A decade of change in a community health service: a shift to acute and short-term care

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Abstract

There have been major policy changes impacting on community health services such as early discharge and hospital in the home initiatives. The effects of such policies on the client profile of community health services are not well known. Administrative data was used to explore a decade of changes in South Western Sydney Area Health Service community health services. There is a clear shift from a service primarily focussed on child health screening to one that is increasingly providing acute and shorter-term care to adults with physical health problems. The changes are reflective of policies that are moving acute treatment services into the community.

The changing context of community health services

There has been a significant resource investment in primary health care across Australia in recent years, with the health sector focussing on reduced length of hospital stay, providing community-based health services (eg, multipurpose services and primary care centres), and the general practice reform strategy. A number of initiatives in Australia and internationally have focussed on preventing acute care (eg, through active follow up); prevention and early intervention (eg, NSW Families First Initiative); shifting care from hospitals to community settings (eg, Hospital In The Home); and managing the transition between hospital and community care (eg, early supported discharge programs) (Baum 1998; Legge et al 1996).

Changes in acute hospital services have brought changing workloads in community health services (McDonald et al. 1997). Technological advances, such as implanted venous ports and improved wound management techniques, and shorter hospital stays have resulted in an increase in high-acuity patients being discharged into the community health system (McDonald & Smith 2001; Smith 2002). The complexity of medical and clinical need is increasing with specialist treatment being provided to clients in the community (McDonald et al. 1997; Smith 2002). The community nursing role in particular is changing to accept more acute episodes of care (Jarvis & Grant 2002).

The impact of these changes on the client profile and provision of community health services in South Western Sydney Area Health Service (SWSAHS) is not well known. Elsewhere, health visitors in Scotland and Norway have experienced increased workloads due to expansion of the field, new tasks and more tasks, an extension of the traditional focus on newborns to include mothers, and a focus on illness (Ellefsen 2001). An increasing number of elderly, chronic and complex care clients and terminally ill are being cared for in the community (McDonald et al. 1997). Accompanying these changing client profiles have been policies that reward efficient economic management, an increased focus on client throughput and quantifiable outcome measures (McDonald & Smith 2001; Smith 2000).

Commentators are expressing concern that these changes are reflective of a shift in community health services from primary health care to primary medical care, an increasingly illness-oriented practice, and the loss of a focus on health. Systemic changes are requiring community health services to function in clinical, illness-oriented roles rather than in their more traditional community and public health roles (Cashman et al. 2001). The non-medical aspects of community health services, such as general support and maintenance, may be becoming marginalised (Elkan et al. 2000; Ellefsen 2001; O'Grady et al. 1996).

There is evidence to suggest that this approach to community health may be less effective than a holistic service where a focus on psychosocial and mental health is included with physical care (Browne et al. 1999). A focus on treatment services may fail to address many of the socio-economic and health problems that face the community (Smith 2000). There is considerable anxiety amongst health care providers regarding the responsibility for changing patient needs resulting from changing health policies (McDonald et al. 1997).

Responses to these changes in the form of ambulatory and transitional care services in SWSAHS have been described (Jarvis & Grant 2002; Wilson et al. 2001). This paper will describe changes in client profile and service delivery in SWSAHS over the past decade and comment on the way the changing profile reflects policy changes in acute and community health care service provision. The paper also provides an insight into the usefulness of administrative data for understanding the workload of community health services.

Methods

This study was undertaken using the data collected in the community client administrative database for one area health service for the years 1991 to 2000. The data system is used to record information on all individual clients of the primary health nursing, child and family/community counselling (including drug and alcohol), and sexual assault service teams and some allied health and dental services.

Details of individual cases are entered onto the database when the client registers with the community health service - that is, at the time of the first service. The details include date of birth, gender, country of birth, language spoken at home, occupation of client, employment status, suburb and postcode of residence, source of referral, presenting problem, date of first contact with service (intake), date of first service (registration), discipline of treating health professional and assigned service team. Further details are added to the client's administrative record upon the closure of the case, including date of case closure, reason for case closure, other conditions/problems (up to 10 listed) and the procedures performed (up to 10 listed).

The data system allows the choice of 424 presenting problem codes to be entered for the primary presenting problem. For our study, these codes were grouped into six main problem categories: childhood related conditions (including motor, learning, speech and other developmental problems, parenting difficulties and well infant/child care); physical health; drug and alcohol; mental health; psychological/interpersonal; and social/environmental.

A choice of 84 procedure codes can be entered. Up to ten procedures can be recorded per client. These codes were grouped into 6 main categories for analysis, according to the discipline and type of treatment: drug administration, support/counselling, clinical nursing management, natal/mothercraft, child health screening, allied health and medical assessment/treatment. This data was available for the years 1995 to 2000 only.

The data were imported into the Statistical Package for the Social Sciences (SPSS) for descriptive analysis. The data for the period 1 January 1991 to 15 March 1995 were collated for that total period and analysed in January 1996. Data for the period 1 January 1995 to 31 December 2000 were collated on a year-by-year basis, and analysed in September 2001. It is recognised that clients registered between 1 January and 15 March 1995 will appear in results for both the period 1991 to 1995, and the year 1995. However, when reporting overall numbers, double counting was avoided.

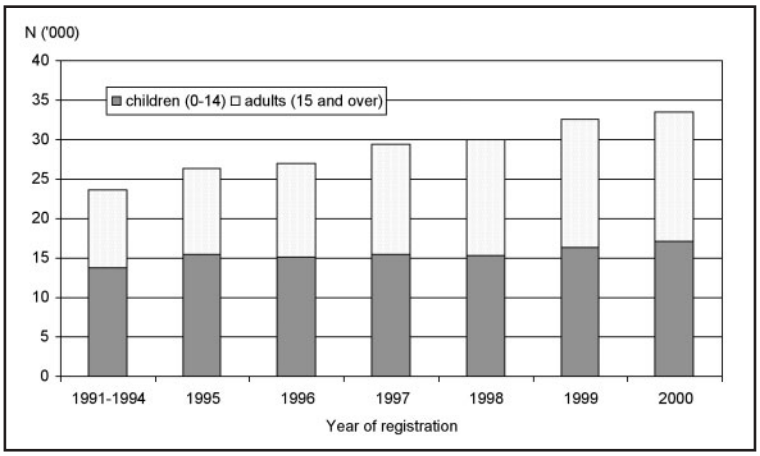
Extensive data scrutiny was undertaken to ensure the data were correct prior to analysis. This revealed many errors and omissions in the data: date of birth was omitted or recorded incorrectly in 2.0 percent of cases; source of referral was omitted in 15.2 percent of cases; and the specific problem treated and procedures undertaken were only recorded for 67.5 percent and 70.3 percent of cases respectively.

Information from the administrative database was supplemented with data from records of occasions of service for the years 1995 to 2000, in order to understand more fully the changing patterns of service delivery. The analysis presented here focuses on the changing age profile of clients, changes in referral patterns and presenting problems, and changes in service delivery, including length of treatment, occasions of service and procedures undertaken.

Results

The area health service registered 280,270 individual cases in the years 1991 to 2000. The number of clients grew steadily over the period at the rate of an additional 1500 clients per year (1995-2000). The number of child clients increased from 15207 in 1995 to 16823 in 2000 (up 10.6%), while the number of adult clients increased from 10749 in 1995 to 16237 in 2000, an increase of 51.1 percent. Thus the greater proportion of the increase in clients was due to an increase in adult clients aged 15 years or older, such that the proportion of child clients aged 0-14 years decreased from 59 percent in the years 1991-1994 to 50 percent of clients in 2000 (Figure 1).

Figure1. Number of clients by age



The increase in adult clients was greatest in the 20-39 year age group (n=2238 to n=3995 in 2000, up 78.5%), mainly child and family/community counselling clients. There was also a large increase in clients aged 60 or older (n=2967 in 1995 to n=4578 in 2000, up 54.3%), mainly primary health nursing clients.

The source of referrals to community health services has changed over the past decade (Table 1). For young children (aged 0-4 years), referrals in 2000 were less likely to be made by family and more likely to be made by hospitals than in 1991-1995, with hospital referrals increasing from 36.5 percent of referrals in 1991-1998 to 49.5 percent of referrals in 1999-2000. For school-aged children the proportion of referrals that were made by families increased whilst the proportion of referrals from welfare groups decreased. Adults aged 15 years and older were being increasingly referred by hospitals, particularly clients aged 65 years and older. Only a relatively small proportion of referrals to community health services were made by general practitioners - around 6.9 percent of all clients (Table 1).

Clients' presenting problems varied according to age, with younger clients presenting with childhood-related conditions and older clients presenting with physical health problems (Table 2). Psychological/interpersonal, mental and drug and alcohol problems were most commonly reported by adults aged 15-64 years. Over the past decade there has been an increase in the proportion of clients registering with physical health problems in all age groups, and a decrease in the proportion of clients registering with psychological/interpersonal problems.

Adults aged over 65 years reported an average of 1.27 conditions in addition to their presenting problems compared with one recorded additional condition for those aged under 65. Overall, the number of additional conditions reported decreased from 1.22 to 1.0 in the period 1995 to 2000. This decrease was most marked in adults aged over 65 years, with a decrease from 1.62 in 1995 to 1.17 additional conditions in 2000.

Table 1. Source of referrals by age group and year (%)

	1991-Mar1995	1995	1996	1997	1998	1999	2000
0-4 years							
Family	55.5	60.2	59.9	57.0	50.3	45.1	45.5
Teacher	1.6	0.7	0.8	0.8	1.0	0.9	0.6
General practitioner	1.5	1.1	0.9	0.9	0.9	1.3	1.4
Hospital	37.7	35.6	35.7	37.5	44.1	49.2	49.2
Welfare agencies	1.3	0.6	0.4	0.7	0.7	0.4	0.4
Nurse	2.4	1.7	2.2	3.1	3.0	3.1	2.9
5-14 years							
Self	1.6	2.0	1.6	1.6	2.5	3.1	3.3
Family	44.7	45.7	47.0	46.9	45.6	53.0	49.0
Teacher	17.3	15.3	17.1	13.7	15.3	12.1	16.2
General practitioner	7.1	9.1	8.8	9.9	7.4	7.3	6.9
Hospital	6.2	7.5	6.4	7.0	7.9	10.1	11.1
Welfare agencies	13.4	9.6	7.3	6.2	5.5	3.8	3.7
Nurse	9.7	10.9	11.8	14.7	15.8	10.6	9.8
15-64 years							
Self	39.0	34.5	36.2	30.3	29.4	30.7	32.8
Family	10.5	9.2	8.5	9.3	8.8	7.3	7.1
General practitioner	8.0	10.9	9.9	8.8	8.5	10.1	9.5
Hospital	28.4	31.4	30.3	32.1	33.6	37.8	35.9
Police	2.1	2.9	2.9	2.6	2.9	1.5	1.6
Welfare agencies	8.7	4.5	4.0	5.7	4.1	3.3	3.6
Nurse	3.4	6.6	8.2	11.3	12.6	9.3	9.5
65 years and older							
Self	7.3	17.2	15.3	10.8	8.5	12.8	10.3
Family	22.5	16.1	15.4	17.5	16.4	13.5	12.4
General practitioner	27.3	23.6	21.7	18.7	16.9	18.6	21.5
Hospital	27.6	33.4	36.8	38.4	43.0	42.8	43.8
Nursing home	2.5	2.5	2.5	2.9	3.3	3.1	3.3
Welfare agencies	8.3	3.2	2.7	3.1	3.3	2.7	2.5
Nurse	4.5	4.0	5.7	8.7	8.7	6.6	6.3

The number of procedures per client has remained steady over the years 1995 to 2000 for child clients 5-14 years (average 1.11 recorded procedures) and for adult clients (average 1.23 recorded procedures). For children aged 0-4 years, the number of procedures declined in the years 1995 to 1998 (1.22 in 1995 to 1.03 in 1998), before increasing in the following years to return to the 1995 level.

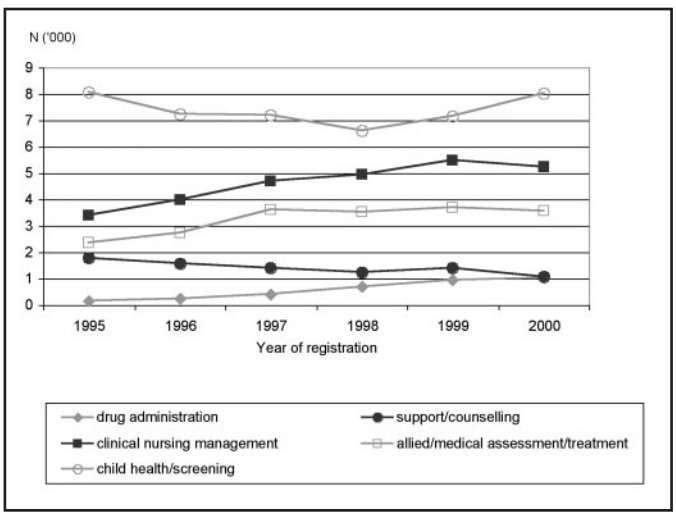
Overall, for children aged less than 15 years, 91 percent of all child procedures were natal/mothercraft or child health screening. The number of antenatal/postnatal/mothercraft and child health screening procedures recorded for child clients declined in the years 1995 to 1998, with a subsequent increase in child health screening and assessment/advice/treatment procedures in the years 1999 and 2000 (Figure 2).

For adults, there has been a dramatic increase in the number of drug administration procedures, from 165 (2.5% of all adult procedures) in 1995 to 1040 (11.7% of all adult procedures) in 2000. There has also been a steady increase in the number of procedures related to clinical nursing management and allied health and medical assessment/treatment, and a decrease in the number of support/counselling procedures (Figure 2). The decrease in the number of support/counselling procedures and increase in clinical/medical assessment/treatment was noted for all community health service teams including child and family/community counselling and sexual assault services.

Table 2. Presenting problem by age group and year (%)

	1991-Mar95	1995	1996	1997	1998	1999	2000
0-4 years							
Childhood condition	93.0	97.0	96.9	95.1	94.2	93.5	91.1
Physical	4.3	2.0	2.0	3.5	4.3	5.2	8.1
Drug & Alcohol	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Mental	0.1	0.0	0.0	0.0	0.0	0.1	0.0
Psychological	2.4	1.0	1.0	1.4	1.4	1.2	0.8
Social	0.1	0.0	0.0	0.0	0.0	0.0	0.0
5-14 years							
Childhood condition	35.4	33.3	36.5	30.3	31.4	28.4	32.7
Physical	24.2	34.3	33.6	36.7	37.9	47.1	46.1
Drug & Alcohol	0.2	0.2	0.1	0.1	0.0	0.2	0.1
Mental	0.5	0.3	0.5	0.8	0.4	0.6	0.3
Psychological	39.3	31.6	29.1	31.8	30.1	23.7	20.6
Social	0.4	0.4	0.2	0.2	0.1	0.0	0.2
15-64 years							
Childhood condition	2.4	2.8	6.6	7.9	7.3	9.7	9.9
Physical	30.1	39.4	45.3	43.9	48.8	54.5	53.4
Drug & Alcohol	11.4	11.0	9.0	11.0	9.5	7.2	10.4
Mental	15.1	14.0	12.1	14.4	12.2	9.6	8.3
Psychological	38.8	31.8	26.2	22.4	21.5	18.6	17.3
Social	2.2	1.0	0.8	0.6	0.6	0.5	0.7
65 years and older							
Childhood condition	0.4	3.2	1.7	0.6	0.1	0.4	0.3
Physical	85.5	85.9	93.4	94.0	95.6	95.2	94.9
Drug & Alcohol	0.5	0.5	0.3	0.3	0.1	0.1	0.2
Mental	3.1	2.1	1.7	2.1	1.7	1.3	1.3
Psychological	2.0	1.1	1.0	1.1	0.9	1.2	0.9
Social	8.5	7.2	2.0	1.9	1.3	1.8	2.4

Figure 2. Procedures by year



Waiting times (calculated as the time from date of first contact to date of first service) have been variable in the years 1995 to 2000 (not analysed prior to 1995), ranging from an average of 7.3 weeks in 1995 and 1999, to 4.7 weeks in 2000. Average waiting times for adults (7.0 weeks) were longer than for children (4.8 weeks). Waiting times for post-operative clients steadily decreased from an average of 3.4 weeks in 1995-1997 to just 1.3 weeks in 2000.

The length of service time (calculated from date of first service to date of case closure) has steadily and dramatically decreased over the years 1995 to 2000 from 51.8 weeks in 1995 to 11.0 weeks in 2000. This may reflect some administrative efficiency in the closure of cases, particularly for child health screening clients, however, service times for adult clients also dramatically decreased from 29.6 weeks in 1995 to 6.9 weeks in 2000. Over that same time period the total number of occasions of service increased steadily from 450,000 in the year July 1995 to June 1996 to 640,000 in 1999-2000, an average increase of 50,000 non-inpatient occasions of service per year.

In summary, adult client numbers have increased considerably, and an increasing proportion of referrals are being made by hospitals. A greater proportion of clients are presenting with physical health problems and receiving clinical management over a shorter period of time. Thus, in 1995-1996 the average client would have received 16.7 occasions of service over a 52-week period, whilst in 1999-2000 the average client would have received 19.2 occasions of service over an eleven-week period.

Discussion

There is a clear shift in community health from a primarily child-focussed service to one increasingly serving adults. The increased number of adult clients over the past six years resulted from an increase in the number of referrals from all sources, as well as an increase in the proportion of hospital referrals. The proportion of referrals from general practitioners and medical specialists has remained low. The proportion of hospital referrals for new babies increased markedly in 1999, probably reflecting an improvement in communication between maternity units and early childhood centers and the impact of Families First and home visiting initiatives that commenced in South Western Sydney in late 1998. The large increase in the proportion of referrals from hospitals for clients aged 65 years and older (from 27.6% in 1995 to 43.8% in 2000, up 58.7%) may be reflective of early discharge, ambulatory care and hospital in the home policies.

Child clients are receiving services promptly and for an increasingly shorter period of time (although care must be taken in interpreting decreases in the service time as any decrease may represent greater administrative efficiency in closing client files, rather than a true reduction in the service time period). Whilst well infant/child care remains the mainstay of early childhood services, increasingly child clients are presenting with physical health problems. Indeed the provision of child health screening procedures declined markedly in the years 1995 to 1998, with an increase in 1999 and 2000 to return to 1995 numbers. This pattern may well reflect the impact of the NSW Families First Initiative that introduced universal child health home visiting services in SWSAHS in late 1998, and may have resulted in an increase in services provided to young children.

Adult clients are presenting with fewer recorded conditions and receiving shorter interventions. Waiting times for post-operative clients have decreased. Overall, the increased number of adult clients over the past five years is largely accounted for by the increase in the number of clients with physical health problems who are receiving drug administration, clinical management and assessment/advice/treatment procedures. Clients are receiving a higher number of occasions of service per client in a much decreased service time. The number of clients receiving general care, support and counselling services has declined steadily despite increased overall client numbers. Curiously, this pattern was noted for all service teams, including sexual assault and child and family/community counselling services.

These results indicate that in SWSAHS, as elsewhere, community health services for adults are becoming increasingly targeted at short interventions for specific health or medical problems, rather than longer-term maintenance of clients with multiple conditions in the community, or more general care and support. This may have resulted from an increasing focus on primary medical or clinical care, rather than primary health care (Cashman et al. 2001; Elkan et al. 2000; McDonald & Smith 2001; Smith 2000), but may also indicate a

change in recording reflecting the "medicalisation of social problems and the lack of medical diagnostic labels" (Elkan et al. 2000; Ellefsen 2001). Current economically oriented reporting methods, such as administrative datasets, may not facilitate description of the complexity of community health services (Smith 2000).

The role of the community health services has thus been changing over the past ten years to provide services for more adults for acute, treatment-focussed episodes of care (Jarvis & Grant 2002; Smith 2002). Clients are increasingly receiving a shorter, more medically intensive service, and are then discharged from care, rather than receiving a lower intensity, multiple-problem, more holistic service over a longer period of time.

Conclusion

The community health client administrative dataset in SWSAHS provided useful data for assessing the changes in community health service client profiles and service delivery over time. It can be difficult at times to ascertain from the dataset whether the changes over the past decade are attributable to changes in practice or changes in recording. Other data sources such as community needs assessments would be needed to determine these changes. Nevertheless, the extent and rapidity of change and the impact of health care reforms over the past decade can be clearly seen in changing client profiles. Community health services in SWSAHS are reflecting the impact of policies that are increasingly locating acute treatment services into the community, and shifting the focus from holistic primary health care to specific primary medical care.

Administrative data does not permit assessment of the long-term impact of the changes in community health services on the health and well-being of the community served by SWSAHS. There is concern that reforms in health care driven by the acute care sector have created a contradiction between care as set of discrete tasks and care of the whole person (Walker & Mitchell 1995), and may impair the relationship between community health services and their communities, resulting in reduced community access to the health care system (Smith 2000). Evidence suggests that it is as or more effective and as or less expensive to offer complete, proactive, community health services than to provide focussed, on-demand, piecemeal services (Browne et al. 1999).

Key goals for community health are to achieve a balanced system of health promotion, prevention, treatment, maintenance and continuing care and the appropriate investment of resources (NSW Health 1998). However, three important questions remain unanswered by these data:

- How have these significant changes in direct, individual service delivery impacted on other community health roles such as community health promotion, education and prevention?
- Have these changes resulted in increased financial efficiency within the health system?
- Have the changes in individual service delivery resulted in improved health outcomes for individual clients and the community?

Ongoing monitoring of client and service delivery profiles using administrative data, together with examination of the impacts and outcomes of changes in service delivery, will facilitate proactive and planned approaches to change in community health services and a balanced health system.

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