A central role for the health call centre

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> …the most critical component in the information industry is human, and therefore spectacularly prone to unreliability.
>
> — *Emma Tom*

THERE ARE SIGNIFICANT CHALLENGES facing the health system that stem from the tendency for decisions to be made by disparate groups focusing more on the needs of institutions rather than the needs of patients.[1] As a result, patient care is becoming episodic, with poor communication leading to inefficiencies, errors and adverse outcomes. An ideal health system provides "quality care that is centred on the patient, community-based, coordinated, continuous and cost-effective, and utilises clinical information systems".[2] (page 229) We believe health call centres (HCCs) could be instrumental in achieving such aims.

In May 1999, the Western Australian Department of Health in conjunction with McKesson Asia Pacific established the Western Australian Health Call Centre (WAHCC).[3] Clinical governance is overseen by three medical directors and a specialist nurse, and staff participate in comprehensive, continuous education and quality improvement. Since its inception, the WAHCC has witnessed an increase in demand and serves about 225 000 callers annually. This amounts to 600 callers per day at a cost (in 2004) of about $28 per call — 0.0018% of the health budget. Seventy per cent of calls are received after hours, particularly on weekends and public holidays. The initial program offered by the WAHCC was *HealthDirect*. Services have expanded to include programs and pilot projects listed in the Box .

Existing call centre programs

HealthDirect: triage and advice (metropolitan, rural & nursing posts)

HealthInfo: general health and policy information

SouthWest24: triage, assessment, counselling, crisis intervention and case management for mental health patients in collaboration with local health providers

Residential Care Line: assessment and coordination of residential care facility patients to avert admission and promote efficient use of community services

Sexual Assault Referral Centre Crisis Line: assessment and referral of sexual assault victims

Drug Cautioning Line: registration of first time drug offenders into an education program

Health Incident Lines: public health emergency lines as required

PEP (Post Exposure Prophylaxis for HIV): Risk stratification and referral for callers with possible non-occupational HIV exposure

Current pilot projects

Secondary triage for the St John Ambulance: provides the option of transferring semi or non-urgent ambulance calls to a WAHCC *HealthDirect* triage nurse. Provides ambulance authorisation for the State Government's new, free pensioner ambulance scheme

Chest Pain Program: triage of insured patients to private hospital chest pain clinics

Outpatient bookings: a single telephone appointment, reminder and tracking system for outpatient appointments

Surgical patient follow-up: to ascertain the need for outpatient appointments following appendicectomy, endoscopic cholecystectomy and hernia repair

Disunity between primary care and specialist clinicians is related to uncertainty in enacting treatment plans, as well as the logistics of jointly supervising and undertaking the day-to-day care

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of individuals. This issue is readily addressed by the introduction of agreed protocols and decision-support tools.[4] The WAHCC uses telephone triage decision-support software know as Centramax,[3,5] which is designed to incorporate customised clinical protocols. A principal argument for expanding the HCC in this role is its capacity to act as the single point telephone contact, and its 24-hour, 7-day per week staffing by experienced registered nurses, allied health professionals and customer service representatives.

Future direction of health call centres

HCCs should meet the needs of patients in areas where the health care system is considered inadequate. This aim is supported by the Reid Report of the WA Health Reform Committee, a large comprehensive review of the WA health system.[6] This report recommended "the technology and infrastructure available through the Health Call Centre should be used to: support the interface between GPs, community-based services and hospital care, and enable better monitoring and support of patients with chronic and complex conditions" (Recommendation 5).

Integrating health services requires seamless electronic communication and data linkage between HCCs and services across the continuum. Plans for future services offered by HCCs should be considered in state-wide programs, and national coordination should be a priority as additional HCCs are developed. "Western Australia should support the national call centre framework, and work with the Australian Government to use Western Australia's current call centre infrastructure as part of the national call centre network" (Recommendation 6).[6]

There are three principal areas where HCCs could provide benefits to patients and health care providers.

Chronic disease management

Historically, the health system has been structured to address the needs of acute illnesses. However, control of infectious diseases combined with demographic and lifestyle factors has resulted in the global disease burden shifting towards the elderly and chronic diseases.[7] Of necessity, treatment of these diseases requires commitment to long-term and often complex management plans as well as perseverance by patients, providers and the community to see them through. By playing a central, coordinating role, the HCC can enhance such commitment and promote patient compliance and wellbeing.[8,9]

Information and reminder systems for patients with chronic diseases have been shown to reduce presentations to emergency departments and unplanned hospital admissions.[10-12] One randomised trial allocated 191 chronic obstructive pulmonary disease patients to either usual care or a self-management regime. The self-management regime involved weekly education and telephone follow-up for the first 8 weeks and then monthly for 12 months.[8] In the self-management group there was a 39.8% reduction in hospital admissions, a 57.1% reduction for other health problems, a 41.0% reduction in emergency department presentations, and a 58.9% reduction in unscheduled clinician visits.[11] In line with this type of intervention, the HCC could expand its role to provide care advice, education, monitoring and follow-up, integrating closely with primary care providers and specialist and hospital services. Of interest is the fact that in Victoria, practitioners who implement risk management strategies along similar lines are eligible for reduced medical indemnity insurance premiums.[13]

Acute hospital support and coordination

Between 1994 and 2002, public hospitalisations in WA increased by about 30%.[6] This ongoing increase in demand places further pressure on an already overburdened system and represents a unique opportunity for the HCC to become involved in the administration of hospital bed demand management. For example, the WAHCC is conducting a pilot study triaging insured patients with chest pain, during and after hours, to three specialist private chest pain clinics. HCCs are also well placed to triage patients to hospital-in-the-home services[14,15] and to support the

patients and treatment protocols. Similar supervision and support could be provided to post-acute services as patients return to the community from a recent hospitalisation. Several studies have reported the benefits of telephone care as a means of ongoing monitoring and early identification of post-operative symptoms.[12-14] For example, in a study of transurethral prostatectomy, 71% of participants avoided an outpatient appointment, with early identification of patients who required review.[16] Similar results were found in post-tonsillectomy patients.[17] Thus there is evidence that care by telephone can identify patients likely to have post-operative problems, ensure more effective use of hospital outpatient clinics and reduce the need for unplanned presentations. Of interest, over the past 12 months the *HealthDirect* program has received about 1700 calls from patients recently discharged from seven WA metropolitan and regional hospitals. These data reflect an unmet need for advice related to a wide variety of post-operative problems.

Mental health services

In conjunction with local service providers, mental health problems are amenable to a triage, diagnosis, assessment, treatment and follow-up using the telephone. Experience suggests the general population, symptomatic callers and concerned others use the WAHCC via *HealthDirect* or *SouthWest24* (see Box) as a first point of contact and are often unaware of services available in the community. The very nature of HCCs allows referrals to be made and information relayed to each provider in a timely manner. *SouthWest24* now acts as a single-point entry triage, assessment and counselling service for community mental health patients living in the South West Area Health Service of WA. This allows referrals to be appropriately directed in a timely fashion. Both the WAHCC mental health lines and the Greater Murray Accessline, a similar service in NSW, may be viewed as microcosm examples of how the health services as a whole could be integrated.

Possible concerns with health call centres

Detractors in the call centre debate point to cost, impersonalised service and possible clinical governance issues as reasons not to pursue health solutions through call centre technology.[18] Certainly set-up and infrastructure costs are large, but we believe that long-term savings to the health system are possible using call centres. This has been the experience in the US with disease management programs.

Customer service has been a focus of the WAHCC and when evaluated has rated very highly. Clinical governance is a vital aspect of call centre management that will require ongoing application and resources to ensure safe program delivery. We believe that our governance arrangements are robust but will need continuous development as new and innovative programs are introduced.

Conclusion

The aim of this paper is to promote discussion on the future role of health call centres within a renewed and reformed health care system. With appropriate consideration of operational arrangements, including information technology, clinical information systems, cost and quality, the HCC could provide an integrative function across the entire health system.

By linking patients, health care professionals, and programs, particularly after hours, it is hoped the system will be kinder to patients and induce cost and other efficiencies. We believe the HCC is uniquely poised to play a catalytic role.

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Competing interests

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