

The Illawarra Coordinated Care Trial: better outcomes with existing resources?

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Abstract

The Illawarra Coordinated Care Trial was one of nine Australian trials undertaken to see whether different models of coordinated care could improve the health of people with multiple service needs within existing resources. This paper summarises the findings of an extensive local evaluation and discusses the impact of the trial on clients and service providers. It examines the main findings related to the principal trial hypothesis and points to lessons that might inform the next round of trials.

Introduction

The Illawarra Coordinated Care Trial (Care Net) was established as part of a National series of demonstration projects to assess the benefits of coordinated care in the Australian health care system. The primary hypothesis to be tested was:

“... that coordination of care of people with multiple service needs, where care is accessed through individual care plans and funds pooled with existing Commonwealth, State and joint programs, will result in improved client health and well-being within existing resources” (CDHAC).

Fund pooling was an essential component of the coordinated care trials (Cromwell et al, 1999). The established, program-based organisation and funding of health care services was thought to be a principal factor in frustrating flexible service provision and service substitution. One way to overcome this issue was believed to be the pooling of funds from Commonwealth, State and joint Commonwealth-State programs (Pekarsky 1999). Trials would be allocated a budget from which they could purchase services for clients, with funds for the budget coming from the finances of existing service providers. There would be no additional money. The Commonwealth required the trials to be cost-neutral.

The Illawarra trial encompassed three local government areas: Wollongong, Shellharbour and Kiama, the area being located south of Sydney, NSW. Its principal stakeholders were the Illawarra Area Health Service (IAHS), the Illawarra Division of General Practice (IDGP) and the NSW Home Care service. The trial aimed to coordinate the care of people aged 65 years and over with either a risk of falling or who had complex medical

or social problems that required multiple services from more than one health care service provider (Foulstone, 1999). During the planning phase of the trial in 1997, roughly 1800 eligible residents were referred by the 100 participating General Practitioners. Twelve hundred clients were allocated to an active group and would have their care coordinated by the trial, while the other 600 were allocated to a control group. After the planning phase, the trial went live on 1 November 1997. It finished on 31 December 1999, a total period of 26 months over 3 financial years (Eagar et al, 2000).

The coordination of care was undertaken by 16 care coordinators, in collaboration with the client's GP. The GP retained control of the medical aspects of the client's treatment, while the care coordinator organised access to other services, purchasing services agreed with the participant and GP.

The care coordinators performed a systematic assessment of their clients initially every three months and subsequently in response to need. These assessments were intended to inform the creation of the clients' care plan that, among other things, included the goals of care for the client.

Finally, a service plan was created that described the package of services to be bought by the trial in order to meet the clients' goals. Thus, the trial adopted a commissioning model of service provision. It secured services mainly from community care service providers, having access to both public services (those in the IAHS and local HACC agencies) and private services. Medical (GP and Specialist), pharmaceutical and hospital services were also within the funding pool, but these services were largely determined by GPs.

The trial used State and Commonwealth funds to develop an information system. Based on an intranet structure, the system supported email, client records, service utilisation, and financial data. This system was a considerable local development but did not support full communication between providers. One of its significant features included the increased use of computers by GPs (Cromwell, 2000).

Intervention

The Illawarra Coordinated Care Trial comprised a program of eight interventions undertaken over 26 months. The interventions were complex activities in themselves and became more so as they took place simultaneously within a mainstream service system under particular pressure from resource constraints. While considerable planning had taken place in preparation for the trial, many of the activities and systems were only properly tested in the operational phase. The precise form of interventions developed during the trial as pragmatic decisions were made on the basis of experience, feedback, and a clearer understanding of the capability of Care Net as a hybrid organisation (Perkins, 2000).

Table 1 Components of the Care Net intervention

Intervention	Goal	Description
A formal assessment of all participants	To comprehensively assess the client's social and health context.	The first part of the assessment was the recruitment of participants with multiple service needs into the Trial. A systematic, comprehensive and validated set of assessment measures were applied in an assessment interview at the beginning of the Trial and repeated throughout, either when indicated by a change in the health status or circumstances of the client, or at regular intervals.
The care coordinator as service planner of the Trial.	To coordinate and facilitate the client's access to services for the period	16 care coordinators employed at Care Net to develop, purchase and oversee the implementation of needs based plans in consultation with the client/carer and the general practitioner. Care coordinators also had responsibility to monitor service delivery, service utilisation and cost and to evaluate outcomes for individual clients in relation to predetermined care protocols and critical pathways.
The care plan	To develop and implement a plan of action which is flexible and appropriate to client's needs and comprehensively responds to the social & health context, and is documented and costed.	Using computer based technologies, the care plan would document the different components of care received by clients and facilitate the planning and purchase of services where necessary. The care plan would provide a basis for communication between services and providers and provide the basis for financial management and financial projections.
The use of the general practitioner as case manager	To case manage individual clients. To pro-actively engage General Practitioners within the broader health and community care systems in a formalised and ongoing partnership.	General Practitioners would coordinate investigations, treatments and the involvement of other health care disciplines in the care of clients and liaise with institutions in the management of care. The General Practitioner managed the involvement of specialists, provided care for the chronic health problems of clients and acted as a consultant and resource on personal, family and social issues affecting the client. Originally envisaged as writing the care plan (with care coordinators writing service plans).
Information technology	To enable flexible and appropriate access to client information needed for the purposes of the other interventions.	To design and implement an independent linked information system that was to lead to an Electronic Health Record for all clients. The components of the information system included: a care coordination program for care coordinators; a patient management program for General Practitioners; e-mail communication between Care Net the GP and IAHS services involved in the client's care; interface with the IAHS information system to allow access to hospital clinical data, including diagnostic test results and discharge summaries.
Funds pooling	To create a pool of funds from Trial sponsors that is available for the purchase of services for participants.	Based on the target group, the Trial received funds from four main sources: the Health Insurance Commission (HIC) for services listed on the Medical and Pharmaceutical Benefit Schedules (MBS and PBS respectively); the Illawarra Area Health Service (IAHS) for hospital and community services; the Home and Community Care (HACC) program for Home Care NSW services; and the Department of Veterans' Affairs (DVA).
Service substitution	To design, coordinate & purchase best practice interventions for clients using the funding flexibility generated by funds pooling.	Structured initiatives were undertaken to improve the health outcomes for clients and/or reduce the costs of the provision of services. Two such interventions were major undertakings by the Trial: the development and implementation of clinical guidelines and client checklists; medication management and the role of the Community Liaison Pharmacist. As well, care coordinators were encouraged to purchase community services as a "substitute" for institutional care (hospital or residential) or complement existing medical treatments with alternative approaches eg massage, Tai Chi, hydrotherapy etc.
A stand-alone service organisation	To influence mainstream service provision through independent case management and advocacy within the system.	An independent organisation called Care Net Illawarra was established under the auspice of the Illawarra Area Health Service. It had an independent management structure and an independent budget. It operated for the duration of the Trial.

Evaluation Methodology

The trial was subject to local and national independent evaluation (Eagar et al, 2000, CDHAC 2000, CDHAC forthcoming). Both local and national evaluations were designed to use the trial's management data set as far as possible. The SF-36 (Ware 1993), a tool to measure health status (with scales covering both physical and mental function, well being and disability, and self-reported health status), was mandated for use across all trials to provide a standard outcome measure. This decision was practical in terms of this being a widely known and used, valid and reliable tool, and because it allowed benchmarking against the results of the Australian Health Survey. These advantages were somewhat offset by the difficulties caused by the SF-36 being found to have ceiling and floor effects in the population being recruited into coordinated care. (Fisher, 2000).

The evaluation database was made up of trial operational data and specific collections designed to assess the impact of particular interventions. For example, a series of case studies was conducted by the evaluators throughout the trial to trace the clients' experience of care coordination and to examine the views of control group clients. Surveys were undertaken to assess particular interventions including the development and use of IT, the role of GPs in the trial, and the perceptions of care coordinators about their roles. Interview, case study and focus groups methods were used, as well as the analysis of documentary material. These sources were used to gather data on the eight interventions and to support the quantitative data analysis.

Draft material for the evaluation reports was developed to test the explanations for the results from quantitative and financial analysis against the views of the stakeholders. This allowed the evaluators to check for errors of fact and for fairness in interpretation before the final evaluation reports were submitted.

The minimal definition of the role of the local evaluators, the Centre for Health Services Development (CHSD), was that it was contracted to provide initial, mid term, and final reports. Beyond this reporting role was the Centre's value as a resource for trial management purposes and a monitoring role. Providing access to evidence-based reviews of literature on care coordination, the Centre had a role in helping to inform the clarity and quality of the measurement of the interventions being trialed. Providing timely feedback from the client, financial and service data collected, the Care Net executive, staff, and the governance committee were able to be informed on matters arising from the evaluation that were of immediate importance to the local stakeholders (Eagar et al, 2000).

Results

Consumer outcomes

The trial had difficulty in recruiting those clients who are reported in the literature to benefit most from coordinated care. Only about 13% of the participants were rated as 'high-need' clients in the first client assessment yet this is the group most likely to benefit from care coordination (Eagar et al 2000, Report 5). High-need clients were defined as having moderate to high cognitive deficits or low physical function (Functional Independence Measure <78). At this first assessment, 57% of active clients were assessed as having mild to moderate needs and 30% as having low needs. At the end of the trial, 71% (707) of the remaining active clients (994) were assessed in the category "did not require ongoing community care". When the functional ability of Care Net participants was compared with that of the population who are seen by Community Health or by Hospital outpatients departments, the trial clients were found to have better functional status, ie. to be healthier.

The SF-36 was administered at the beginning, mid-point and end of the trial. There were no statistically significant differences between intervention and control groups when the difference in scores from one application of the SF-36 to the next was tested. More than 80% of participants either declined in their physical and social function (approximately 35%) or did not change (approximately 45%) over the course of the trial. Fewer than 20% improved on the self-care, domestic and social function scales included in the SF-36 and just over half the long-term participants reported improvements in their self-reported health status.

Table 2 gives details of the SF-36 results for the active clients over the three applications at beginning, middle and end of the trial. The figures are presented as averages and listed for the Physical Component Summary (PCS) and the Motor Component Summary (MCS).

Table 2 First, second and third applications of SF-36 for Care Net intervention clients

Clients	Average PCS*	Average MCS**	Number of Clients
1st application	33.76 (S.D. 11.41)	44.01 (S.D.8.17)	1221
2nd application	33.59 (S.D. 11.15)	47.15 (S.D.12.00)	990
3rd application	32.17 (S.D. 10.73)	45.65 (S.D.11.66)	871

* PCS Physical Component Summary

**MCS Mental Component Summary

The SF-36 scores were examined for the different destination outcomes over the life of the trial, between clients who died, those who went to residential care and those who completed the trial. People who exited the trial by moving to residential aged care had, on average, the worst clinical ratings at their first assessment and the worst ratings at the time of the last assessment. Their ratings were worse than the people who died during the course of the trial. Intervention group clients who completed the trial had the best ratings at both their first and their last assessment.

Apart from the nationally mandated administration of the SF-36, the trial made routine use of a set of measures of function, carer availability and health status. Table 3 shows the changes from first to last assessment using the battery of assessment instruments developed for the trial (Eagar & Woods, 1999). About half of the intervention group did not change substantially between the first and the last assessment. This is not surprising since we are talking about a frail elderly group, with an average age 85, of whom only 14% were assessed to have high needs at the beginning of the trial.

Table 3 Changes from first to last assessment Care Net intervention clients

Measure	Number				Percentage			
	Worse	No change	Better	Total	Worse	No change	Better	Total
Motor (self-care) function	466	506	207	1179	39.5%	42.9%	17.6%	100.0%
Instrumental (domestic) function	425	537	216	1178	36.1%	45.6%	18.3%	100.0%
Social functioning	269	805	98	1172	23.0%	68.7%	8.4%	100.0%
Overall need (blended index)	185	928	119	1232	15.0%	75.3%	9.7%	100.0%
Carer situation	135	899	117	1141	11.8%	78.8%	10.3%	100.0%
Cognitive function	273	522	384	1179	23.2%	44.3%	32.6%	100.0%
Self reported health status	167	434	391	992	16.8%	43.8%	39.4%	100.0%

There were some important differences between the dimensions. Forty percent of clients experienced a decline in their physical functioning and 36% experienced an increase in their need for assistance with activities of daily living over the course of the trial. On both measures, more clients experienced a decline than an improvement in their health and wellbeing. Less than 20% of the cohort improved on these two measures.

In relation to the availability of a carer, 12% of active clients were in a worse position at the end of the trial than they had been at the start. Little can be inferred from this finding about the impact of the Care Net intervention per se - however, it is quite possible that such a change would impact on both the client's perception of their health and well-being and its objective rating. About 75% of participants recorded the same carer situation at the last assessment as they did at the first one.

The majority of clients also experienced stability in their level of social functioning. Nearly 70% of participants recorded the same score at the last assessment as they did at the first one. It should be noted however that the same pattern occurred - more people experienced a decline in social functioning over the course of the trial than experienced an improvement.

Of the specific measures, only the domestic functioning results were statistically significant (at the 95% level) with the intervention group doing worse than the control group. However, because of the small difference in absolute values, we do not regard this as a clinically meaningful result.

There was no difference in death rates between the intervention and control groups. However, more than twice as many in the intervention group were admitted to residential care than in the control group (7.5% versus 3.3%).

The pattern for self-reported health status and cognitive functioning differed from that of the physical measures. Nearly 40% of clients reported an improvement in their health status while only 17% reported a decline. This is a significant result for Care Net since several studies have indicated that an older person's self-rating of health status is a better predictor of mortality than medical assessment (Mossey & Shapiro, 1982). The finding is reinforced by the opinions of clients interviewed by the evaluators.

"I couldn't live without Care Net. I would have to go into a nursing home. I couldn't stay at home...It's the next best thing to complete 24 hour care. There's nothing to criticise - it has got to be a saving (of money to the Government)." (Mrs LHN)

"I'm more relaxed ...my blood pressure is under 200 ... the first time in a long time ... Initially we did not want anything, but (the care coordinator) helped us to see that we really needed help. We also had financial constraints, so we could not pay for all the services we needed." (Mrs FQU)

The majority of interviewees had a very positive experience of the Care Net intervention and felt that it contributed significantly to their "peace of mind". Over 30% of all participants showed an improvement in cognitive functioning and only 16% a decline. Cognitive functioning is an important attribute in influencing health status and quality of life. Poor cognitive function is a recognised risk factor for falls and other accidents and injuries. Some of the improvements in cognitive function may be attributable to an effect of repeated testing. The same questions were repeated throughout the trial and, undoubtedly some learning took place (some participants were tested more than 6 times).

Financial performance

There are two principal ways in which the financial performance of Care Net could be assessed. One is relative to the pooled funding. The other is to compare the costs of the intervention group to the control group. In this section, we concentrate on the financial performance of Care Net relative to the pooled funding.

Care Net expenditure and the fund pool

The primary hypothesis stated that trial outcomes could be achieved within existing resources. Care Net ended the trial \$1,733,380 (12.7%) in deficit (see table 4). This was made up of overspends in the pooled funds and in the money granted by Commonwealth for the administrative costs of running a trial.

Table 4 The bottom line

Fund Type	Income	Expenditure	Deficit	% deficit
Fund pool	\$11,840,843	\$13,279,576	-\$1,438,733	-12.2%
Admin fund	\$1,812,143	\$2,106,790	-\$294,647	-16.3%
Total	\$13,652,986	\$15,386,366	-\$1,733,380	-12.7%

Table 5 shows Care Net's income and expenditure by component during the live phase of the trial. It will be seen that the trial made considerable savings on Commonwealth funded services, utilising only 76% of Commonwealth funding for the services for which the funds were pooled. The expenditure of State funds was much closer to actual income (7% variance). The contribution of administration costs to the trial was in recognition that a normal service would not incur some of the costs of supervision and management that had to be met. The administrative costs attributable to the conduct of the trial were funded separately by the Commonwealth.

Table 5 Care Net performance November 1997 to December 1999

Income source	Income	Expenditure	Difference
MBS	\$3,066,150	\$2,711,238	\$354,913
PBS	\$2,704,780	\$1,764,057	\$940,723
IAHS Outpatient and Community	\$687,700	\$339,577	\$348,123
IAHS Inpatient	\$2,991,452	\$3,201,257	-\$209,805
DVA	\$1,620,423	\$1,118,564	\$501,858
Home Care	\$770,338	\$940,061	-\$169,723
HACC	\$0	\$278,218	-\$278,218
Private for profit	\$0	\$814,187	-\$814,187
Private non profit	\$0	\$166,068	-\$166,068
Care Coordination	\$0	\$1,602,550	-\$1,602,550
Contribution to administration costs	\$0	\$343,799	-\$343,799
Total	\$11,840,843	\$13,279,576	-\$1,438,733

The majority of the savings from the Commonwealth funding cannot be attributed to the outcomes of planned interventions. Some small PBS savings might be attributed to drug reviews carried out by a community pharmacist employed in the early months of the trial. However, the difference stems mainly from the process by which the funds were pooled; the review of actual contributions suggested that the DVA and PBS contributions were higher than they should have been. The trial was provided with initial estimates of the level of contribution for each funding source, based on historical data of clients as they enrolled, and using these estimates, the trial negotiated with the funding body for resources. With respect to the DVA, the initial pool was estimated based on average costs per year that the DVA provided. The DVA later increased its contribution, but it is unclear on what basis the revision was made as the supporting calculations were not made available to the local evaluators. With respect to the PBS contribution, this was consistent with the initial pool estimate that was derived from the tracking data. However, the PBS estimate was revised after it became clear that the rules being used to extract the client PBS data during the live phase were not equivalent to those used during the tracking phase. However, the resultant figure, which was only 72% of the initial estimate, was never acted upon. If the correct contributions to the pool had been made, the final deficit would have been closer to 25%.

The underspend on IAHS Outpatient and Community Services was due largely to a pattern of spending by the trial which resulted in roughly \$980,000 being spent on private services, largely in the for profit sector. This represented a substitution of private for public services in the sense that the expenditure pattern changed. The trial did not formally adopt a policy to substitute private for public services but this pattern seems to have emerged for a number of reasons. Firstly, the IAHS community services had clear policies and values under which their resources are expended on the basis of need and they were reluctant to provide services for clients with moderate needs when their services were required by high needs clients. Secondly, the private services had flexible organisational structures that enabled them to offer a quick response, particularly to needs notified out of hours. This responsiveness was highly valued by the care coordinators. In contrast, the IAHS community services were limited by various staff enterprise agreements that did not permit similar flexibility in their use of staff and response to requests for service from Care Net. In effect, the IAHS Community services had to bear a \$340,000 cut in their budget that was used to purchase private sector services.

One care coordinator described the situation as follows,

"Community Health was inflexible in the type of staff available to attend a client. Community Health only employed registered nurses who first, cost more than an assistant in nursing (AIN) and second, would not do the range of tasks needed for the client. For example, a registered nurse could not make a bed, vacuum, cook a meal and change a dressing whereas an assistant in nursing (AIN) could do all and the cost was significantly less. From the client's perspective, they only needed to deal with one service provider rather than two or three. From the trial perspective, the AIN service was more cost efficient and there was no evidence whatsoever that quality suffered".

(Community Health services in the Illawarra did not employ AINs at the time of the trial).

It should be noted that the quick response, as a result of purchasing from the private sector, was a major source of satisfaction for those clients in the active group who were not subject to needs or eligibility assessments nor made to wait until services became available.

"Care coordinator is probably better than my family. I know whatever I need can be arranged for me." (Mrs GNC)

Expenditure and the control group

There is no evidence from the pattern of expenditure that intervention group members used less hospital or medical services than participants in the control group. The control group data suggest a fund pool deficit of 14.8%. This would have been greater if the HIC had funded PBS expenditure in accordance with the agreed methods for calculating the pool.

Financial Viability

Close to 17% of the Care Net fund pool was spent on care coordinators and associated costs. The trial could only have been viable if services costing nearly \$2 million could have been re-directed to offset the costs of care coordination. While there is anecdotal evidence suggesting some level of 'waste' in service provision (unnecessary interventions, inefficiencies and so on), there was little reason to suspect that close to 17% of existing resources were waste. Even if this were the case, it is not clear that the Care Net trial was capable of eliminating that waste. The evaluators' conclusion at the midterm was that the Care Net model of care coordination was not viable within current resources (Eagar et al, 1998). The result confirms that conclusion and suggests that the financial assumptions underpinning the trial were not correct.

A full economic evaluation of Care Net is not warranted. Care Net met the perceived needs of its clients and, not surprisingly, the clients were overwhelmingly positive in response. But, after two years, there is no quantitative evidence that health outcomes for consumers actually improved as a result of the Care Net intervention or that the Care Net model is sustainable within current resources, however they are measured.

The central hypothesis tested (that coordination of care of people with multiple service needs, where care is accessed through individual care plans, and funds pooled from existing Commonwealth, State and joint programs, will result in improved client health and well being within existing resources) was not supported by the evidence.

Discussion

If we assess the Care Net trial using the standards and assumptions of a clinical controlled trial then we are bound to conclude that the trial was a failure, that interventions were ill defined, active and control groups insufficiently isolated, and protocols insufficiently grounded in good evidence. This was not however a randomised controlled trial despite the fact that there was randomisation, a control group, intervention, and measurement (Perkins & Owen, 2000).

In the context of local services, with fragmented organisational structures and delivery systems, the Care Net trial represents a substantial achievement. The creation of a coalition of provider organisations and individual practitioners, from public and private sector, Commonwealth and State auspice, professional and voluntary sectors, who represented health and welfare mindsets was remarkable. The ability to sustain this coalition for both the planning and live stages of a trial and the success of the process of integrating clients promptly back into mainstream services after the trial ended, are important indicators of local system maturity and integration.

The Care Net trial has been described as a trial of a service system (Perkins & Owen, 2000). The range of interventions described above was such that implementation could not be easily controlled, nor could the impact of one intervention upon another or upon the intervention group be sufficiently isolated. Since GPs had clients in both the active and control groups, control group clients may have benefited from changes to practice instigated by GPs such as the use of the Medical Director software in patient care. It is clear that this "contamination" did not extend to the purchasing of services undertaken by the trial. Participants in the control groups only received services available to the general population.

The recruitment of the right client for whom an intervention will be helpful, is essential in any trial. It was clear after the assessment data were analysed, that Care Net clients were less healthy than the general population of a similar age but healthier, on average, than the population who typically received services in the Illawarra. In response, Care Net made a virtue out of a necessity and focussed on preventive interventions for the clients it recruited. This recruitment problem might be attributed to the speed of the recruitment process, the poor specification of recruitment criteria, or an unwillingness of some GPs to enter their highest need patients into a fixed term trial where ongoing service provision could not be guaranteed. The recruitment of this group of clients might also be interpreted as an indicator of the level of unmet need within the community. This problem led to other problems within the trial, since staff in public agencies were reluctant to provide services for low needs clients in preference to those with high needs.

Objective measures of client health and wellbeing did not demonstrate that intervention group clients benefited on average when compared with control group clients except that a larger number of intervention clients were allocated nursing home beds. The subjective measures show a different picture. Clients were happy with their care coordinators, and self-reported health status improved for 40% of the active group. Having a named care coordinator who could be contacted if an intervention group client's health and wellbeing deteriorated was of considerable importance. According to the client interviews, the care coordinators were highly regarded.

There was a strong assumption among the trial management that the purchasing power provided by the pooling arrangement would "encourage" public sector providers to become more flexible in their provision of services and in their response to the needs of Care Net clients. In practice, this did not happen. The scale of the trial did not dramatically effect the normal pattern of demand for services and the philosophy of the trial did not seriously impact on deeply held values in mainstream services about giving priority to clients with greatest needs. Experienced clinical staff in mainstream health services were reluctant to abandon normal patterns of assessment and accept assessments from care coordinators without question, especially where they had little experience of the clinical competence of the care coordinator.

Conclusion

It is not difficult to see why coordinated care appears so attractive to policymakers (Blewett, 2000). People's needs do not fit comfortably with institutional programs and boundaries. Matching levels of services to client needs is complex and the methods used are relatively crude. The assumptions behind the trial were that fragmented, disjointed, or inefficient care arises from intractable boundary issues where there is a mismatch between client needs and organisational program and funding responsibilities are unclear. More research is needed to find better ways of linking clients to appropriate services.

Significant service developments need to be carefully designed and based on good evidence from clinical and policy domains. Interventions need to be consistent and this implies the development and careful implementation of intervention protocols. This will require skilled management and effective governance of the scientific elements of such trials. This demands more than simply re-engineering health care service delivery systems. It will require sustained partnerships between clinicians, provider agencies, consumers and investigators to sift evidence of effectiveness, design coherent delivery systems and rigorously assess costs and benefits.

It was not helpful as a starting point to assume that existing services are uncoordinated or incapable of inter-organisational cooperation. There are frequently disincentives to cooperation which need to be examined, as do perverse incentives, but these may be addressed using incremental rather than radical solutions. For example, the new Medical Benefits Schedule items create incentives for cooperative action by GPs without funds pooling. We need a much clearer understanding of the roles of the different elements of care coordination (assessment, key workers, pooled funding, etc) and situations where the costs of external coordination may be offset by the benefits to clients.

Government responses since the first trials began have been more defined and clinically focussed rather than organisational. The Chronic Disease Self-Management (Sharing Health Care) initiatives are examples of a narrower scope, while others such as the MBS items (for assessment, care planning and case conferencing) are more concerned with mainstream service incentives paying more attention to the building blocks of

measurement and assessment tools (Byles, 2000). This trial has shown the considerable effort and creativity, as well as the difficulties to be encountered in undertaking a trial of a new service system. It is tempting to over-elaborate, to undertake too many interventions simultaneously and to underestimate the management and governance challenges of running a trial.

In the next round of coordinated care trials we must clarify objectives, try to define interventions more clearly, and measure outcomes in ways that are credible to policy makers, providers and consumers. In short, the evaluation logic and the tools for use in the next round of trials must be developed to the extent that it will be reasonable to draw lessons for mainstream services from well-designed projects. Only then will we be able to make further progress.

References

- Blewett N (2000), The Politics of Health, *Australian Health Review*, vol 23, no 2, pp 10-19.
- Byles JE (2000), A thorough going over: evidence for health assessments for older persons, *Australian and New Zealand Journal of Public Health*, vol 24, no 2, pp 117-123.
- COAG Task Force on Health and Community Services (1995), *Health and Community Services: Meeting People's Needs Better*. A Discussion Paper, Canberra.
- Commonwealth Department of Health and Aged Care (CDHAC, 1999), *The Australian Coordinated Care Trials: Background and Trial Descriptions*, Canberra.
- Commonwealth Department of Health and Aged Care (CDHAC, 2000), *The Australian Coordinated Care Trials: Interim Technical National Evaluation Report*, Canberra.
- Cromwell D, Eagar K, and Owen A (1999), Filling a pool: estimating the cost of care for the Illawarra Care Net Coordinated Care Trial, in Leigh J *et al*, *The Australian Coordinated Care Trials: Methodological issues in trial design and evaluation*, Vol. 2, Commonwealth Department of Health and Aged Care, Canberra.
- Cromwell D. (2000), *The use of IT by Care Net Illawarra*. Centre for Health Service Development, University of Wollongong.
- Eagar K., Owen A, Perkins DA., Quinsey K, and Adamson L. (1998), *Care Net Illawarra: The Mid Term Report*, Centre for Health Service Development, University of Wollongong.
- Eagar K. et al (2000), *The Care Net Trial: Reports 1-10 of the Final Evaluation of the Care Net Illawarra Coordinated Care Trial*, Centre for Health Services Development, University of Wollongong.
- Fine M and Fisher K (1999), The Theory and Practice of Case Management in Coordinated Care in The Australian Coordinated Care Trials: Local Experience and Technical Observations, *CHSD Discussion Paper No 1*.
- Fine M, Pancharatnam K, and Thomson C (2000), *Coordinated and Integrated Human Services Delivery Models: A Report prepared for the New South Wales Cabinet Office and Premier's Department*, Social Policy Research Centre, The University of New South Wales, Sydney.
- Foulstone J and Macdonald S (1999), Care Net Illawarra: A New South Wales Coordinated Care Trial, in Leigh J *et al*, *The Australian Coordinated Care Trials: Background and Trial descriptions*, Commonwealth Department of Health and Aged Care, Canberra.
- Mossey JM and Shapiro E. (1982), Self-rated health: a predictor of mortality among the elderly. *American Journal of Public Health*, vol 72, pp 800-8.
- Pekarsky B (1999), Service substitution: evaluation issues in the coordinated care trials, in Commonwealth Department of Health and Aged Care (2000), *The Australian Coordinated Care Trials: Interim Technical National Evaluation Report*, Canberra.
- Perkins DA (1999), Australian Coordinated Care Trials: A New Species of Health Services, in The Australian Coordinated Care Trials: Local Experience and Technical Observations, *CHSD Discussion Paper No 1*.

Perkins DA & Owen A (2000), Controlled trials of service systems: what can we control and what variation should we measure? *Conference Proceedings, Health Outcomes for the Nation: Best Bets and Best Buys*, Australian Health Outcomes Collaboration, Canberra.

Ware JE, Snow KK, Kosinski M (1993, 2000), *SF-36 Health Survey: Manual and Interpretation Guide*, QualityMetric Incorporated, Lincoln, RI.