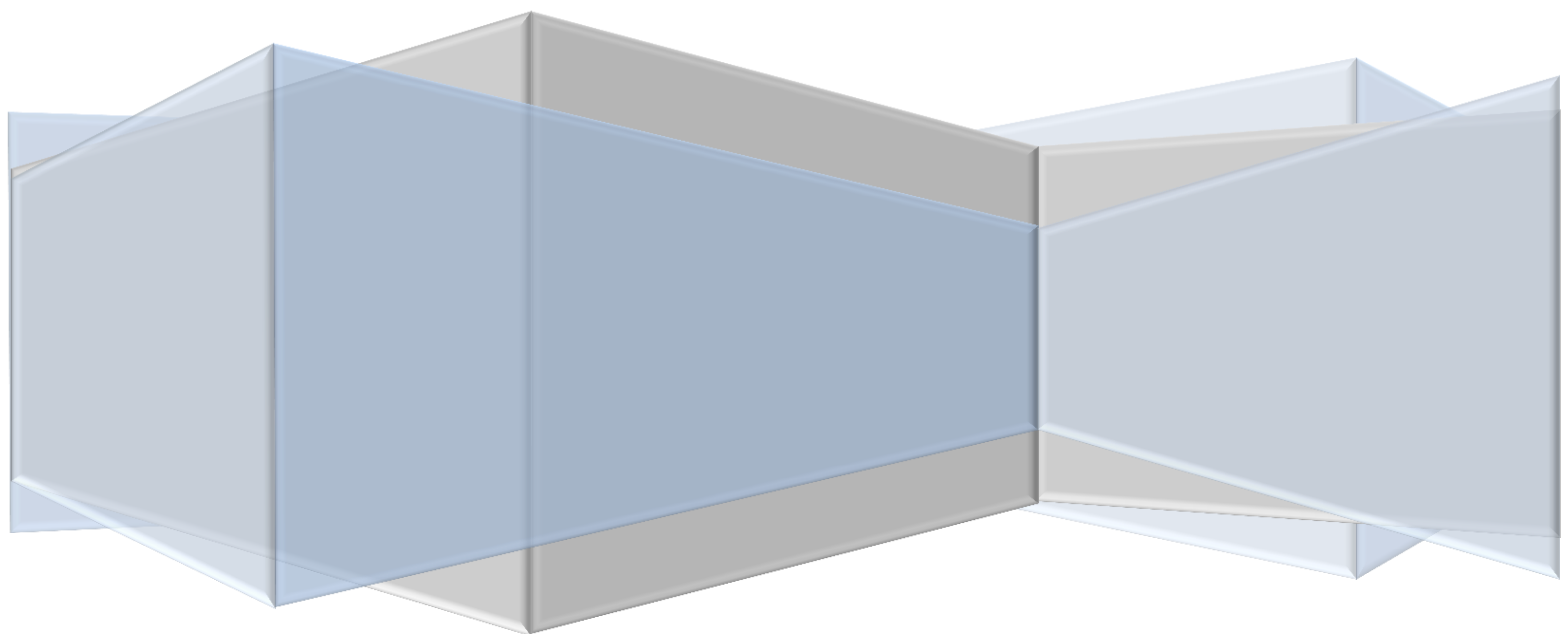
Integrated People-Centred Health Services Case Study

At Risk Individuals (ARI) programme, Counties Manukau Health (CMH) Auckland, New Zealand



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Executive Summary

In response to adult acute and paediatric medical service demand rising faster than the population, Counties Manukau Health (CMH) responded with a range of programmes aimed at avoiding hospital admissions and promoting patient self-care. In 2014, CMH launched the At Risk Individuals (ARI) programme, which uses a model of care that emphasises patients achieving long-term behaviour change and aims to keep people well in their homes.

The model provides early and planned interventions, establishes general practice as the centre of coordinated healthcare, provides care based on patient set goals and improves access to a range of specialist and community services. The programme uses risk profiling as means to identify and judge patient eligibility. Risk assessment is undertaken using a framework of clinical and social indicators and the use of a risk of readmission algorithm; although access to the algorithm not yet universal. The programme provides a strong focus on the patient's needs and abilities and through an interviewing process using the Partners in Health (PiH) questionnaire, the patient's own assessment of their condition is uncovered. This data is used along with clinical eligibility data to set care goals that are overseen by an assigned care coordinator. Provider and intervention provision is provided by a flexible funding regime managed by the care practices to ensure the range of services dictated by the patient's shared care plan are delivered.

Patients report improved understanding of their condition and increased motivation to continue to self-manage. The programme has resulted in knowledge networks being formed to share practices and identify barriers to improve the programme's operation. Early evaluations show that there is a positive influence from the programme on CMH's readmission rates.

Problem Definition

The At Risk Individuals (ARI) programme has been implemented as part of Counties Manukau Health District Health Board's long-term strategy of integrated care that aims to improve health outcomes for patients with chronic long-term care needs.

Counties Manukau Health (CMH) provides services to approximately one third of the 1.57 million people in New Zealand's largest city, Auckland. CMH's population contains a high percentage of youth and children who experience high relative deprivation with 30 % of these children living in crowded houses and 44% of then residing in localities classified as high socio-economic deprivation. Additionally, CMH has the fastest growing percentage of people aged over 65 years in New Zealand. Approximately 60, 000 people in the area live with long-term conditions and it is estimated that 30, 000 people are at risk of poor health outcomes due to their health conditions and contributing socio-economic factors[i]. This population profile contributes to pressures on hospital services, bed occupancies and continuing poor health outcomes. While the population grew by 2% in the 1990s, over the same period adult acute and paediatric medical service demand increased by 9% reflecting frequent emergency department (ED) admissions and regular returns to hospital due to poor long-term condition management.

In recognition of this problem CMH sought to better integrate its services resulting in a range of integrated care projects involving primary care providers aimed at avoiding hospital admissions and promoting patient self-care[ii]. However, these service's evaluations indicated that further improvements to the patient experience could be made by moving away from clinically managed care towards team-based processes that place the patient at the centre of the care[iii].

Under the ARI programme's model of care emphasis is placed on supporting patients to achieve long-term behaviour change and to keep people well in their homes. The model intends to address hospital re-admission rates and patient outcomes by providing early and planned interventions, establishing general practice as the centre of coordinated healthcare, providing care based on patient set goals and improved access to a range of specialist and community services.

Health Service Delivery Transformation

Timeline for transformations

Pressures on acute hospital services prompted CMH to investigate and develop service integration improvements. These were facilitated by the introduction of the Primary Health Care Strategy in 2001, which expressed that general practice should be more involved in the management of long-term conditions[ii].

New Zealand's primary care sector is based on a tradition of individual professional autonomy with general practitioners operating as sole or group practices managing their own patient lists. Services are paid for by combination of fee-for-service government subsidies and patient co-payments. The Primary Health Care Strategy established Primary Care Organisations (PHOs) to provide a planning and coordinating role, to form improved relationships with local practices and to develop wider primary care provider collaborations in order to promote a greater emphasis on population health through funding based on population needs and the involvement of a range of professionals[iv].

A number of interventions were funded to target very high intensity users, those from deprived populations and to keep people well in their own homes[iii]. Although these programmes tended to be limited, having rigid service and clinical parameters restricted to condition management that excluded the consideration of wider and compounding social factors such as inadequate housing or low literacy[iii, v].

To further patient centred care and to enhance the role of primary care providers, CMH developed the ARI programme. To institute the ARI, the CMH and five PHOs agreed to an initial service schedule, with the programme's provision to be managed through the PHOs and closer to the general practices providing the services. The resulting ARI service schedule realised the desire to shift towards a more proactive approach to primary care, where care can be co-ordinated between different health and social providers and meets the needs of the individual patient[iii]. The service schedule details the prioritisation of people most at risk of admission to the ED, incorporates patient-led goal setting and mandates the development of co-ordinated patient-centred shared care plans.

Table 1: Chronology of the initiative

1998	CMH five-year strategic plan developed to improve health care access by disadvantaged populations and to improve the management of chronic disease. Starts a wider focus on integrated care at CMH.
From 2000 onwards	The New Zealand Primary Health Care Strategy aims to strengthen general practice's ability to support community centric care and reduce cost to service users. Primary care general practices access chronic care funds for disease or person-specific targeted projects.
2010	Very High Intensity Users project developed by CMH and introduces multi-disciplinary case management to identified patients.
2011	Localities initiative rolled out to improve integration of care.
2014	ARI programme developed and initiated as alliance between five primary health organisations and CMH.

Description of the transformations

Selecting services

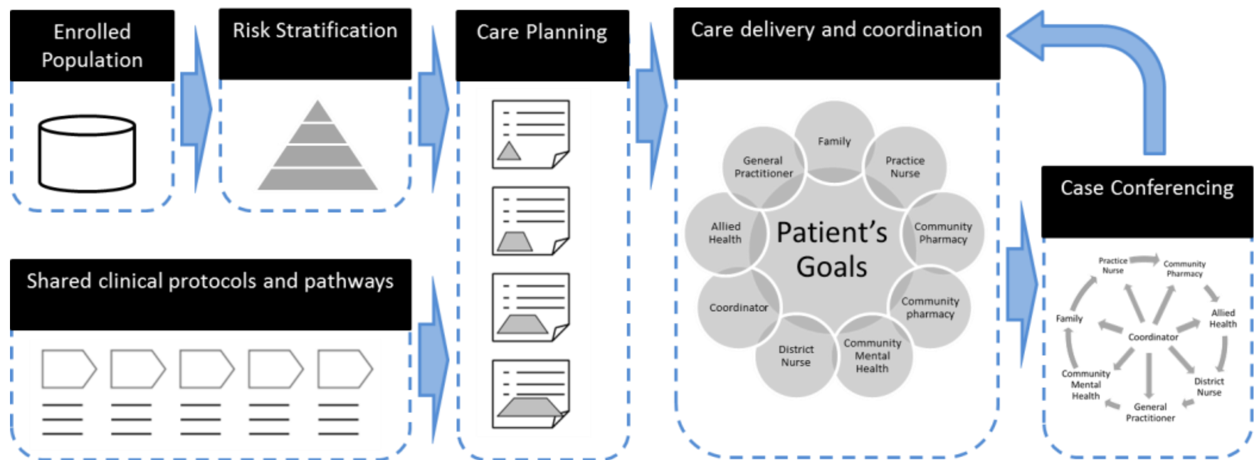
The ARI programme seeks to re-establish general practice as the central focus of co-ordinated healthcare, through interventions such as longer consultations, multi-disciplinary case conferencing and home visiting. The programme establishes mechanisms for identifying and selecting patients, developing a patient-centred goal based plan, designation of care co-ordinator, use of electronic patient care plan management, where the plan's data and patient's progress is able to be shared with care team members[i]. These mechanisms are embedded in the practice's creation of a proactive partnership between the patient and their care team, driven by a goal setting and a care planning process. Underpinning ARI is its support of patients to achieve long-term behavioural change through a better understanding of how to manage their health condition[vi]. As such, patients who are motivated to change their lifestyle and behaviour tend to be more successful participants[iii]. To identify of those that may benefit from the ARI programme, patient eligibility is determined through a risk analysis process in the form of a clinical risk assessment framework. The programme is also in the process of introducing a specially developed risk of readmission algorithm that is able to stratify patients into different risk categories. While the algorithm has been piloted in a number of practices, it is not yet available to all of the ARI providers as it requires the practices to have up-to-date data and the

appropriate IT infrastructures[vii]. Those practices without the algorithm are continuing with the clinical risk assessment framework for eligibility assessment.[v]

Designing care

At-risk individuals are identified from the general practice's population guided by the clinical risk assessment framework or the algorithm's indications and a patient's willingness to change. Underpinning the care are pathways and agreed clinical protocols that are used to inform patient assessment, care planning and coordination. Risk and programme eligibility criteria are quantified through the clinical risk assessment framework's measures are based on the common diagnostic tests for diabetes, cardio vascular and pulmonary diseases and/or non-clinical measures such as attendance data, co-morbidity, polypharmacy and social and situational risks. The risk assessment data is augmented by the patient completing a common assessment tool taken from the Flinders Model for Chronic Disease. This validated tool, the Partners in Health (PiH) questionnaire, is used due to its strengths in uncovering the patient's own assessment of their condition[iii]. The risk and PiH patient data is reviewed by the care coordinator and the patient and together they develop a care plan. The care plan details the patient's goals with the care team's responses. This time spent by the care coordinator explaining the condition and risk indicators is a valuable part of the ARI programme providing patients with information and advice on how to better manage the condition[iii]. Case conferences with members of the care team, review and update the data in the shared care plan and an assessment of the patient's progress are used to refine the coordination and options for the patient's care. *Figure 1.* provides a representation of the ARI care model.

Figure 1: Elements of the ARI



Source: Adapted from Naumann (2015)

Organizing providers

Care coordination and planning is conducted following an electronic shared care plan template. An example of the shared care record is shown in Figure 2. The personalised shared care plan's goals are determined by the patient and the plan then includes the actions the patient will take to manage their own health and the actions to be undertaken by the care team. The set headings allow data regarding medication, daily life, lifestyle, social and mental well-being, advanced care planning and early warning signs to be included. The patient's social situations are also able to be recorded and these can be used as context or points of reference for assessing their progress, for example recording the changes in a patient's social support network, finances and family situation[i]. Overseen by an assigned coordinator, the shared care plan is accessible through an IT platform, which enables authorised members of the care team to access, add, and amend data. Members of the care team can be the practice nurse, general practitioner, district nurse, community pharmacist, allied health such as podiatrists, physiotherapist etc., community mental health team and hospital specialists. These providers can access the shared care plan, enter updates and monitor progress, while patients are encouraged to review the plan as a means to assess their progress and review appointment schedules.

Apart from communicating with the care team through the shared care plan, co-ordinators also communicate with other care co-ordinators across the ARI programme. This has developed into a knowledge sharing network of regular multi-

disciplinary coordination meetings. At these care co-ordinators and care providers are able to discuss issues and processes about care plan management and provider coordination.[i] The multi-disciplinary network meetings also allow for the identification of further quality indicators, resource gaps and provider orientations to fulfil the goals set out in care plans.[v] The coordinators are also able to discuss and provide feedback to the programme's IT provider in respect to the platform's functionality and usability as efforts to improve user satisfaction and extend the use of the programme across practices.

Figure 2: Shared Care plan example

Source: Naumann (2015)

Managing services

Previous to ARI, CMH chronic care was managed through disease or person specific programmes that were limited to specific interventions or numbers of visits to practitioners. These programme's funds have been incorporated into the ARI model of care as a generic intervention fund ($5.3 million in 2016[iii]) to pay for ARI services. The fund provides practices access to a performance monitored ARI budget. Budget

performance targets are set at the enrolment of 3% of the practice's population in the first two years, increasing to 5% after that. After being allocated funds, the practices are expected to manage their ARI budget and provide the mix of services detailed in the shared care plans. The flexible use of the funds permits practices to provide enrolled patients extended consultations, medicine reviews, case conferencing, medication co-payment, home visiting, nurse-led clinics, health literacy and other self-management interventions. To ensure consistency and auditability, a standardised pricing schedule has been developed for the common interventions, with the pricing of any interventions not listed being the responsibility of each participating PHO. The purpose of standardised pricing is not to limit the time or number of interventions, rather it is intended to be used as planning guide and it also stipulates the type of interventions that cannot be funded[i, iii]. The programme's flexible funding enables a model of care beyond the 15-minute consultation paradigm and supports an environment where it is easier to do what is needed[iii]. Moreover, the holistic nature of the funding facilitates patient access through reduced or zero co-payments. Programme management and monitoring is fulfilled through regular meetings between the primary care ARI managers and CMH leaders. These meetings are used to discuss progress and issues raised by the performance data and the care co-ordinators.

Improving performance

Performance is managed through a set of agreed quality indicators. The quality indicators comprise patient and organisational measures. Patient measures are based on plan goal progress and disease specific indicators, e.g. improvements in the patient's blood pressure, blood sugar or weight. Organisational measures are based on patient enrolment volumes and the effectiveness of care coordination. The programme's performance is monitored by CMH. CMH receives performance reports from the five participating PHOs, which in turn manage the programme practices. The programme's impact on hospital measures such as length of stay, ED attendances and bed day usages is also considered as part of the performance framework. Although more concise data regarding these measures requires better integration of primary care and hospital IT systems.

Patients report high satisfaction with the ARI processes, particularly regarding the time spent with them by their care coordinators and practice staff to enable them to better understand their conditions and empower self-management of their condition.[viii,ix]

Table 2: Delivery of health services transformed through the initiative

Before	After
Selecting services	
Chronic care services and programmes are disease based or person-specific with limited attendances and indicator driven.	Services are based on individual shared care plans, orientating care interventions towards the patient's goals. Meets broader sets of needs and encourages more collaboration across speciality and community based services. Risk assessment and designation is undertaken using risk algorithms.
Designing care	
Care for chronic conditions fragmented with patients prone to frequent attendances at ED or unplanned re-admissions.	Shared care plans along with the Partners in Health questionnaire orientate the providers towards meeting the patient's goals while improving self-care capabilities. A patient's propensity to change is an important factor for admission to the programme.
Organizing providers	
Funding siloes mean that complex patients access range of programmes and providers with little coordination of care.	General practice becomes the central focus of care. This encourages the appropriate selection of providers and utilisation of initiatives based on the patient's shared care plan goals.
Managing services	
Services managed through multiple funds and general practice capitation payments.	Funds centralised creating a generic intervention fund with funding guidance and standardised pricing enabling flexible application directed by the shared care plans.
Improving performance	
Chronic care performance indicator driven rather than based on patient outcomes or health improvement.	Patient entry and selection based on objective criteria and an assessment of amenability of change. Outcome indicators for patient progress and programme indicators of practice performance.

Health system enabling factors and barriers

The ARI programme is bedded within CMH's care integration focus. As such its design and implementation has been supported by CMH's commitment to service integration, organisational preparedness and its culture of improvement, which is characterised by innovative thinking and clinician-led problem solving.[v] The programmes integrated nature provides an opportunity for hospital specialists to be part of a wider community based healthcare team assisting to manage patient care[x]. The shared care plan therefore provides a point in common that includes and informs all the health professionals involved in the care of a patient.

A key part of the model of care that has been consistently affirmed is the time that staffs spend with patients to support self-management by working together on the shared care plans. As one of the patient selection criteria is the motivation to change on the part of the patient, it requires this time investment to understand a patient's needs, the changes required and to detail appropriate actions within the care plans. These conversations and the time spent with the patients co-developing care plans and reviewing progress have become a significant part of securing the patient's progress. As one respondent suggests "the plan itself doesn't really catch their imagination, but what we talk to them about... that can involve an increase to comprehend and embed solutions" and it is these types of conversations that reinforce the focus on motivation for self-management as a key enabler of the programme's success.[iii]

The success of the practices in achieving the ARI model of proactive primary care was found to be influenced by how its implementation was managed. Those practices that held regular meetings, appointed ARI leads and shared caseloads across the practice were more likely to demonstrate an interest in proactive primary care, with the ARI model easier to adapt to if the practice had an existing collective team spirit. Those practices which did not readily share information or used the coordinator role as a link between the practice's doctors and nurses had variable levels of interest in proactive primary care and influences on patient behavioural change.[iii]

These findings reinforce the model's reliance on the team approach, where a doctor may not always be the health professional seeing the patient, rather general practice care responses are proportionate and coordinated reflecting what is needed by the

patient at that particular point in time. This reflects the integrated approach to resource use not only within the general practices, but across the providers, driven by an understanding of the needs and priorities of the patients. To realise this integration requires simultaneous change on the part of the practice to its model of care and for the patient to begin to self-manage, while being provided with appropriate support.[xi]

Patients who benefited the most from the programme tended to be those who engaged with the practice staff sufficiently enough to have their conditions explained to them in detail. Patients who demonstrated wider motivation tended to have more success than patients whose motivation was to secure lower costs for visits. Additionally, ARI tends to work well for those patients whose conditions' changes are able to be measured, rather than those who require monitoring Measurable change is incorporated by the patient's goals, enabling an involvement in their own care. This is an important improvement as previous chronic care programmes were mainly for monitoring visits. However, for some patients, factors such as mental health conditions or poor social situations limit self-care gains. The ARI's flexible approach enables a wider range of resources and interventions to be applied, meeting the patient's needs through home visits by GPs, involving in nurses in longer-term care beyond acute phases, providing advice and interventions for more than one condition and by providing patients with evidence of improving self-management. As one evaluation respondent commented; as a general practitioner "it doesn't reduce the time I spend having the nurse involved but it increases the quality of what patients receive".[iii]

Even so, the ARI programme's progress has been variable. There have been problems aligning CMH's IT systems of the five PHOs. Though the programme's multi-disciplinary coordination meetings have emerged as valuable mechanisms for staff to share patient coordination practices and for professional development. ARI's evaluation processes have found the need for improved information on ARI patients who have been discharged from secondary care and for the wider CMH care team networks to provide more evidence of their use of the shared care plans.

Change management

The introduction of ARI programme is intended to encourage a change in primary care away from reactively treating those with chronic conditions.[iii] Encouragement mechanisms include direct resourcing for the practice to manage and a team approach to patient care. With the resources come expectations, which have resulted in nurses being given more responsibility for those with long-term conditions, the development of connections between a range of community and hospital providers and general practices beginning to plan for the whole population, not for just those who visit.[iii]

Successful implementation has relied on an understanding of how the practices operate, including an appreciation of variation in practice size, capability and administrative processes. During implementation, general practice staffs were engaged in balancing ARI's enrolment and quality targets while managing a budget to support personalised care plans. Initial implementation issues were dealt with by providing a series of workshops held in late-2014 to mid-2015. As the ARI programme is not based on a single component or a fixed set of procedures, its implementation was presented at these workshops as a set of tools, with the intention to allow the practices to decide how best to use them. These workshops supported the development of tailored patient programmes, the implementation of new IT systems and the patient enrolment processes.[iii]

Recent evaluation has revealed that the practices that had nurse-led teams and team-based cultures tended to overcome the implementation issues. Smaller practices or those without team-based cultures found that implementing the ARI increased administrative workloads, while some practices simply viewed care plans as a mean to boost practice funding. Practices that did not possess strong IT capabilities and which could not source appropriate technical support found implementing the ARI programme to be a burden.[iii]

Once shared care plans were being used, the general practices became increasingly responsible for the coordination of patient care. However confidence that care providers were communicating about the care plans was not uniformly held. There were instances where shared care plans were thought not to be widely accessed within general practices and there were instances of variable engagement by doctors who seemed to retain the 15 minute appointment mind-set. Some care coordinators

also held the impression that shared care plans were not as widely accessed as they were intended across the care team.[iii]

As a result ARI programme providers have asked for indicators and data that show shared care plans are being accessed, for better support for the IT issues and for training to improve care plan use. Providers wished to see improvement to programme's operations by reducing patient enrolment compliance and procedures, perhaps through a less formalised and structured questionnaire and for the ARI budgets and enrolment targets to reflect the profiles of a general practice's population rather than as a percentage. Suggested improvements to the ARI's systems include the better integration of IT, an increase in the number of multi-disciplinary coordination meetings and for the consideration of the use of patient clusters or peer support networks.[iii]

Though finding successes in patient outcomes, ARI faces barriers in terms of the social determinants of health, where low education, poor quality housing and reliance on social services have a significant effect on CMH's population[v]. Moreover, the traditional model of general practice provision requires some adaptation to fulfil ARI's goals.[xi]

Outcomes

After two years in operation the ARI programme has 22, 520 individuals enrolled across the 115 participating general practices. Improved planning processes for at-risk patients is occurring through multi-disciplinary meetings and by utilising broad networks of providers directed by shared care plan patient goals. Improved self-management means patients feel more in control of their conditions and have improved understanding of their health. While the ARI programme is intended to have an effect on unplanned and re-admission of chronic disease patients into hospital, further data is required to confirm its effect. However, early data reveals that early adopter ARI practice's patients with a moderate risk profile had an odds ratio of readmission of 0.33 compared with non-participating practices, indicating a positive impact on acute admissions. The early stage evaluation was also suggestive of additional benefits from wider implementation of the model.[xii]

Conclusion

The ARI programme is a model of care that aims to holistically meet the needs of patients, integrating primary care and community based services and placing long-term care coordination with primary care. The programme encourages primary care providers, particularly general practice to review its processes and to begin to centre care around patient needs. Its risk stratification and flexible funding allows the setting of patient goals supported by a range of community based interventions. The programme relies on care team members to access and update a shared care plan, which is managed by a care coordinator. As such there is an expectation that the patient will begin to better self-manage their condition. This process is facilitated by care coordinators spending time with patients, building trust and co-developing strategies that comprise a patient's care plan goals.

A key message from this case is that the use of risk assessment and the development of primary care networks contribute to improving patient outcomes using a flexible (but defined) funding framework with agreed clinical pathways and protocols. The case indicates that shared care planning is a useful mechanism to facilitate integrated care by involving all of the members of care teams. The programme differs from previous approaches to manage chronic conditions in the community, as it involves the patient in the care planning process and uses self-set goals to enhance the patient's involvement in their care and well-being. The case also points to the importance of appropriate technology, training and IT capabilities for more comprehensive integrated healthcare programmes.

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