

Best practice for the design of forms

Leanne Zammit and Doreen Bauer

Abstract

A major objective following the 1997 amalgamation of three health services in Ballarat, Victoria, was the integration of the three discrete medical records into one system. This article describes the multidisciplinary collaboration, under the leadership of health information managers, that played a critical role in this project. Standards and best-practice evidence were used to inform new guidelines for forms design and development. This was complemented by another project to develop best-practice guidelines for producing consumer information with a focus on readability. Issues related to designing electronic forms were considered, but further work is required so that best-practice principles are available to guide designers. A sub-committee has been established with delegated authority to approve all forms. Initial evaluations have demonstrated marked improvements in the quality of new and revised forms.

Key words: *Medical records; forms design; best practice; quality.*

Introduction

Forms are an integral part of medical records and are intended to collect reliable and valid information. The information retained in the medical record is used to facilitate communication between health-care professionals in their provision of continuing patient care, ensuring an accurate chronology of that care. The information in the medical record may be used also for a variety of legal purposes, research, clinical and related education, evaluation of services and billing for financial reimbursement of the services provided.

Information management is a comprehensive process which should be based on standards, laws, regulations, business practices, and technologies (Patient Medical Record Organization 2000). Information reliability and validity are enhanced by the application of agreed standards to the organisation's medical record data collection plan (Abdelhak et al. 1998). While a good deal of the information retained in a medical record is, or should be, shared with all healthcare professional disciplines contributing to the care of an individual patient, many data collections are specific to particular disciplines. A lack of infrastructure standards may limit the ability of different elements to communicate with one another.

The design, implementation, and management of forms should be a collaborative process, including at least health information managers, information systems personnel, materials managers, patient care service providers, and quality improvement advisers (Abdelhak et al. 1998). Forms design is a skilled activity, principally within the domain of health information managers, who should have a clearly designated leadership role. Forms design guidelines, based on agreed standards and best-practice principles, will assist all participants in the collaboration needed to reach effective solutions.

This article describes current progress in the development of standards and guidelines to improve the quality of medical record forms. This work was supported by another project to improve the quality of consumer information being used by Ballarat Health Services.

Background

Ballarat Health Services was formed in 1997 as a result of the amalgamation of three previously independent health services: the Ballarat Base Hospital, the Queen Elizabeth Centre, and Ballarat and Grampians Psychiatric Services. Each had well-established medical record systems which had evolved under the leadership of qualified health information managers in response to the specific needs of the service. Most permanent medical record forms were designed in accordance with Australian standards, but many forms attested more to the preferences of disciplines and individuals than to best-practice principles. Some forms had been borrowed from other health services, with the organisation's name overprinted, but without acknowledgment of the source. Other worksheets were poorly produced photocopies of photocopies, the master document having been lost. There were a number of forms used by all three organisations essentially for the same purpose but with minor variations between content and format. Further, anecdotal evidence suggested that many users found their project data collection forms contained problems not identified until the time of data analysis. The medical record structure used by each of the three organisations met their service requirements, but the inconsistencies limited effective and efficient information sharing.

Amalgamation, however, brought opportunities for the development of a coordinated, whole-episode-of-care approach which could best be facilitated by a single medical record, or at least shared medical records in the short term. A lack of uniform policies and guidelines based on standards and best-practice principles was a major problem. Education and training in forms design had not been a high priority for clinical staff. Thus, they had limited appreciation of the need for appropriate forms, and, in particular, the necessity that the design conform to regulations and Australian Standards. It was not uncommon that forms would be developed without the involvement of the professional staff member who was responsible for the design function, the Health Information Manager - Forms Design (HIM-FD), until the very last stages of the form's imple-

mentation. This made it quite difficult for the HIM-FD to provide guidance in design and production, and often resulted in more work for all involved.

Objectives of the review of medical record forms

The objectives of the review were as follows:

- to streamline the processes for designing and producing forms to improve efficiency and to ensure consistency across Ballarat Health Services
- to ensure that staff members understood and complied with established delegations of authority
- to improve communication between services and disciplines in the production of common information
- to promote the support available through key services: Health Information Services, the Health Information Management Unit, the BHS Print Shop, the BHS Quality Coordinator, and the BHS Manager – Community Relations
- to reduce duplication of forms and consumer information documents, thereby reducing ongoing costs associated with design and production.

The process of review, change and quality improvement

Following amalgamation, the newly convened Information Management Committee, a standing committee of the Board of Management, determined that a primary objective was the consolidation of the previously discrete medical records into one system, with one record for each patient. One element of this activity was a review of all forms in use, both authorised and informal. The Forms Review Subcommittee, comprising a range of healthcare professionals from all services and disciplines, was established to undertake this activity. Their goal was to develop a medical record structure which would support clinical practice and contain high quality medical record forms while reducing the medical record cost, both financially and in terms of storage.

Initial activities of the Forms Review Subcommittee included the establishment of a forms inventory, including the identification of duplicate forms. The subcommittee also established recommendations for the development of one medical record for each patient across all sites, although it was understood that an interim measure of borrowing medical records would suffice during the planning and implementation period.

Form ownership had previously been vested in a range of disciplines and individuals, many with strong emotional ties to documents, and most of whom contributed untold hours of work to the forms. In order to overcome resistance to change, it was agreed that the project should begin with the development of new policies and guidelines based on Australian Standard AS2828 (*Paper-Based Health Care Records*), and other evidence or best-practice principles. The HIM-FD was delegated with responsibility for undertaking this work. The passage of time also contributed to the change process, the progress of amalgamation making it easier to develop organisation-wide standards, policies and procedures for medical records and other

forms generally. Additionally, as clinical practice was restructured across the three sites, the value of a combined medical record became clearer and more accepted by all parties.

Complementing the work being undertaken by the Forms Review Subcommittee, a Consumer Information Working Party addressed publication standards and processes for consumer information. This group, led by the Quality Coordinator, comprised representatives from HIS, Print Shop, Materials Management, Community Relations and Clinical Services. This collaborative group worked together to develop a policy and guidelines based on evidence and best practice principles to improve the quality of documents produced by the organisation. Strategies for facilitating appropriate consumer input have become integral to document production to ensure that the information collected and held meets consumer needs, both in terms of content and readability.

In 2002 the Board of Management approved the two new policies related to medical record forms design and consumer information. These, and their associated guidelines, have been published on the internal website. The Board of Management's Delegations of Authority in relation to the approval of information documents has been promoted to ensure that designers meet standards before presenting new documents to potential users or consumers. Compliance has been improved by the introduction of a formal production authorisation which is required by the BHS Print Shop or Materials Management before any document can be printed. This authorisation specifies that all new or revised medical record forms must be evaluated by the HIM-FD using the standards set out in the guidelines before referral to the Forms Review Subcommittee, which has the delegated authority to review and approve all BHS forms. Similar authority for the approval of consumer information documents has been delegated to the Manager – Community Relations, who evaluates materials against the standards endorsed for BHS.

These policies, and their attendant guidelines, have resulted in substantial improvements to many documents in terms of content, layout, style and readability. It is anticipated that it will take two years to complete the revision of current documents. Further work is being undertaken to develop guidelines for other forms used by BHS, such as forms used by Human Resources, as well as 'satisfaction survey' forms. Searching for best-practice principles is currently underway.

Further details about the policies and guidelines are available from the authors.

Critical issues

During the process of writing the policies and guidelines, several critical issues were identified, and from these were evolved essential items to be considered when designing forms. These issues were incorporated into the guidelines, and are used by committee members when evaluating forms.

Managing data storage is a critical issue that form planners need to consider. Storage space is usually at a premium both in terms of physical facility and cost,

including the cost of record retrieval from secondary storage.

Recent legislation to enhance patients' rights for privacy, as well as their rights to access their health records, has implications for information management.

Although most hospitals and health services will not have access to a computerised medical record for some time because the cost is prohibitive, electronic records are becoming more common. Forms used for direct computer input require the application of particular design criteria for which there is a growing body of evidence. Further, some paper forms are also being scanned for electronic data and need to meet specific design criteria.

Standardised data definitions should be used, as they can improve data interpretation, facilitate data sharing and enhance data reliability and validity. The National Data Dictionary is used as the primary definition source.

Quality principles should be clearly established at the outset to ensure basic standards have been met before the form is approved. Ten elements have been described as characteristic of data quality (AHIMA 1998):

- *accessibility*: data items should be easily and legally collected
- *accuracy*: data are correct and valid
- *comprehensiveness*: all required data items are included
- *consistency*: data should be reliable and the same across disciplines
- *currency*: data should be up-to-date
- *definition*: standard definitions should apply
- *granularity*: attributes and values of data should be defined at the correct level of detail
- *precision*: data values should be defined and complied with
- *relevancy*: data are meaningful and appropriate
- *timeliness*: data are collected as specified.

Other quality considerations relate to document design principles based on evidence or best practice. These design principles cover issues such as legibility, type-face, type size, justification, acronyms, use of upper and lower case, italics and bold, shading, and reverse text. The use of evidence to support standards, such as no underlining or the minimisation of upper case, has been of considerable value in reducing debate when personal preference is the issue.

A guideline example

A clear plan is essential to ensure that the design, production, implementation and evaluation of a new form, or the modification of a current form, are successful. A range of issues should be canvassed, preferably through collaboration of potential users.

Information required

- What information is to be collected?
- Why does it need to be collected?
- Who will use this information?
- Is this information collected on another form and, if so, where?

- If the information is collected elsewhere, why does it need to be collected again separately?
- Will the information be collected in narrative form?
- Will the narrative contain information that will be coded for other uses?

Computerisation

- Will the information be collected in an electronic format?
- Will the information be transferred to paper for retention?
- Will this information be retained in an electronic format?
- Will the information be coded and translated into an electronic format?

Forms

- Is this form one of a series being produced?
- How many documents will be needed?
- How many forms may be needed to collect the information?
- Will self-carbon paper be used for multiple copies?
- What are the implications for record storage?

Information retention

- Does the information need to be kept for a period of time and for how long?
- How will information be destroyed?
- Who will destroy information?

Production

- Will this form be produced in-house or commercially printed?
- What budget constraints apply?
- What are the estimated costs?
- Who needs to approve production?

Implementation

- How will the form be trialed?
- How will the trial be evaluated?
- Who will need to be educated?
- What education will be required?

Current direction and future goals

Ballarat Health Services' ultimate goal is to establish one high quality medical record per patient and to have a system whereby the record moves with the patient throughout all of their contacts with the health service.

The establishment of a consistent set of standardised medical record forms that comply with the BHS policy and guidelines remains a high priority for the organisation and will assist in the record integration process. The production of medical record forms will meet best practice principles and be evaluated to ensure an appropriate quality that meets the needs and expectations of the users. The application of these principles to informal forms such as project worksheets and satisfaction surveys is being promoted, even though the forms will not require approval for retention in the record.

The following steps have been identified as being essential for achieving the goals:

- to provide staff members with appropriate education
- to build information about the policies and guidelines into the orientation program for new staff
- to progressively review, and revise as necessary, current medical record forms and other forms and to ensure they comply with the guidelines
- to continue the operations of the multidisciplinary Forms Review Subcommittee
- to annually review policies and guidelines to ensure that they remain current and support best practice
- to continue the functioning of projects and working groups to achieve an amalgamated medical record
- to begin work on developing guidelines based on standards, evidence, and best-practice principles for web-based documents.

Conclusions

A clearly specified design process for medical record forms is an essential framework for assisting clinical staff in the production of that component of their information management system. Agreed standards based on regulation, evidence, and best-practice principles are essential to facilitate effective outcomes.

The endorsement of policies and guidelines at Ballarat Health Services has provided standards for staff designing forms; these standards will ensure that these documents are produced to a consistent high quality. It is anticipated that these policies and guidelines will reduce costs and the time spent in uninformed debate, while simultaneously improving collaboration in the identification of new data collection needs, as well as the review of current data collection forms.

Acknowledgements

Our thanks to:

- BHS Information Management Committee
- BHS Forms Review Subcommittee
- BHS Working Group on Consumer Information, whose guidelines have informed this project in relation to readability.

References

Abdelhak, M., Grostick, S., Hanken, M.A., and Jacobs, E. (1998). *Health information: management of a strategic resource*. Philadelphia, Saunders.

American Health Information Management Association (AHIMA) (1998). Report of data quality management task force. *Journal of American Health Information Management Association* June: Practice Brief.

Patient Medical Record Organization (2000). *Report on Uniform Data Standards for Patient Medical Record Information*. National Committee on Vital Health Statistics. Washington DC, National Committee on Vital Health Statistics. Available at: <www.ncvhs.hhs.gov/au>

Doreen Bauer *DipPT, GradDipEd(Admin), MAdmin*

Quality Co-ordinator
 Ballarat Health Services
 PO Box 199
 Ballarat Victoria 3353

Leanne Zammit *BAppSc
 (Health Information Management)*

Health Information Manager
 Ballarat Health Services
 Tel (03) 5320 4395
leannez@bhs.grampianshealth.org.au