th>
<th>A6. Source of citation (check one)</th>
</tr>
</thead>
<tbody>
<tr>
<td>= 1 MEDLINE</td>
<td>= 1 Opinion or commentary (only)</td>
</tr>
<tr>
<td>= 2 CHID</td>
<td>= 2 Program description only (no data)</td>
</tr>
<tr>
<td>= 3 CINAHL</td>
<td>= 3 Non-systematic review of literature</td>
</tr>
<tr>
<td>= 4 Cochrane Central Register</td>
<td>= 4 Systematic review of literature</td>
</tr>
<tr>
<td>= 5 Dissertation Abstracts</td>
<td>= 5 Meta analysis</td>
</tr>
<tr>
<td>= 6 EMBASE</td>
<td>= 6 Empirical (code next field also)</td>
</tr>
<tr>
<td>= 7 ERIC</td>
<td>= 8 Other _________________________</td>
</tr>
<tr>
<td>= 8 HealthSTAR</td>
<td></td>
</tr>
<tr>
<td>= 9 PsycINFO</td>
<td></td>
</tr>
<tr>
<td>= 10 Science Citatn Indx Exp.</td>
<td></td>
</tr>
<tr>
<td>= 11 TIMELIT</td>
<td></td>
</tr>
<tr>
<td>= 20 Cited, article, electronic</td>
<td></td>
</tr>
<tr>
<td>= 30 Manual search</td>
<td></td>
</tr>
<tr>
<td>= 40 Cited, article, manual</td>
<td></td>
</tr>
<tr>
<td>= 80 Other _________________________</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>A7. Primary reviewer</th>
<th>A10. Type of study (check one)</th>
</tr>
</thead>
<tbody>
<tr>
<td>= 1 JJV</td>
<td>= 1 Opinion or commentary (only)</td>
</tr>
<tr>
<td>= 2 MGrasberger</td>
<td>= 2 Program description only (no data)</td>
</tr>
<tr>
<td>= 3 JRBoex</td>
<td>= 3 Non-systematic review of literature</td>
</tr>
<tr>
<td>= 4 BBBarzansky</td>
<td>= 4 Systematic review of literature</td>
</tr>
<tr>
<td>= 5 JMSargeant</td>
<td>= 5 Meta analysis</td>
</tr>
<tr>
<td>= 6 AEvans</td>
<td>= 6 Empirical (code next field also)</td>
</tr>
<tr>
<td>= 7 JAShea</td>
<td>= 8 Other _________________________</td>
</tr>
<tr>
<td>= 8 Other _________________________</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>A11. Scope (empirical studies only) (check one)</th>
</tr>
</thead>
<tbody>
<tr>
<td>= 1 One site (department) limited sample</td>
</tr>
<tr>
<td>= 2 One organization, multi-site one year</td>
</tr>
<tr>
<td>= 3 One organization, multi-site multi-year</td>
</tr>
<tr>
<td>= 4 Multiple organizations</td>
</tr>
<tr>
<td>= 5 National/international, limited</td>
</tr>
<tr>
<td>= 6 National/interntnl, multi-site, -year</td>
</tr>
<tr>
<td>= 8 Other _________________________</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>A12. Global rating of study’s quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>= 1 Low. Biased or confounded Explain in A14</td>
</tr>
<tr>
<td>= 2 Average.</td>
</tr>
<tr>
<td>= 3 High. Few, or no threats to validity.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>A13. Effect of feedback on performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>= 1 No effect. No impact.</td>
</tr>
<tr>
<td>= 2 Moderate to large effect (was 2-3).</td>
</tr>
<tr>
<td>= 9 Unclear, unable to determine.</td>
</tr>
</tbody>
</table>

### A14. Reviewer’s notes

A8. Date of review  ____/____/2003

<table>
<thead>
<tr>
<th>A9. Status</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>= 1 Include in review</td>
<td></td>
</tr>
<tr>
<td>= 2 Uncertain (STOP explain in notes)</td>
<td></td>
</tr>
<tr>
<td>= 3 Exclude (STOP explain in notes)</td>
<td></td>
</tr>
</tbody>
</table>
## B. DESIGN and ANALYSIS

### B1. Type of empirical study (check one)

- **Observational**
  - 11 Descriptive, case series, case study
  - 12 Cross-sectional (studies, surveys)
  - 13 Case-control (retrospective)
  - 14 Cohort (prospective or retrospective)
  - 21 Randomized (parallel controls)
  - 22 Parallel controls (not randomized)
  - 23 Sequential, self (x-over, time series)
  - 24 External controls (incl historical)
  - 31 Ethnographic
  - 32 Grounded theory
  - 33 Narrative

- 80 Other design or mixture in one study, describe:

- 90 Unclear (STOP explain in notes A14)

### B2. Data Collection and Analysis

- 1 Unacceptable (serious gaps in documentation or fatal flaws in data or analysis) (STOP explain in notes A14)

- 2 Acceptable, meets standards

- 3 Exceeds professional standards

## C. SAMPLE

### C1. Unit of reporting in feedback (check one)

- 1 Micro (individual performance only)
- 2 Macro (group performance only)
- 3 Both

### C2. Size of intervention (feedback) group

- 1 Less than 30 physicians
- 2 30 to 100
- 3 More than 100
- 9 Unclear (STOP explain in notes A14)

### C3. Specialty (check one)

- 1 Primary care (FP,GIM,PD)
- 2 Medical subspecialties
- 3 Surg gen/subspec/specialties
- 8 Other ____________________

### C4. Employment status (check one)

- 1 Salaried physicians
- 2 House staff
- 8 Other ____________________

### C5. Nation (check one)

- 1 USA
- 2 Canada
- 3 UK
- 4 Australia/New Zealand
- 5 France
- 6 Germany
- 7 Scandinavia
- 8 Other ____________________
### D. DEPENDENT VARIABLE(S)
**DEFINITION OF PERFORMANCE AND METHOD OF ASSESSMENT**

#### D1. Content (Value Compass) (check one)
- 1 Clinical processes
- 2 Costs, charges
- 3 Clinical outcomes
- 4 Patient satisfaction
- 5 Clinical processes + costs
- 6 Clinical processes + outcomes
- 7 Clinical processes + satisfaction
- 8 Other ____________________

#### D2. Type of health care assessed (check one)
- 1 Ambulatory
- 2 Inpatient
- 3 Mixed

#### D3. Source of data (check one)
- 10 Chart review, paper, manual, request forms
- 11 Computerized medical records
- 20 Insurance claims, billing records
- 30 Supervisor rating forms
- 40 Peers (e.g. rating forms)
- 41 Multi-source rating forms (peers, etc.)
- 50 Reports of patients
- 51 Reports of standardized patients (unannounced, physician-blinded)
- 60 Other observers (e.g. other health professionals)
- 70 Self-assessment

**Other sources outside clinical setting:**
- 81 clinical case study vignettes
- 82 computer simulations
- 83 standardized patients (outside clinical setting, not physician-blinded)
- 84 multiple-choice exams
- 85 other paper-and-pencil tasks
- 89 Other ____________________

#### D4. Reliability evidence (check ALL that apply)
- NONE
- a. internal consistency
- b. inter-rater
- c. test-retest
- d. other ____________________

#### D5. Validity evidence (check ALL that apply)
- NONE
- a. content
- b. construct
- c. criterion: concurrent
- d. predictive

#### D6. Context (primary aim, IOM quality) (check one)
- 1 Safety
- 2 Effectiveness
- 3 Patient-centeredness
- 4 Timeliness
- 5 Efficiency
- 6 Equity
- 9 Unclear

### E. INDEPENDENT VARIABLE(s)
**CHARACTERISTICS OF FEEDBACK, TIMING OF FOLLOW-UP AND OTHER VARIABLES**

#### E1. Who communicated feedback? (check one)
- 1 Department, local unit
- 2 Private health plan or insurer
- 3 Professional society, organization
- 4 Government, Medicare, Medicaid
- 5 Social (media, patient/consumer group)
- 6 Employers/business group
- 7 Research team, unit
- 8 Other ____________________
**E2. Level of individual physician’s involvement** in design and implementation of feedback process

(check one)

- 1 Very low, passive, or not specified
- 2 Moderate
- 3 High (e.g., design, data coll. or interpretation)

**E3. Standards** used in framing feedback

(check one)

- 1 Local standards, criteria
- 2 National standards, criteria
- 3 Local/internal statistical norms
- 4 National/external statistical norms
- 5 No standard or norm
- 8 Other ______________________
- 9 Unclear

**E4. Dosage, amount of feedback** (number of performance dimensions and parameters reported)

(check one)

- 1 Limited, very specific
- 2 Moderate
- 3 Multiple areas, comprehensive profile
- 9 Unclear (STOP explain in notes A14)

**E5. How was feedback communicated?**

(check one)

- 1 Impersonal – print only
- 2 Personal meeting – print & verbal
- 3 Group presentation - print & verbal
- 4 Personal meeting – verbal only
- 5 Group presentation – verbal only
- 6 Both personal and group with print and verbal review in each meeting
- 9 Unclear

**E6. Moderating Variables Mentioned, but not necessarily controlled**

(check any that apply)

- NONE
- Yes
  - a. Academic/teaching setting
  - b. Continuous, linked w/CQI
  - c. Feedback described as physician profiles or report cards
  - d. Public disclosure (of results)
  - x. Other ______________________

**E7. Other Interventions Studied and Controlled**

(check any that apply)

- NONE
- Yes
  - a. Conferences (CME)
  - b. Educational materials-print
  - c. Educational outreach visits
  - d. Financial incentives
  - e. Local consensus process
  - f. Local opinion leaders
  - g. Marketing (CME)
  - h. Patient-mediated intervention
  - i. Reminders (to physicians)
  - x. Other ______________________

**E8. Timing of follow-up assessment** after feedback

- 1 < 1 month
- 2 1 month – 1 year
- 3 > 1 year
- 8 Other ______________________
Appendix 3: Citations of studies of the impact of feedback on physician performance that met all selection criteria


Appendix 4: Citations of articles that involved feedback with other interventions


41. Goff DC, Jr., Gu, L, Cantley, LK, Parker, DG, and Cohen, SJ. Enhancing the quality of care for patients with coronary heart disease: the design and baseline results of the hastening the effective application of research through technology (HEART) trial. American Journal of Managed Care. 2002;8:1069-78.


Appendix 5: Citations of articles that involved house staff


29. Wones RG. Failure of low-cost audits with feedback to reduce laboratory test utilization. Medical Care. 1987;25:78-82.
Appendix 6: Citations of articles in which the unit of analysis was not physicians


