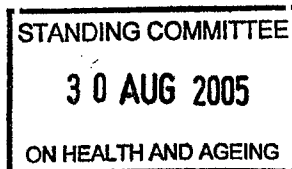




THE ROYAL AUSTRALIAN COLLEGE OF GENERAL PRACTITIONERS

FROM THE PRESIDENT

29 August 2005



Hon Alex Somlyay
Chair
House of Representatives Standing Committee on Health and Ageing
Parliament House
Canberra ACT 2600

Dear Mr Somlyay,

As you will recall, the Royal Australian College of General Practitioners (RACGP) offered to provide your Committee with examples of good practice in communication between hospitals and general practice.

I have recently been alerted to the fact that the RACGP omitted an excellent example of hospital-GP communication that was provided by our members, when forwarding the material to you.

I have enclosed the two relevant articles in this letter, as I know it will be of interest to your Committee. I apologise for this oversight.

The RACGP is happy for this information to be released.

If you have any further enquiries, please contact Mr Ian Watts, National Manager – GP Advocacy and Support at the RACGP in the first instance. Mr Watts can be contacted on (03) 8699 0544, or ian.watts@racgp.org.au.

I trust that this information is of assistance, and I look forward to the outcomes of your Committee's deliberations.

Yours sincerely

Professor Michael Kidd
President

cc Prof Claire Jackson

Encl. Two articles concerning GP-Hospital Communication at the Mater Health Services, South Brisbane

"BISEP; GP-Hospital collaboration for online referral and bookings"

Holliday, D., Jackson, C., Mainwaring, P., Lankowski, L., Kardash, C., Wright, B., Nicholson, C. & Mack S.

Objectives

The Brisbane Inner South E-referrals Project (BISEP) is piloting the ability for General Practitioners on Brisbane's Southside to electronically refer and book newly diagnosed cancer patients into Mater clinics. Best practice guidelines are being used by the GPs to make urgent referrals of patients with suspected cancer. The objectives of the study are to measure the acceptance and satisfaction of such a system with hospital staff, GPs and patients and to assess the impact on health service delivery in terms of referral waiting times, referral information, administrative processes and enhanced patient experience.

Methods

GPs taking part in the pilot are able to view, over the internet, available appointments in relevant clinics and can book a patient into an available slot. This is carried out over a secure connection. At the same time a referral is uploaded into the hospital application. Confirmation of the appointment is sent back to the GP. When making the referral the GP uses the guidelines developed by the hospital specialists in collaboration with the Mater Centre for Integrated Health Care & General Practice.

GP recruitment:

- Brisbane Inner South Division of General Practice communicated BISEP to members via their newsletter
- Education evening held on 20/1/05 where BISEP presented to GPs interested in participating
- BISDIV staff followed up with participants. 5 practices and 19 GPs were recruited.

Training of users:

- The Brisbane Inner South Division of General Practice provides training for those GPs taking part in the trial and an information pack for GPs and practices was provided.
- User acceptance and facilitation of the change management process regarding the new e-business model was integrated with end user training and conducted 21/2/05 to 15/5/05.

Principal findings

The pilot was successful in that the BISEP application did allow a GP from their practice, outside the physical confines of Mater, to be able to search for an available appointment, send that referral electronically and inform the patient of both the referral and appointment time before they left the GP.

| Objective | Outcome | Description |
|--|----------------|--|
| Improve efficiency in health service delivery | | |
| Deliver a mechanism for GPs to electronically refer and book their patients into Mater's specialist clinics | ✓ Achieved | |
| Decrease time taken for the GP administration to access an initial appointment at the Mater specialist clinics where the provisional diagnosis is cancer | ✓ Achieved. | For Category 1 patients this went from 5 days to instantaneous |
| Provide a mechanism to improve information sharing between GPs and | ✓ Achieved | |

| | | |
|--|------------------------|--|
| Mater clinicians | | |
| Improve access to timely and relevant information - GPs | ✓ Achieved | GPs and patients aware of date and time of OPD appointment during the consultation |
| Enhance business processes - GP | ✓ Achieved | 37.5% GPs took < 5 mins to e-book, 12.5% 6-10 mins, 12.5% 11-15 mins, 25% 16-20 mins and 12.5% 26-30 mins. The 8 GPs who completed this section were notified of their patients' OPD appointment immediately on-line. |
| Enhance business processes - Mater | x Not achieved | Dual administrative processes currently required in pilot phase |
| Decrease number of did not attends (DNA) at specialist clinics for initial appointments | ✓ Achieved | All patients attended their appointments |
| Decrease administration time (Mater) spent checking availability or filling of outpatient bookings | x Not achieved | Remained the same, approx. 20 minutes/referral |
| Provide access to best practice clinical pathways | ✓ Achieved | 'Guidelines for Urgent Referral of Patients with Suspected Cancer' developed and disseminated. |
| Improve the patient experience | | |
| Increase patient satisfaction | ✓ Achieved | High levels achieved |
| Reduce patient anxiety | ✓ Achieved | Low level reduction in patient anxiety |
| Improve staff satisfaction with health service delivery | | |
| GP/GP administration | ✓ High levels achieved | Particularly valued the collaboration between the hospital and community in developing increased connectivity and ease of bookings. Learning new technology was time consuming but believed this would improve with practice and exposure. GPs were uniformly keen to continue the approach and expand BISEP to include other OPD settings |
| GP satisfaction | | |
| Overall GPs were very positive about BISEP and were keen to see it continue. They strongly agreed that BISEP: | | |
| <ul style="list-style-type: none"> - Promoted an approach which valued teamwork between health professionals in hospitals and community - Provided a useful guideline to assist in booking urgent appointments for patients with suspected cancer - Training/ preparation had been adequate - Reduced test duplication for the patients - Improved the timeliness of OPD booking - Delivered best patient care - Increased their confidence that their referral was being actioned - The e-referral process was as easy as possible for the patients | | |

GPs **agreed** that BISEP:

- Increased the amount of collaboration they had with members of other health professionals, sectors or their Division of General Practice
- Supported more efficient information sharing between hospital and community providers
- Saved time in referring to Mater OPD
- Promoted an attitude of respect for the opinion of health professionals in other settings
- Contributed to an increased feeling of trust between hospital and community
- Gave them an improved referral template for patients with suspected cancer
- Provided them with a new electronic OPD referral approach that was technically easy to use
- Made the best use of health professional time
- Improved the quality of information sharing between hospital and community providers relevant to patient care and safety

| | | |
|---|----------------------|---|
| Mater clinical and administration staff | ✓ Partially achieved | Although less positive believed integration between IT systems and reviewing referral guidelines would resolve most of the workflow issues. Consultants were supportive of the project and believed it should continue to allow greater exposure for themselves and GPs |
|---|----------------------|---|

Lessons learnt

- Effective best practice referral guidelines and training are required to support a change in practice
- Seamless integration between solutions to avoid duplication of data is required
- Seamless integration between scheduling applications and enterprise wide scheduling capability is required
- Allow adequate time to establish the capability to support a best practice security model
- Allow adequate time to access GPs for training
- It takes time, communication and resources to effect a change in clinician practice

Discussion

Online referral has the potential to increase efficiencies in the health care system by facilitating business processes at the GP – Hospital interface. As healthcare messaging becomes more standardised and as more systems become interoperable, the infrastructure and security barriers BISEP encountered will recede. Despite the operational barriers revealed and lessons learnt, the evaluation from patients and GPs demonstrated a high degree of ongoing support for this approach.

International exchange

Electronic patient records (EPR): achieving best practice in information transfer between hospital and community providers – an integration success story

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'Once upon a time there was a tertiary teaching hospital which believed it could do much better by including its community in providing continuity of patient care'.

ABSTRACT

Effective healthcare integration is underpinned by clinical information transfer that is timely, legible and relevant. The aim of this study was to describe and evaluate a method for best practice information exchange. This was achieved based on the generic Mater integration methodology. Using this model the Mater Health Services have increased effective community fax discharge from 34% in 1999 to 86% in 2002. These results were predicated on applied information technology excellence involving the development of the Mater Electronic Health Referral Summary and effective change management methodology, which included addressing issues around patient consent, engaging clinicians, provision of timely and appropriate

education and training, executive leadership and commitment and adequate resourcing. The challenge in achieving best practice information transfer is not solely in the technology but also in implementing the change process and engaging clinicians. General practitioners valued the intervention highly. Hospital and community providers now have an inexpensive, effective product for critical information exchange in a timely and relevant manner, enhancing the quality and safety of patient care.

Keywords: clinical information, healthcare integration, information transfer

Background

In 1995, the Quality in Australian Health Care Study (QAHCS) created consternation in Australia by identifying adverse outcomes in 16% of hospital admissions to 28 public and private hospitals in New South Wales and South Australia.¹ Three years later, the National Expert Advisory Group on Safety and Quality in Australian Health Care recommended important changes in the approach to quality and safety in acute healthcare in Australia. This included better managed transitions between health services, the development of clinical and administrative information systems with an all-of-system focus, and high-quality data exchange.

In response to these issues, the Mater Health Services in South Brisbane, Queensland, committed time, resources and expertise to improve hospital/community information exchange as a strategic priority. Their aim was the timely transfer of relevant and legible patient discharge information between hospital and all relevant community providers, predicated on patient consent. This approach was underpinned by enhanced communication generally with community health providers, a focus on building a culture of shared teamwork between the hospital and community, and a commitment to better care planning and care co-ordination upon hospital discharge. The key outcomes sought were improved patient safety and quality of care.

Mater integration methodology 1994–1998

In 1994, the Mater Hospital funded two key community linkage services on site. The Domiciliary Allied Health Acute Care and Rehabilitation Team (DAART) provided timely, high-quality, allied health interventions for patients at pre-admission to and post-discharge from hospital. Much work was undertaken around the collaborative development of tools which informed hospital and community clinicians of the patients' health status at the point of transfer and identified tasks completed and ongoing care needs. The Mater Centre for Integrated Health Care and General Practice (the Centre), an academic primary care centre, was established to research, develop and train around improved models for better integrated care between hospital and community providers. The Centre undertook qualitative research around the interaction between hospital and community health professionals and administrators. This revealed two systems with markedly different cultures, minimal interaction, and little appreciation of

the impact of their lack of alignment on the potential quality and safety of patient care. Issues around privacy and confidentiality, lack of time and resources, and non-inclusion in their roles were barriers to better information transfer between hospital and community and most commonly voiced by hospital providers.²

Following this report, senior hospital clinicians and administrators took a leadership role in establishing improved relations with key community health professionals. Via the Centre they convened regular strategic planning meetings and a number of workgroups to explore issues and barriers, and identify improved approaches to continuity of care between hospital and community. These included working parties involving integrated palliative, diabetes, antenatal and postnatal care; integrated continuing professional development; a patient linkage database; and a General Practice Referral/Discharge Working Party. The aims and outcomes of this working party are shown (see Figure 1) and involved input from local general practitioners (GPs), each of the Mater Hospital's clinician groups, discharge planners and representatives from other hospitals in the area.

Study method

In 1998, the Centre, DAART, and Mater Care Management Unit described a generic model for improved integration of care between hospital and community providers. This approach focused on the '3Cs' – 'communication and access', 'cultural change and team work', and 'commitment and incentives to integrate'.⁴ This model was based on the approach successfully applied to the hospital's maternity, neonatal and diabetes community share care programmes. Based on this model, and an opportunity via the National Demonstration Hospitals Programme Phase 3 (NDHP3), the Mater Adult Hospital (MAH), began work on an electronic community discharge notification. A clinical chart audit in November/December 1999 of all discharges over six random work days ($n = 500$) had demonstrated that despite the work undertaken, the proportion of best-practice discharge notification – faxed legible community discharge summary within 24 hours – was 34%. In recognising timely legible information transfer as a key component of quality healthcare, the development of an electronic tool to facilitate this – the Mater Electronic Health Referral Summary (MEHRS) – was commenced.

Figure 1 Aims and outcomes of the GP Referral/Discharge Working Party

Technological development of the MEHRS

The model was developed in two phases. First came the development of the Mater Episode of Care Tracking System (MECTS) in Microsoft Access. This was a hospital/community summary of the episode of care for patients on the two NDHP3 clinical service enhancement trials. This system helped ascertain what clinical discharge information required collection during the episode of care. This was a significant step in determining the data and process necessary for transferring information on patient discharge.

The second phase was the development of the MEHRS designed in Microsoft Access, with a web-enabled front end written in active server pages (asp). The database structure takes full advantage of relational database theory using generic SQL statements. The base system comprises the MEHRS software together with the interfaces that allow access to existing hospital repositories, including legacy systems, using open database connectivity (ODBC)

connections or health level-7 (HL-7) messages. The MEHRS has been integrated with the hospital's Patient Master Index (PMI) pharmacy database (Merlin), the allied health database (TIM) and community services provider database. Clinicians are able to easily access essential clinical information, much of which has been pre-collected and exists on isolated databases within the hospital, and combine it as a discharge summary. The MEHRS was designed in collaboration with medical, allied health and nursing clinicians, information systems and admission staff, pharmacy and discharge planners.

The Mater developed a web-based front end for Queensland's state-wide GP contact database which allowed interfacing with the MEHRS and the hospital's PMI. This allowed admission staff to access to up-to-date, reliable and accurate GP contact information. The 'Dr register' is available on the Mater hospital intranet and is operational across the campus.

The MEHRS allows hospital clinical staff to electronically generate a typed hospital referral/episode summary and fax it from any networked

desktop on campus using simple mail transfer protocol (SMTP)-based faxing infrastructure and MSFax. The summaries generally take seven to ten minutes to complete and up to 20 minutes for complex needs patients. The summary does not need to be completed in one sitting and has become a discharge-planning tool. Clinicians edit the summary throughout the episode, finalising it on the day of discharge and faxing it direct from the closure screen. The GPs and community providers receive the typed hospital summary 24 hours after discharge, representing information from medical, nursing and allied health members of staff. The discharge summary fax is unable to be generated if the patient consent affirmation data has not been entered.

The MEHRS pilot on the medical wards commenced in October 2000, has been operational at the Mater Hospitals since January 2001 and has been expanded to become a normal part of clinical care across the Mater Adult and Children's Hospitals over the past 18 months.

The MEHRS provides a mechanism to accurately measure 'process of care' performance indicators allowing the Mater Health Services to quantify the proportion of hospital separations where a timely, legible and relevant discharge summary was generated and faxed.

Change management methodology

Success factors in achieving a changed approach to information transfer that should be considered are discussed.

Patient consent

Comments around patient consent to the process emerged as an initial key barrier to information transfer with hospital staff. Since 2001, all patients presenting to the Mater hospitals are asked on admission whether they consent to the sharing of clinical information with their community providers and this is documented on the admission sheet. In the calendar year 2002, 99% of all patients presenting to Mater Adult, Mothers' and Children's Hospitals, Brisbane, consented to the sharing of their health information ($n = 7467$). Consent has to be agreed to and checked on the MEHRS to allow the discharge referral to be faxed from the system.

Clinical champions

The challenge faced in creating, implementing and sustaining new ways of doing business, lies not solely in developing the technology, but also in engaging clinicians within the organisation in adopting and embracing cultural change. Whilst an effective information transfer tool had been developed, it still

relied on hospital clinicians to accept and utilise it. A number of senior clinical champions – medical, allied health and nursing – from hospital and community settings were instrumental in highlighting with their staff the importance of improved hospital/community information transfer to improving the quality of patient care and actively supporting the uptake of the electronic discharge summary as normal practice. Such active involvement and support from key clinicians has been vital to the successful implementation and maintenance of the system.

Training

Most importantly, training protocols and strategies were developed and implemented as part of the normal orientation of all staff. Training in the pilot phase was for clinical medical ward staff only on a one-on-one basis. From November 2001, dedicated slots in annual intern training/orientation and the graduate nurse orientation has been provided on the MEHRS and the importance of hospital/community information transfer. Allied health professionals receive training in the allied health system, TIM, as part of their orientation. One-to-one training is conducted on an *ad hoc* basis for new clinical staff.

Executive leadership and commitment

Strategic commitment by the Mater executive has been demonstrated by the commitment of both time and resources to sustaining and further developing the system. The demonstrated leadership and commitment at this level have been imperative in effective change management and sustainability.

Adequate resources

To sustain the information management model, a number of other support issues needed to be reviewed. The availability of PCs at ward level was a significant issue and at least one new PC was needed for each ward. This was preferably placed in the intern or NPC office, close enough to the clinical area but with some degree of privacy and quiet. A number of existing PCs were upgraded to Internet Explorer 4 to allow access to the MEHRS on the hospital intranet.

Results

Our initial data from November/December 1999 indicated the proportion of best-practice discharge notification – faxed legible community discharge summary within 24 hours from the MAH – was 34%. A random clinical chart audit of all discharges over six random work days from the MAH in November–

December 2000 ($n = 245$), midway through our intervention, demonstrated that 72% of charts had a manually completed discharge summary/referral faxed to community providers. In November 2002, following the completion of the intervention, the average percentage of separations from the MAH that had a MEHRS discharge summary completed for that month ($n = 563$) was 86% (see Table 1). These data exclude day cases and statistical separations.

The Mater Children's Hospital (MCH) campus commenced using the MEHRS in January 2002. In November 2002 the average percentage of separations from the MCH that had a discharge summary completed for the month ($n = 294$) was 75% (see Table 1). These data exclude day cases and statistical separations.

An audit of all MEHRS discharge summaries faxed from the Mater Adult, Mothers' and Childrens' Hospitals for all patients discharged in January 2003 demonstrated that 65% were completed within 24 hours of patient discharge ($n = 682$).

Quality of the information

Two quality audits have been conducted to review the adequacy of the information provided by hospital staff. Random audits of clinical charts from an acute medical wards at the MAH were completed in November 2001 ($n = 37$) and July 2002 ($n = 30$) as part of quality assurance activities for the medical division. The Director of Medicine reviewed the summaries and assessed information with respect to diagnosis, other problems, allergies/adverse reactions, procedures, hospital management, follow-up plans/instructions and medications. These audits demonstrated 95% and 90% respectively of summar-

ies were adequate with respect to the articulated key clinical parameters of diagnosis, ancillary problems, procedures/investigations, inpatient management, post-discharge instructions and discharge medications. The main gaps identified by the Director of Medicine in the information communicated to the GPs included absence of information about allergies and/or medications.⁵ A number of strategies have since been implemented to address this.

Qualitative comments have been collated from two surveys, one conducted in July 2001 ($n = 30$) and the other in November and December 2002 ($n = 55$). Respondents were invited to make suggestions to improve the system. This resulted in improved pharmacy integration, GP details coming directly from the PMI and decreased duplication regarding information to the clinical coders. The best features of the system include direct faxing from the PC, ease of access and ease of use, legibility and the ability to complete the referral summary across the entire hospital admission.

General practice

All electronically generated discharge referrals faxed from the MAH in February 2002 ($n = 124$) and November 2002 ($n = 196$) included a fax back evaluation form for the GP. The return rate was 24% and 28% respectively and the results are shown in Table 2.

Comments from the GPs include:^{5,6}

- 'better than I've had before'
- 'highly useful'
- 'best discharge summary I've seen in a long time, excellent'
- 'fabulous, received so promptly'
- 'great to get information when a patient presents and is admitted'
- 'thank you for sending a detailed summary. I find it very useful for feedback and to ensure correct follow -up'
- 'a terrific idea and one to be encouraged, has the relevant information for ongoing GP care'
- 'appreciated the fax and knowing what happened to the patient'
- 'more information on test results done in hospital'
- 'love the legibility'
- 'nursing info not relevant unless we need to forward to community nursing'

Table 1 Faxed discharge summary data (excluding day cases and statistical separations)

| Location | Date | N | Charts with a completed discharge summary (%) |
|----------|--------------|-----|---|
| MAH | Nov-Dec 1999 | 500 | 34 |
| MAH | Nov-Dec 2000 | 245 | 72 |
| MAH | Nov 2002 | 563 | 86 |
| MCH | Nov 2002 | 294 | 75 |

Domiciliary agencies/community health

In November 2002, 52 referrals were sent to domiciliary agencies/community health with a fax

Table 2 GP evaluation of the MEHRS discharge referral

| | Feb 2002 (%) | Nov 2002 (%) |
|--|--------------|--------------|
| Agreed that the summary was useful | 96 | 97 |
| Agreed that the summary was relevant | 98 | 98 |
| Agreed that the summary arrived in a timely manner | 96 | 93 |
| Want to continue to receive summary | 99 | 99 |
| Agreed that there was sufficient information to continue care of the patient | Not asked | 94 |
| Agreed that the information in 'other conditions/complications' was relevant | Not asked | 69 |
| Agreed that the comments in 'follow-up plans' meet their needs | Not asked | 91 |
| Thought that a field containing information about the presenting problem would be useful | Not asked | 73 |
| Found the nursing/allied health information relevant | Not asked | 60 |

back evaluation form. The response rate was 25% and the results are shown in Table 3.

Discussion

The MEHRS is a practical demonstration of how acute care facilities can meet the needs of primary care and share relevant clinical information. It involved a combined approach of applied information technology excellence and effective change management based on the Mater '3Cs' model for improved hospital/community care integration, developed on-site in 1998. This focuses on: 'communication and access', 'cultural change and team work', and 'commitment and incentives to integrate' – all essential underpinnings to effective integration outcomes.⁴

The outcomes described in this paper owe their success to this approach. Opening up strategic communication channels between hospital and community with clinical and information management workgroups identified gaps in service delivery and the importance of integrated information transfer to quality clinical care across the continuum. They also allowed the development of individual roles and responsibilities in effective information flow and the development of effective processes for moving information across the interface.

Initiating strategies for an awareness of the

differing community and hospital cultures, exploiting the strengths and addressing the weaknesses, and the development of a shared approach to managing information transfer problems, allowed a new focus on continuity of care management in both settings. The focus progressively became on the best long-term clinical support for the patient/client, rather than on the parcel of care occurring at the hospital.

Hospital and community providers provided organisational commitment and leadership to the infrastructure and processes required to implement an integrated information transfer system. This included consent procedures, computer hardware and software, shared databases, and training down time and supervision, and involved both clinical and administrative staff.

Our study design was open to some potential bias:

- The generic templates of the MEHRS were developed to meet the needs of local hospital and community clinicians. As these match the needs documented in interstate papers however, we are comfortable that they are widely generalisable.
- Chart audits to evaluate completeness, legibility and timeliness of MEHRS transfer to the community, were conducted by hospital employees. As they came from separate departments from the clinicians and administrative staff being audited, we are comfortable that their results are valid and without bias.
- Our response rate from our GP and community

Table 3 Responses from domiciliary and community health agencies

| | Nov 2002 (%) |
|--|--------------|
| Agreed that the summary was useful | 100 |
| Agreed that the summary was relevant | 85 |
| Agreed that there was sufficient information to continue care of the patient | 92 |
| Agreed that the information in 'other conditions/complications' was relevant | 54 |
| Agreed that the comments in 'follow-up plans' meet their needs | 85 |
| Thought that a field containing information about the presenting problem would be useful | 69 |
| Found the nursing/allied health information relevant | 77 |
| Agreed that the summary arrived in a timely manner | 92 |
| Want to continue to receive summary | 100 |

agency's evaluation fax was disappointing at 24–28%, although commensurate with the response rate of other community studies on the complex. Corroborative evidence from informal feedback from community groups such as divisions of general practice, DAART and community health, has also however been universally positive. Most advocate strongly for similar systems to be developed in neighbouring hospitals.

Our approach is applicable to any acute care setting prepared to engage its community in an information transfer partnership, and prepared to invest the resources necessary to engage and train key clinical and administrative personnel.

Conclusion

A key objective of the Mater Health Services is the provision of safe and high-quality patient care. This is not cocooned within one setting – community or hospital – but a function of co-operation between both, in achieving ongoing excellence in care delivery. The linkage of the Mater Health Services with its community providers is seen as vital to this objective and has played a key role in sustaining this system beyond the life of the initial programme. A focus on capturing a minimum quality and safety dataset, effective clinician involvement, and effective systems to collect information and minimise duplication

underlie the programme's success, and the key to implementation and sustainability in other sites.

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ADDRESS FOR CORRESPONDENCE

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