

## Journal scan

This journal scan covers a selection of papers relating to the quality of health care in general. They were chosen from papers identified by a MEDLINE search for English language articles with abstracts relating to “quality improvement” and published from June to August 2000 inclusive in the following journals: *BMJ*, *JAMA*, *Journal of Advanced Nursing*, *Journal of Nursing Care Quality*, *Lancet*, and *New England Journal of Medicine*.

### Getting evidence based health care into practice

*Evaluating interventions for getting clinical evidence into practice among groups of health care staff and promoting organisational change have been less encouraging in randomised controlled trials than initial observational studies. Through evaluation and discussion of an exploratory trial in general practice, Rogers et al produced a detailed analysis of issues arising in such studies and a summary framework that offers an approach to successful trial design in primary care.*

**Rogers S, Humphrey C, Nazareth I, et al. Designing trials of interventions to change professional practice in primary care: lessons from an exploratory study of two change strategies. *BMJ* 2000;320:1580–3.**

Abstract adapted from original article.

*Objective*—To determine whether inherent difficulties in randomised controlled trials might influence evaluation of interventions for getting clinical evidence into practice.

*Design*—Exploratory randomised controlled trial, with a factorial design, of the independent and combined effects of teaching evidence based medicine and facilitated change management on implementation of cardiovascular disease guidelines in primary care. All practices were sent guidelines on five cardiovascular disease topics then allocated to evidence based medicine teaching, facilitated change management, both, or neither by using a restricted randomisation procedure.

*Participants*—Eight of 25 eligible practices in the Medical Research Council General Practice Research Framework in North West Thames, England.

*Interventions*—One day practice based workshop on evidence based medicine (appraisal of trials, systematic reviews, guidelines) based on workshops developed at McMaster University, and facilitated change management programme comprising a one day workshop introducing principles of continuous quality improvement as taught at the Institute for Health care Improvement (change management, multiprofessional working, problem solving, and analysis of the process of care) plus practice visits by the facilitator.

*Main measures*—Prescribing indicators, reflecting implementation of the cardiovascular disease guidelines in each practice; information from the evidence based medicine tutor and change management facilitator; and qualitative data obtained by a qualitative researcher on the workshops, practice meetings, and from semistructured interviews with the study participants to record changes in organisational effectiveness. These measures informed discussion of the progress of the trial by the overall study group.

*Results*—Recording and analysis of the inherent tensions in choosing the design elements of the trial among those concerned with scientific rigour of the investigation, those concerned with developing and adapting interventions (as a theoretical model of behaviour change or service intervention), and actual trial participants resulted in the creation of an analytical framework summarising the desirable characteristics of trial design by the three constituencies. From this a trial design able to satisfy these criteria would address the interest of research, development, and practice. Among other important issues disclosed by the study are that interventions involving health professionals in organisational change require great motivation, and eligibility criteria should be developed and applied at recruitment, interventions must be adapted as far as possible to participants’ needs without compromising theoretical assumptions, and the experimental designs must enable active staff participation without distorting the interventions given.

*Conclusions*—The framework devised from this exploratory trial provides an approach to explore the particular characteristics of trial design and assess those design options that best fit the interests of research, development, and practice, a prerequisite for trials in primary care to be executed successfully and their results to be applicable in a service setting.

**Packham C, Pearson J, Robinson J, et al. Use of statins in general practices, 1996–8: cross sectional study. *BMJ* 2000;320:1583–4.**

*Objective*—To describe changes in the rate of prescribing statins among general practices after introduction of national and local guidelines.

*Design*—Cross sectional study.

*Participants*—110 of 118 general practices in Nottingham, England.

*Main measures*—Daily dose of statins expressed as statin years of prescribing per 1000 patients aged 35–69, calculated from data from prescribing and cost reports from 1 April to 30 September in 1996, 1997, and 1998; Townsend deprivation scores (4.8 most deprived to –3.6 least deprived).

**Results**—After logarithmic transformation of the data the relation between prescribing and deprivation was examined by multiple linear regression by adjusting for practice list size and status (training/fundholding, both), number of general practitioners, total admissions standardised for ages, rates of admissions and outpatient referrals, and cost of all cardiovascular drugs excluding lipid lowering drugs. The prescribing rate for statins increased fourfold from 1996 to 1998: 1996 median 3.8 statin years/1000 adults overall, median 4.9 in the quintile of least deprived practices, median 2.0 in the quintile of most deprived practices; 1998 median 13.2 overall, median 15.3 for least deprived and 10.8 for most deprived quintiles, respectively. In 1996 deprivation and the rate of prescribing were significantly inversely related ( $p < 0.0005$ ). 1997 and 1998 showed a proportionately greater increase in prescribing among practices in more deprived areas, although there was no significant relation between deprivation and prescribing rate. Using scores of +3 and -3 for practices in deprived and affluent areas, 63% greater increase in prescribing occurred in the deprived areas between 1996 and 1997 and 88% greater between 1997 and 1998.

**Conclusions**—A more detailed study is warranted to establish whether prescribing changes resulted from the introduction of new guidelines in late 1996, increasing familiarity with or increased awareness of statins in practices in the most deprived areas.

*Sustaining the use of guidelines in routine practice is well recognised as difficult. This is true for routine prophylaxis for venous thromboembolism in hospital patients, but few studies to improve prophylaxis have been carried out. Optimal decisions for prophylaxis require access to a large amount of complex data to evaluate the degree of risk of venous thromboembolism. Durieux et al tested compliance with local guidelines with and without a computer decision support system in orthopaedic surgery patients. The system was linked to the administrative and clinical databases and designed to provide information for the surgeons about prevention of thromboembolism. The surgeons ordered all necessary follow up treatments through the system, which performed an immediate critique by reference to data from the patient database and the guideline criteria and provided the appropriate prescription, with reasons, if the original order did not conform to the guidelines. By comparison of periods when this system was fully active with periods when the critiques were not generated, Durieux et al evaluated the effect of the system on surgeons' behaviour and compliance with the guidelines.*

**Durieux P, Nizard R, Ravaud P, et al. A clinical decision support system for prevention of venous thromboembolism. Effect on physician behavior. *JAMA* 2000;283:2816–21.**

Abstract modified from original article.

**Context**—Computer based clinical decision support systems (CDSSs) have been promoted for their potential to improve quality of health care. However, given the limited range of clinical settings in which they have been tested, such systems must be evaluated rigorously before widespread introduction into clinical practice.

**Objective**—To determine whether presentation of venous thromboembolism prophylaxis guidelines using a CDSS increases the proportion of appropriate clinical practice decisions made.

**Design**—Time series study conducted between December 1997 and July 1999.

**Setting**—Orthopedic surgery department of a teaching hospital in Paris, France.

**Participants**—A total of 1971 patients who underwent orthopedic surgery.

**Intervention**—A CDSS designed to provide immediate information pertaining to venous thromboembolism prevention among surgical patients was integrated into daily medical practice during three 10 week intervention periods, alternated with four 10 week control periods, with a four week washout between each period.

**Main measures**—Proportion of appropriate prescriptions ordered for anticoagulation, according to pre-established clinical guidelines, during intervention vs control periods.

**Results**—Physicians complied with the guidelines in 82.8% (95% confidence interval 77.6% to 87.1%) of cases during control periods and in 94.9% (92.5% to 96.6%) of cases during intervention periods. During each intervention period the appropriateness of prescription increased significantly ( $p < 0.001$ ). Each time the CDSS was removed, physician practice reverted to that observed before initiation of the intervention. The relative risk of inappropriate practice decisions during control periods vs intervention periods was 3.8 (2.7 to 5.4), equivalent to a 73% reduction in risk of inappropriate prescription. A total of 191 (17.2%) inappropriate prescriptions were recorded by the CDSS during the control periods and 113 (13.2%) during the intervention periods, 69 (61.1%) of which were modified by the surgeon according to the CDSS recommendation. Patients in the moderate risk category for venous thromboembolism were most affected (18/22, 81.8% had inappropriate prescriptions changed by the surgeon after the critique). The system reduced all predefined categories of prescribing errors, particularly failure to order prophylaxis recommended by the guidelines. One pulmonary embolism and two deep vein thromboses were diagnosed during the control periods and two deep vein thromboses during the intervention periods.

**Conclusions**—Implementation of clinical guidelines for venous thromboembolism prophylaxis through a CDSS used routinely in an orthopedic surgery department and integrated into the hospital information system changed physician behaviour and improved compliance with guidelines.

*The following paper by Emery et al compares the use of two computer support systems to guide general practitioners in their management and referral of patients with a family history of breast and ovarian cancer, potentially enabling them to be more efficient gatekeepers of genetics services and confident in reassuring those patients who are not at increased risk.*

**Emery J, Walton R, Murphy M, et al. Computer support for interpreting family histories of breast and ovarian cancer in primary care: comparative study with simulated cases. *BMJ* 2000;321:28–32.**

Abstract reproduced from original article.

**Objectives**—To evaluate the potential effect of computer support on general practitioners' management of familial breast and ovarian cancer, and to compare the effectiveness of two different types of computer program.

*Design*—Crossover experiment with balanced block design.

*Participants*—Of a random sample of 100 general practitioners from Buckinghamshire who were invited, 41 agreed to participate. From these, 36 were selected for a fully balanced study.

*Interventions*—Doctors managed 18 simulated cases: six with computerised decision support system Risk Assessment in Genetics (RAGs), six with Cyrillic (an established pedigree drawing program designed for clinical geneticists), and six with pen and paper.

*Main measures*—Number of appropriate management decisions made (maximum of 6), mean time taken to reach a decision, number of pedigrees accurately drawn (maximum of 6). Secondary measures were method of support preferred for particular aspects of managing family histories of cancer and importance of specific information on cancer genetics that might be provided by an “ideal computer program”.

*Results*—RAGs resulted in significantly more appropriate management decisions (median 6) than either Cyrillic (median 3) or pen and paper (median 3); median difference between RAGs and Cyrillic 2.5 (95% confidence interval 2.0 to 3.0;  $p < 0.0001$ ). RAGs also resulted in significantly more accurate pedigrees (median 5) than either Cyrillic (median 3.5) and pen and paper (median 2); median difference between RAGs and Cyrillic 1.5 (95% CI 1.0 to 2.0;  $p < 0.0001$ ). The time taken to use RAGs (median 178 seconds) was 51 seconds longer per case (95% CI 36 to 65;  $p < 0.0001$ ) than pen and paper (median 124 seconds) but was less than Cyrillic (median 203 seconds; difference 23 (5 to 43);  $p = 0.02$ ). 33 doctors (92% (95% CI 78% to 98%)) preferred using RAGs overall. The most important elements of an “ideal computer program” for genetic advice in primary care were referral advice, then capacity to create pedigrees, and provision of evidence and explanation to support advice.

*Conclusions*—RAGs could enable general practitioners to be more effective gatekeepers to genetics services, empowering them to reassure the majority of patients with a family history of breast and ovarian cancer who are not at increased genetic risk.

*Despite strong emphasis on effective pain management in recent years, new knowledge and research findings seem to be implemented inadequately. Traditional educational approaches for clinicians must be complemented by interventions in health care systems that more directly influence routine behaviour. The following project was designed to increase institutional commitment to improving pain management in two rural hospitals.*

### **Brown ST. Outcomes analysis of a pain management project for two rural hospitals. *J Nurs Care Quality* 2000;14:28–34.**

*Objective*—To improve knowledge and implementation of effective pain management practices by nurses and others.

*Design*—Prospective study before and after intervention.

*Setting*—Two rural hospitals and their affiliated home care agencies, United States.

*Subjects*—Nurses, physicians, and other providers.

*Intervention*—Multidisciplinary educational curriculum (expert workshops in pain management targeted at specific units, distribution of epianalgesic charts, Agency for Health Care Policy and Research (AHCPR) guidelines and videotapes on pain to each unit); implementation of a comprehensive pain management programme directed by an interdisciplinary pain committee at each hospital (and including one nurse representative from each patient unit; nurse members were trained as mentors, and then became pain experts in their unit); feedback of questionnaire results.

*Main measures*—Baseline analysis of institutional frameworks supporting pain relief (documents/forms for standardised pain management, basic and ongoing education in the topic, institutional policies, and innovations indicating institutional commitment to pain relief as a priority); knowledge of and attitudes to pain relief among health care providers and patients, assessed by questionnaire surveys. Data on assessing and managing pain from patient records. Follow up surveys after intervention and re-evaluation of documentation.

*Results*—Common baseline findings at both hospitals were lack of questions about pain on the admission form, of protocols for standard management of different types of pain, of requirement for pain management principles in competencies for new staff and lack of role models for pain, poor resources for patient and family education for adequate pain relief, no standard assessment for patient satisfaction with pain relief, and limited external consultation. Average mean score for attitude to pain was 60/100, insufficient for optimum pain relief; the 10 most frequently missed items were common to both hospitals and were missed by half the respondents. A physician survey disclosed delayed response to patients' reports of pain; inadequate knowledge of pain management, assessment, and relief; and insufficient continuing medical education. The patient questionnaire, however, showed overall satisfaction despite patients being in pain. Review of medical records showed a need for a more consistent numerical pain rating scale, for recording patients' goal for pain rating, for more consistent recording and follow up after interventions, for patient and family teaching, and for recording non-pharmacological treatments. At follow up, after the educational and pain management programme, both hospitals had a significant increase in scores in the attitude survey ( $p < 0.05$ ); five items were missed by half the respondents. Significant improvement occurred in the use of the pain rating scale and follow up evaluation of pain after intervention, and recording of pain improved in many areas. Patients' responses showed decreased waiting time for pain relief in hospital and outpatient settings and in use of non-pharmacological strategies to relieve pain.

*Conclusions*—The pain management and educational programmes promoted renewed interest in pain management, increased knowledge, and resulted in a network of mentors. The continuing commitment of the interdisciplinary pain care committee will be essential to further improvement. This approach could be used for other health care institutions.

## **Responsiveness to patients**

*The following papers cover various aspects of patient involvement including patient education; the wider context of the clinical consultation encompassing patients' psychological and social concerns and the opportunity to strengthen the patient-physician relationship; and assessing effectiveness of patient management of oral anticoagulation.*

**Schwartz LM, Woloshin S, Sox HC, et al. US women's attitudes to false positive mammography results and detection of ductal carcinoma in situ: cross sectional survey. *BMJ* 2000;320:1635–40.**

Abstract reproduced from original article.

*Objective*—To determine women's attitudes to and knowledge of both false positive mammography results and the detection of ductal carcinoma in situ after screening mammography.

*Design*—Cross sectional survey.

*Setting*—United States.

*Participants*—479 women aged 18–97 years who did not report a history of breast cancer.

*Main measures*—Attitudes to and knowledge of false positive results and the detection of ductal carcinoma in situ after screening mammography.

*Results*—Women were aware that false positive results do occur. Their median estimate of the false positive rate for 10 years of annual screening was 20% (25th percentile estimate 10%, 75th percentile estimate 45%). The women were highly tolerant of false positives: 63% thought that 500 or more false positives per life saved was reasonable and 37% would tolerate 10 000 or more. Women who had had a false positive result (n=76) expressed the same high tolerance: 39% would tolerate 10 000 or more false positives. 62% of women did not want to take false positive results into account when deciding about screening. Only 8% of women thought that mammography could harm a woman without breast cancer and 94% doubted the possibility of non-progressive breast cancers. Few had heard about ductal carcinoma in situ, a cancer that may not progress, but when informed, 60% of women wanted to take into account the possibility of it being detected when deciding about screening.

*Conclusions*—Women are aware of false positives and seem to view them as an acceptable consequence of screening mammography. In contrast, most women were unaware that screening can detect cancers that never progress but feel that such information would be relevant. Education should perhaps focus less on false positives and more on the less familiar outcome of detection of ductal carcinoma in situ.

**Levinson W, Gorawara-Bhat R, Lamb J. A study of patient clues and physician responses in primary care and surgical settings. *JAMA* 2000;284:1021–7.**

Abstract modified from original article.

*Context*—Patients often present clues (direct or indirect comments about personal aspects of their lives or their emotions) during conversation with their physicians. These clues represent opportunities for physicians to demonstrate understanding and empathy and, thus, to deepen the therapeutic alliance that is at the heart of clinical care. A paucity of information exists regarding how physicians address the psychological and social concerns of patients.

*Objectives*—To assess how patients present clues and how physicians respond to these clues in routine primary care and surgical settings.

*Design, setting, and participants*—Descriptive, qualitative study of 116 randomly selected routine office visits to 54 primary care physicians and 62 surgeons in community based practices in Oregon and Colorado, audiotaped and transcribed in 1994.

*Main measures*—Frequency of presentation of clues by patients during office visits, nature (emotional vs social) and content of clues, and nature of physician responses to clues, coded as positive or missed opportunity.

*Results*—52% (28/54) and 53% (33/62) of the visits in primary care and surgery, respectively, included one or more clues. During those visits with clues the mean number of clues per visit was 2.6 in primary care and 1.9 in surgery. Patients initiated approximately 70% of clues and physicians 30%; 76% (39/51) of patient initiated clues in primary care settings and 60% (26/43) in surgical settings were emotional in nature. In surgery 70% of emotional clues related to patients' feelings about their biomedical condition, while in primary care emotional clues were more often related to psychological or social concerns (80%) in patients' lives. Physicians responded positively to patient emotions in 38% of cases in surgery and 21% in primary care, but more frequently they missed opportunities to adequately acknowledge patients' feelings. Visits with missed opportunities tended to be longer than visits with a positive response.

*Conclusion*—This study suggests that physicians in both primary care and surgery can improve their ability to respond to patient clues even in the context of their busy clinical practices.

**Cromheecke ME, Levi M, Colly LP, et al. Oral anticoagulation self management and management by a specialist anticoagulation clinic: a randomised crossover comparison. *Lancet* 2000;356:97–102.**

Abstract reproduced from original article.

*Background*—Vitamin K antagonist treatment is effective for prevention and treatment of thromboembolic events but frequent laboratory control and dose adjustment are essential. Small portable devices have enabled patient self monitoring of anticoagulation and self adjustment of the dose. We compared this self management of oral anticoagulant therapy with conventional management by a specialist anticoagulation clinic in a randomised crossover study.

*Methods*—Fifty patients on long term oral anticoagulant treatment were included in a randomised controlled crossover study. Patients were self managed or were managed by the anticoagulation clinic for a period of three months. After this period the alternative strategy was followed for each patient. Prothrombin time (expressed as international normalised ratio (INR)) was measured at intervals of 1–2 weeks in both periods without knowledge of type of management. The primary end point was the number of measurements in the therapeutic range (therapeutic target value  $\pm 50.5$  INR units).

*Findings*—There was no significant difference in the overall quality of control of anticoagulation between the two study periods. Patients were for 55% and 49% of the treatment period within a range of  $\pm 0.5$  from the therapeutic target INR during self management and anticoagulation clinic management, respectively (p=0.06). The proportion of patients who spent most time in the therapeutic target range was larger during self management than during anticoagulation clinic guided management. The odds ratio for a better control of anticoagulation (defined as the period of time in the therapeutic range) during self management compared with anticoagulation clinic guided management was 4.6 (95% confidence interval 2.1 to 10.2). A patient satisfaction assessment showed superiority of self management over conventional care.

*Interpretation*—Self management of INR in the population in this study is feasible and appears to result in control of anti-coagulation that is at least equivalent to management by a specialist anticoagulation clinic. It is also better appreciated by patients. Larger studies are required to assess the effect of this novel management strategy on the incidence of thrombo-embolic or bleeding complications.

## Ensuring quality of care

*The following papers describe studies to improve the quality of care delivered to patients with the chronic disease rheumatoid arthritis, to patients in public homes for the elderly at risk of mental disease, and a study to determine the importance of informal scraps, or hidden nursing information, in the delivery of nursing care to elderly patients in hospital.*

### **MacLean CH, Louie R, Leake B, et al. Quality of care for patients with rheumatoid arthritis. *JAMA* 2000;284:984–92.**

Abstract modified from original article.

*Context*—Patients with rheumatoid arthritis are at risk for substantial morbidity because of their arthritis and premature mortality due to comorbid diseases. However, little is known about the quality of the health care that these patients receive.

*Objective*—To assess the quality of the health care that rheumatoid arthritis patients receive for their arthritis, comorbid diseases, and health care maintenance and to determine the effect of patterns of specialty care on quality.

*Design, setting, and participants*—Historical cohort study of 1355 adult rheumatoid arthritis patients enrolled in the fee for service or discounted fee for service plans of a nationwide US insurance company. Patients were identified and followed up through administrative data between 1991 and 1995.

*Main outcome measures*—Quality scores for arthritis, comorbid disease (diabetes mellitus, heart disease, gastrointestinal bleeding) and health maintenance (screening for breast, cervical, and colorectal cancer) were developed from performance on explicit process measures that related to each of these domains and described the percentage of indicated health care processes performed within each domain during each person year of the study.

*Results*—During 4598 person years of follow up quality scores were 62% (95% confidence interval (CI) 61% to 64%) for arthritis care, 52% (95% CI 49% to 55%) for comorbid disease care, and 42% (95% CI 40% to 43%) for health care maintenance. Across domains, care patterns that included relevant specialists yielded performance scores 30–187% higher than those that did not ( $p < 0.001$ ) and 45–67% of person years were associated with patterns of care that did not include a relevant specialist. Presence of primary care without specialty care yielded health care maintenance scores that were 43% higher than those for patterns that included neither primary nor relevant specialty care ( $p < 0.001$ ).

*Conclusions*—In this population health care quality appears to be suboptimal for arthritis, comorbid disease, and health care maintenance. Patterns of care that included relevant specialists were associated with substantially higher quality across all domains. Patterns of care that included generalists were associated with substantially higher quality health care maintenance than patterns that included neither a generalist nor a relevant specialist. The optimal roles of primary care physicians and specialists in the care of patients with complex conditions should be reassessed.

### **Rabins PV, Black BS, Roca R, et al. Effectiveness of a nurse based outreach program for identifying and treating psychiatric illness in the elderly. *JAMA* 2000;283:2802–9.**

Abstract modified from original article.

*Context*—Elderly persons with psychiatric disorders are less likely than younger adults to be diagnosed as having a mental disorder and receive the treatment they need. Lack of access to care is one possible cause of this disparity.

*Objective*—To determine whether a nurse based mobile outreach programme to seriously mentally ill elderly persons is more effective than usual care in diminishing levels of depression, psychiatric symptoms, and undesirable moves—for example, nursing home placements, eviction, board and care placement.

*Design*—Prospective randomised trial conducted between March 1993 and April 1996 to assess the effectiveness of the Psychogeriatric Assessment and Treatment in City Housing (PATCH) program.

*Setting*—Six urban public housing sites for elderly persons in Baltimore, Maryland, United States.

*Participants*—A total of 945 (83%) of 1195 residents in the six sites underwent screening for psychiatric illness. Among those screened, 342 screened positive and 603 screened negative. All screen positive subjects aged 60 years and older ( $n = 310$ ) and a 10% random sample of screen negative subjects aged 60 years or older ( $n = 61$ ) were selected for a structured psychiatric interview. Eleven subjects moved or died; 245 (82%) of those who screened positive and 53 (88%) of those who screened negative were evaluated to determine who had a psychiatric disorder. Data were weighted to estimate the prevalence of psychiatric disorders at the six sites.

*Intervention*—Among the six sites, residents in three buildings were randomised to receive the PATCH model intervention, which included educating staff in the building to be case finders, performing nurse assessment in residents' apartments, and providing care when indicated; and residents in the remaining three buildings were randomised to receive usual care (comparison group).

*Main outcome measures*—Number of undesirable moves and scores on the Montgomery-Asberg Depression Rating Scale (MADRS), a measure of depressive symptoms, and the Brief Psychiatric Rating Scale (BPRS), a measure of psychiatric symptoms and behavioural disorder, in the intervention vs comparison sites.

*Results*—Subjects residing at the intervention and non-intervention sites were comparable except for higher mean education, fewer people below the poverty line, and fewer black people among the residents at the intervention sites. Based on weighted data, at 26 months of follow up psychiatric cases at the intervention sites had significantly lower ( $F_1 = 31.18$ ;  $p < 0.001$ ) MADRS scores (9.1 vs 15.2) and significantly lower ( $F_1 = 17.35$ ;  $p < 0.001$ ) BPRS scores (27.4 vs 33.9) than those at the non-intervention comparison sites. There was no significant difference between the groups in undesirable moves (relative risk 0.97; 95% confidence interval 0.44 to 2.17).

*Conclusions*—These results indicate that the PATCH intervention was more effective than usual care in reducing psychiatric symptoms in persons with psychiatric disorders and those with elevated levels of psychiatric symptoms.

**Hardey M, Payne S, Coleman P. “Scraps”: hidden nursing information and its influence on the delivery of care. *J Adv Nurs* 2000;32:208–14.**

Abstract reproduced from original article.

What nurses commonly describe as “scraps” are defined as the personalised recordings of information that are routinely made on any available piece of paper (hence scraps) or in small notebooks. The use of scraps is common in practice and has been noted in research from across the globe. Drawing on an empirical study it is argued that scraps are a unique combination of personal and professional knowledge that informs delivery of care. The overall aim of the study was to discover how nurses define and communicate information about patients and the delivery of care to each other in an elderly care unit. The processes by which information was constructed and the organisational structure and interactions that influenced this were also identified. The research design was an ethnographic one that involved observations of formal nursing end of shift reports (23 handovers); informal interactions between nurses (146 hours); 34 interviews with registered nurses, student nurses, and nursing auxiliaries; and analysis of written records. Data were collected from five acute elderly care wards at a district general hospital in the south of England. A grounded theory analysis was undertaken which revealed that scraps may have a significant role in the communication of information and the delivery of care. Therefore a categorisation of scraps within three main themes was undertaken. First, the analysis revealed the processes involved in the construction of scraps. Second, the content and role of scraps in influencing the delivery of care was exposed. Finally, the potentially confidential nature of scraps and consequent problems of storage and disposal was recognised. The findings are discussed in relation to a suggested model of the interrelationship between paperwork, scraps, handovers, and the delivery of nursing care. It is concluded that scraps are significant in facilitating nursing care and that this should be recognised in research, education, and practice.

## Qualitative research

*A two part paper in the series Users’ Guides to the Medical Literature XXIII, published in JAMA, on qualitative research in health care offers a worthwhile review of the critical appraisal of qualitative research by means of an illustrative clinical scenario. The first part entitled “Are the results of the study valid?” covers selection of the study population, choice of data collection methods (appropriateness and comprehensiveness), and data analysis and corroboration. The second part entitled “What are the results and how do they help me care for my patients?” covers the study results—how evocative and thorough, how comprehensive and relevant the theoretical conclusions, whether the concepts are adequately developed, the fit of the empirically generated theory to existing theory, relevance and practical application, understanding the context of one’s own practice, and understanding relationships with patients. Inevitably, the abstracts are no substitute for the entire article.*

**Giacomini MK, Cook DJ, for the Evidence Based Medicine Working Group. Users’ Guides to the Medical Literature XXIII. Qualitative research in health care. A. Are the results of the study valid? *JAMA* 2000;284:357–62.**

Abstract reproduced from original article.

Quantitative research is designed to test well specified hypotheses, to determine whether an intervention did more harm than good, and to find out how much a risk factor predisposes persons to disease. Equally important, qualitative research offers insight into emotional and experiential phenomena in health care to determine what, how, and why. There are four essential aspects of qualitative analysis. First, the participant selection must be well reasoned and participants’ inclusion must be relevant to the research question. Second, the data collection methods must be appropriate for the research objectives and setting. Third, the data collection process, which includes field observation, interviews, and document analysis, must be comprehensive enough to support rich and robust descriptions of the observed events. Fourth, the data must be appropriately analysed and the findings accurately corroborated using multiple sources of information, more than one investigator to collect and analyse the raw data, member checking to establish whether the participants’ viewpoints were adequately interpreted, or by comparison with existing social science theories. Qualitative studies offer an alternative when insight into the research is not well established or when conventional theories seem inadequate.

**Giacomini MK, Cook DJ, for the Evidence Based Medicine Working Group. Users’ Guides to the Medical Literature XXIII. Qualitative research in health care. B. What are the results and how do they help me care for my patients? *JAMA* 2000;284:478–82.**

Abstract modified from original article.

Qualitative analysis is a process of summarising and interpreting data to develop theoretical insights that describe and explain social phenomena such as interactions, experiences, roles, perspectives, symbols, and organisations. Key results are often illustrated with excerpts from interview transcripts, field notes, or documents. The results of a qualitative research report are best understood as an empirically based contribution to ongoing dialogue and exploration. Empirically based theory evolves from a process of exploration, discovery, analysis, and synthesis. Each concept should be defined carefully in a way that is meaningful to the reader. Concepts should be adequately developed and illustrated when theoretical conclusions are drawn. Arguments should be explained and justified. The qualitative research report ideally should address how the findings relate to other theories in the field. The qualitative study can provide a useful road map for understanding and navigating similar social settings, interactions, or relationships.

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