

# Evaluation of an action research project in workforce development and organisational change: Healthy Ageing—Nutrition

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This article reports on the evaluation of an action research project designed to support workforce development in the promotion of healthy nutrition for older people. The evaluation methodology was grounded by the action research approach of the project and focused on case studies of the 10 partner organisations. Findings indicate that the Healthy Ageing—Nutrition Project has resulted in a large increase in awareness and knowledge about healthy ageing and nutrition in the case study organisations, and to a lesser extent, in the broader health and aged care sectors. For the case study organisations it seems likely that transformational change has been made through the project's work of building capacity, mediating and facilitating change and providing resources. Support at board and management level, as well as thoughtful development of the workforce, were critical success factors in bringing about organisational change. The main challenge was identified as time and resources needed. Follow-up evaluation of the health outcomes from nutritional assessment, screening and intervention should also be implemented in order to provide further evidence of the value of this effort.

## Introduction

This article reports on the evaluation of an action research project designed to support workforce development in the promotion of healthy nutrition for older people. Action research is described as a cycle of action and reflection by practitioners to improve their practice. However, there are a multitude of definitions, approaches and uses, with no consensus on core characteristics (Hart 1996). Most commentators identify two key aims of action research: to change and improve practice and to increase knowledge and understanding (Elliott 1991; Greenwood 1994; Gregory 1994; Malterud 1995). Hart (1996) describes two main benefits of action research for workforce development. First, action research develops professional knowledge that is more appropriate to practice by developing practitioners' capacity for discrimination and judgement in complex human situations. Second, it underpins professionalism and leads to empowerment by employing methods and procedures based on theoretical research and knowledge for improving practice; establishing sound rationale for what professionals are doing and building confidence and resolution to change things. Adopting a thinking, critical attitude towards practice and testing findings, the professional becomes a catalyst for change (Gregory 1994).

### Action research: role in workforce development and organisational change

Action research is part of a workforce development approach that may transform the ‘professional culture into one that supports collaborative reflection about practice and takes the experiences and perceptions of clients into account in the process’ (Elliott cited in Hart 1996, p. 5). It is therefore highly relevant for multidisciplinary, multisectoral and participatory approaches to service delivery. Practice wisdom is particularly important in a field like primary health care where evidence-based practice (as defined by the randomised controlled trial) is difficult to demonstrate. It brings together theory and practice and so helps to make research relevant and useful to policy and practice. This, in turn, increases the likelihood of uptake of research findings in the workplace. Practitioners involved in action research can act as ‘catalysts of change’ and contribute to reorientation of services to a primary health care approach.

A review of workforce development models (Jolley & Masters 2003) demonstrated the importance of organisational, community and environmental support. This support might be realised as ‘champions’ within an organisation, supportive policies and practices, and the availability of on-site workforce development opportunities. Workforce development needs to be planned, comprehensive and integrated with the goals of the organisation. In a primary health care context the notion of ‘workforce’ may be extended to include the wider community of stakeholders. A partnership approach to workforce development facilitates exchange of skills and knowledge but this requires trust and good working relationships in order to be successful.

### The Healthy Ageing—Nutrition Project

In order to test the feasibility of a partnership in workforce development, a project was conducted in South Australia focusing on the nutritional health of older people. The workforce in this area is diverse and expertise in nutritional care is limited. Unlike other states, where nutrition professionals have a dedicated role in provision of care to older people in a range of settings this has not been the case in South Australia. Thus, any advances in this area would have to be made using a broad workforce development approach. The project ran from March 2004 to March 2006. As a collaborative action research project the aim was to develop workforce capacity in the management of ageing and nutrition issues through increased awareness and use of an early intervention strategy to improve the nutritional health status of older people in South Australia. There were four objectives:

- 1 to increase awareness and knowledge of the food and nutritional needs of older people among carers and professional groups (known here as ‘the workforce’)

- 2 to increase knowledge and skills of the workforce in early identification of nutritional risk by the use of simple assessment and screening tools
- 3 to increase the use of appropriate nutrition early intervention strategies
- 4 to increase intersectoral collaboration in addressing food and nutrition needs among organizations and groups who support healthy ageing.

Strategies focused on working with 10 key organisations in the aged care services sector. Partner organisations were mostly self-selected, with encouragement and some targeting by the project manager. They comprised a wide range of providers of services to older people, including home and community-based care; institutional care; meal service provision; general practice; rehabilitation and recuperation; and a group of dietitians working in aged care.

The action research approach meant that the project took a facilitator role and the organisations became partners in developing action plans (using an action planner) specific to their own needs and experiences. The project manager met with each organisation to discuss progress towards agreed goals and to provide encouragement, resources and support. A ‘Moving into Action’ forum brought together the partner organisations to share information and the development of their action plans.

### External evaluation

The South Australian Community Health Research Unit, Flinders University, was contracted to undertake external evaluation for the Healthy Ageing—Nutrition Project. Reflection and evaluation of action was embedded in the action research methodology utilised by the project and this was reflected in the evaluation. The evaluation focused on:

- progress towards meeting the Healthy Ageing—Nutrition Project objectives
- strength of the action research approach to workforce development in progressing Healthy Ageing—Nutrition Project objectives
- reach of the project, in terms of workforce participation, coordination and collaboration.

### Evaluation methods

The evaluation plan was developed in consultation with the project management team. The evaluation focused on case studies of the 10 partner organisations and facilitated reflection by the project stakeholders. Data collection and analysis included:

- Three interviews with the project manager to document progress, identify what was working well, the challenges and unexpected events, what might need to be changed/done

differently in light of the experience so far, and broader lessons. Interviews were partially transcribed for import to NVivo for analysis. The analysis documented emerging themes and the findings from each interview were used to guide subsequent interviews in order to explore achievements and challenges more thoroughly.

- Two rounds of interviews with participating organisations, by phone or in person. Most interviews took between 30–45 minutes. Since the ‘dietitians group’ was more of a loose federation rather than an organisation, three respondents were interviewed to give a range of viewpoints. This meant that 12 sets of interview data were recorded. The first round of interviews asked respondents to rate the quality of the project management and activities, about their expectations and support needs, and to describe their achievements and changes to date. The second round confirmed any further activities within the organisation, any other changes and asked about the perceived level of achievement of the project’s goal and objectives. Analysis of the organisational data against the action plans, project objectives and project documentation was then undertaken in order to produce case studies of organisational change.
- A focus group with the Project Advisory Group asked about the role and function, project management, benefits and challenges in bringing about organisational change using an action research approach, achievements and ideas for future development. As a number of advisory group members were unable to attend on the day, follow-up phone interviews were conducted with another four respondents. Responses from the focus group and the interviews were collated and analysed by question.
- The action plans for each participating organisation were reviewed at the mid-point and at the completion of the project. Other project documentation reviewed included interim reports to the funder, copies of presentations to interested groups, planning documents and minutes, and records of activity with ‘non-case study’ organisations who had an interest in the project.

An interim report was presented to the project management group in July 2005. Following further data collection, analysis and synthesis, a draft report was presented in December 2005. Each of the partner organisations was invited to provide corrections of fact and other comments on their own case study, and following discussion and feedback from the evaluation management team the final report was produced. Findings were also presented at a final forum attended by most of the partner organisations.

### Strengths and limitations of the evaluation

The evaluation methodology was grounded by the action research approach of the project. Evaluation was planned for and designed early in the life of the project and maintained a balance between internal and external evaluation. The evaluator, project management team and project manager were part of a consultative process through the evaluation planning, data collection tool design and reporting. This consultative approach maximises the relevance of the evaluation and leads to opportunities for feedback to stakeholders as understanding develops from the evaluation process (van Eyk, Baum & Blandford 2001). The data collection was from a variety of sources and used a number of different methods in order to triangulate findings and increase validity (Farmer et al. 2006).

The main limitation of the method is that changes in awareness, knowledge and skills were not directly measured and quantified in a pre- and post-project design. This would have been both costly and time-consuming, and inappropriate for the project action research approach and the diversity of organisations involved. However, changes within organisations were assessed and some generalisable lessons can be drawn from these case studies.

### Findings

A case study example is shown in Figure 1. Case studies were written as a description of the journey undertaken by each organisation and consisted of a brief description of the organisation, a summary of activities planned, achievements, perceived enablers and barriers to change and expectations for the future.

Findings from the various data sources are summarised below.

#### Progress towards objectives

##### Objective 1: Awareness and knowledge

- eight organisations reported increased awareness of nutritional risk among older people
- literature review completed by one organisation
- dietetic contribution to aged care accreditation standards
- translation of nutrition guidelines into Italian, Greek and Maltese
- six dietetic student placements
- joint funding applications
- conferences papers and presentations

##### Objective 2: Early identification

- seven organisations produced or shared information and resources materials about nutritional risk
- increased training in nutritional risk and screening

**FIGURE 1: METROPOLITAN DOMICILIARY CARE**

Metropolitan Domiciliary Care (MDC) provides home-based care and support to frail aged clients in the Adelaide metropolitan area. There is a workforce of approximately 800 multidisciplinary service providers and 20 000 clients at any one time. Coordinated care programs focus on rehabilitation and may include respite care, personal care, equipment and therapy. Shortly before the start of the project, MDC underwent a major change in structure from separate regional services to an incorporated metropolitan-wide organisation.

**PREPARING FOR THE JOURNEY**

As a large organisation and the auspice for the project, MDC had a clear role and commitment to achievement in the project. Two areas were flagged for attention: assessment at intake and assessment in the Day Rehabilitation Centre. This kept the project manageable at a time of major organisational change. Within the new structure, MDC hoped to achieve a process of initial needs assessment using the screening tool, then referral with nutrition as one consideration, and evaluation of nutrition outcomes for its clients. Prior to the project, MDC was using a telephone assessment process for newly referred clients. This intake process aimed to assess needs and key issues to be followed up by the case manager. There was no specific focus on nutritional risk although this could be identified as a result of loss of mobility, social isolation, etc.

**JOURNEY ACTION PLAN**

MDC identified four main goals:

- 1 identify nutritional risk at intake
- 2 raise awareness in case managers of nutritional risk
- 3 raise awareness in Day Rehabilitation Centre staff of nutritional risk, simple screening and intervention activities
- 4 share information across the workforce about nutritional risk, simple screening and intervention activities.

**ON THE ROAD**

The project contributed a number of articles for MDC's research newsletter, describing the project and updating readers on progress. A flow chart was developed for use by the Metropolitan Access Team to identify and respond to nutritional risk in new clients and a referral letter to inform other clinicians of the outcome. Information sessions raised awareness among case managers of nutritional risk, simple screening and intervention activities. Day Rehabilitation Centre staff also attended information sessions and an information board was set up. Across the wider workforce, information was provided through newsletters and the project website.

**ARRIVING: SUMMARY OF ACHIEVEMENTS**

- nutritional risk assessment at intake has been implemented and monitoring has been established
- geriatrician screening of all new clients and followed up by nursing staff has been implemented
- Day Rehabilitation Centre staff have a raised awareness of nutritional risk, simple screening and intervention activities
- workforce information strategies have been established
- links with GPs and other nutritional support systems have been strengthened.

**REFLECTIONS ON THE JOURNEY: ENABLERS OF CHANGE**

- MDC founded the project and acted as the auspice and so was committed to the success of the project and the importance of nutrition
- CEO and management support for project
- expressed need by MDC to look at nutrition for clients in community settings
- some pre-project interest and preliminary work in nutrition and physical activity as determinants of clients remaining in the community
- project provided facilitation, resources and guidance in the change process.

**REFLECTIONS ON THE JOURNEY: BARRIERS TO CHANGE**

- undergoing organisational change and the difficulties of introducing more change at this time
- adoption and implementation of new forms and new intake process across the system is challenging.

The structural change that the organisation has undergone has had the effect of delaying the evaluation of outcomes, but nutrition has remained as an important focus. The changes are expected to be sustainable and the organisation is planning for this by upskilling staff in nutrition, talking with other organisations about nutrition in the community and developing an increased capacity to address nutrition issues. The new procedures are established and a focus on nutrition as part of primary health care will remain after involvement in the current project ends.

- seven organisations had implemented a nutritional risk screening procedure

### Objective 3: Early intervention

- one organisation had implemented a referral/intervention strategy

### Objective 4: Intersectoral collaboration

- links forged across organisations and issues
- beginning involvement of Aboriginal and Torres Strait Islander workers

All the organisations remained actively involved with the project and met their achievements within expectations. According to the project manager, this continued commitment was facilitated by a willingness to negotiate by both parties, and by maintaining relationships with people in the organisation in a position to make changes and by the action research process. For some organisations, the action research complemented established quality improvement practices and encouraged organisations to see how they fitted into the bigger picture and to develop benchmarks for addressing nutrition issues. Organisations were helped to make their action plans concrete and manageable. This led to early small successes and led to larger changes.

Another enabler of change was described as the supportive environment created by the project. For example, effective communication strategies and consistent marketing encouraged organisations and other stakeholders to want to be engaged.

Large organisations and those with a large volunteer workforce proved more challenging in terms of action for change, as their planning processes often took longer to shift. However, new structures or procedures were more likely to be sustained as part of the strategic planning in the organisations. Smaller organisations tended to more easily adopt change when they could see how it would benefit their clients.

The project has forged links with a number of related projects and issues, including physical activity, falls prevention and medication. The concept of healthy ageing has been broadened by joint presentations to services and groups and the project has demonstrated the close links between these issues. An example is the assessment of nutritional risk as part of the falls prevention chart used in some hospitals and aged care settings.

Five organisations reported that there was change at organisational level including policy, increased skills and capacity in nutrition, strengthened links and a multidisciplinary approach. All but one organisational respondent believed that at least some of the achievements would be sustained. Some respondents qualified their response by noting that a funded person would be needed to maintain links, distribute up-to-date information and generally keep ageing and nutrition on the agenda.

### Action research approach

Taking a broad and flexible approach has enabled organisations to have a choice in how they respond to the project and the changes that they have planned. Action research has encouraged people to feel part of the project and valued for their contribution. Organisations had a variety of responses to the invitation to develop action plans. Some already had ideas and wanted to jump to action without any reflection. Others found it hard to see opportunities for change and to move beyond the immediate problems they faced. Generally, change seems to be easier in smaller organisations that have more control over their own function and less bureaucracy. For example, in one large, bureaucratic organisation, planning was 'locked down' and one person within the organisation was unable to drive change. In a smaller organisation with little structure or planning experience, one person can implement change but it is more opportunistic than considered, and seems unlikely to be sustainable:

*They are the two extreme examples but in every organisation, I think it is the combination of the change-ready environment and somebody who is willing to take it on and move it forward. (Project manager)*

How organisations developed and used the action planner also varied. To some extent this was determined by the culture and experience of the organisation, that is, whether they were familiar with quality improvement processes. A small number of organisations with a clear business and management framework in place decided to use their own quality improvement processes. Most organisations preferred to let the project manager complete the action planner following discussion and consultation about what changes would be significant and realistic. For the first few months, the action planner was a fluid document. Once consensus was reached, the planning tool became the formal documentation of the changes that the organisation had agreed to put in place.

In the early and mid stages of the project, there was a high demand for support and most organisations were in frequent contact with the project. The project manager worked proactively and reactively with organisations depending on where they were in the change process. Some organisations needed considerable guidance and input of ideas and this created a tension in the action research approach. The project manager reflected on whether these organisations were being pushed too far and too soon. Evidence from the organisations points to a good relationship with the project manager and an effective balance between motivation and direction. Other organisations were more experienced in strategic planning and quality improvement and with these the support offered was more reactive in response to requests.

Almost all advisory group members were positive about the action research approach of the project. The strengths were seen to be that each organisation was respected as having different needs and different ways to implement the project. An additional benefit noted was that workers 'at the coal face' had been upskilled. The drawbacks of action research were stated as the potential for organisations to drift off target or slow down in their action plans and the difficulty of engaging people who don't accept the need for change.

The forum, advisory group and many other opportunities to share information meant that the organisational development was able to occur collectively as well as the project working with individual organisations. Action plans were individual but they shared common objectives.

### **Project reach**

Information about the project has been distributed in newsletters and articles to the organisations' workforces, covering approximately 9 600 individuals plus national Dietitians Association of Australia readership (approximately 200 in South Australia). The project website averaged 65 hits per day rising to 300 when new information was posted. Other organisations have disseminated information in different ways, such as at staff meetings and presentations. In addition to the active case study organisations, 31 other groups and organisations have been involved with the project.

### **Enablers and barriers to change within the project**

Most advisory group members stated that bringing organisations and people together was the most important enabling factor of the project. For example, the forum had demonstrated there was a critical mass of interest in the topic and set up the other achievements. The wide definition of 'workforce' to include carers was also noted as an enabler. Interview data from organisations suggested that facilitation and support from the project and support from the organisation's board of directors/management were the strongest enablers to taking action. Barriers identified from both sets of data were mostly related to reluctance to change or 'change fatigue' or to the extra workload entailed in participation. Respondents pointed out that organisations were not funded to participate, and staff time and other resources had to come from their own budgets.

The advisory group members also commented on enablers and barriers to change in the broader environment. Four respondents talked about the changes in the South Australian state health system but it was unclear at that stage whether these reforms would be positive or negative in terms of the aims of the project. Lack of further funding opportunities was seen as a barrier by three people and the ageing population would add to the problems.

## **Discussion and implications**

### **Achievement of objectives**

#### **Awareness and knowledge of the food and nutritional needs of older people**

The evaluation did not measure increases in awareness and knowledge directly. Given the methodology, this would have been unrealistic since the organisations were starting from markedly different levels of awareness and knowledge. However, all 10 organisations reported increased awareness and knowledge within their workforce as a result of the project. They reported, moreover, that nutrition is now on the agenda for aged care providers, meals services and carers, and, to some extent for governments. Strategies used by organisations to increase awareness and knowledge include information and training sessions for workers, volunteers and carers; development of nutritionally and culturally appropriate menu plans; information-sharing forums; and newsletters, websites and publications. The project forum, website, student placements and other activities have also contributed to increased awareness and knowledge. The impact on organisations outside the project is less clear. Work is underway to add nutrition issues to the accreditation standards for residential aged care. Websites and other resources, such as the translated food and nutrition guides, will have a broader audience, as will conference papers, reports and other dissemination strategies. Seven organisations have shared information or resources with others; this is also likely to lead to increased awareness. While awareness and knowledge is likely to be sustained within the current workforce, without a driver it is unlikely that information and resources will be kept up-to-date and accessible to a wide range of organisations.

#### **Early identification: knowledge and skills of the workforce**

Seven of the case study organisations have changed their nutritional assessment practices and introduced screening tools. This has been accompanied by policy development in the organisation and training for workers. Three of these have processes underway to audit use of screening and at least one more is planning for this. Of the other three organisations, two do not provide direct services: one has made available a screening tool for carers and the other has distributed a flow chart for general practitioners. For organisations outside the project there is some potential for increasing nutritional assessment and use of screening tools. Services that have a culture of benchmarking their activities may pick up on new practices they see in similar organisations to their own. The networking and links that already existed, or that have been strengthened by involvement in the project, may form a conduit for transfer of new skills and practices in screening. Organisations that have taken on the use of screening tools are likely to continue with this as long as some benefit is seen

to outweigh costs. Evaluation that can identify costs and benefits is therefore needed. Wide dissemination of the findings from this project and future evaluations of outcomes from changed practice, will increase the likelihood that current organisations will sustain the changes and that others will take up nutritional screening.

### Use of appropriate early intervention strategies

This objective is most likely to occur as a follow-up to Objectives 1 and 2 and therefore it is no surprise that it is the least well achieved according to the evaluation evidence reported here. For most organisations, it is a matter of timing; screening is just becoming embedded and the increased need for early intervention strategies will become apparent once nutritional assessment is a standard part of practice. Two organisations have already set in place referral mechanisms or dietary changes. There is some concern about the capacity of dietetic and other professional services to respond to the anticipated increased demand brought about by regular screening. As yet, no organisation has been able to evaluate the outcomes of screening and early intervention strategies; this will be an important next step.

### Intersectoral collaboration in addressing food and nutrition needs

Seven organisations reported new or strengthened links with other organisations as a result of the project. This sometimes meant working with services and groups that were not part of an organisation's traditional network. For some smaller or isolated organisations, the project had the effect of 'bringing them into the loop'. This is illustrated by the exchange of information, resources, speakers and ideas through the website, at the forum and at other events. The connection made between nutrition, falls prevention and medication has been of particular value for many practitioners. The Aboriginal/Torres Strait Islander forum also brought together a number of health issues in a holistic way and introduced Aboriginal/Torres Strait Islander workers to mainstream services that they could access for clients. This objective appears to be the one most at risk if there is no continuation of the project. It is probable that many of the links made are by individuals rather than by formal organisational links. Individual links are likely to be lost when people move on to a different position.

### Action research approach

The strengths of this approach can be summed up as:

- a sense of ownership and inclusiveness by advisory group and participating organisations
- flexibility to respond to different organisational needs
- engagement of organisational and other stakeholders
- an opportunity to reflect in a supportive and trusted environment

- organisations have been able to adapt the planning tool to their own situation
- an ability of the project to make adjustments in response to reflecting on actions.

The challenges of action research include:

- the need to re-establish support when developmental changes occur
- the need for balance between leading and supporting organisations in action for change
- potential for organisations to go 'off track' or slow down on actions.

These opportunities and challenges of action research seem to have been well balanced in the project and most respondents were very positive about this approach for workforce development. Particularly in these times of seemingly constant change, managers, workers and volunteers all valued the way the project was able to accommodate different needs and allow organisations to respond in their own way to the achievement of common objectives. At the same time, the project resulted in concrete change in the competency of the workforce to assess and respond to nutritional risk in older people.

### Achieving change

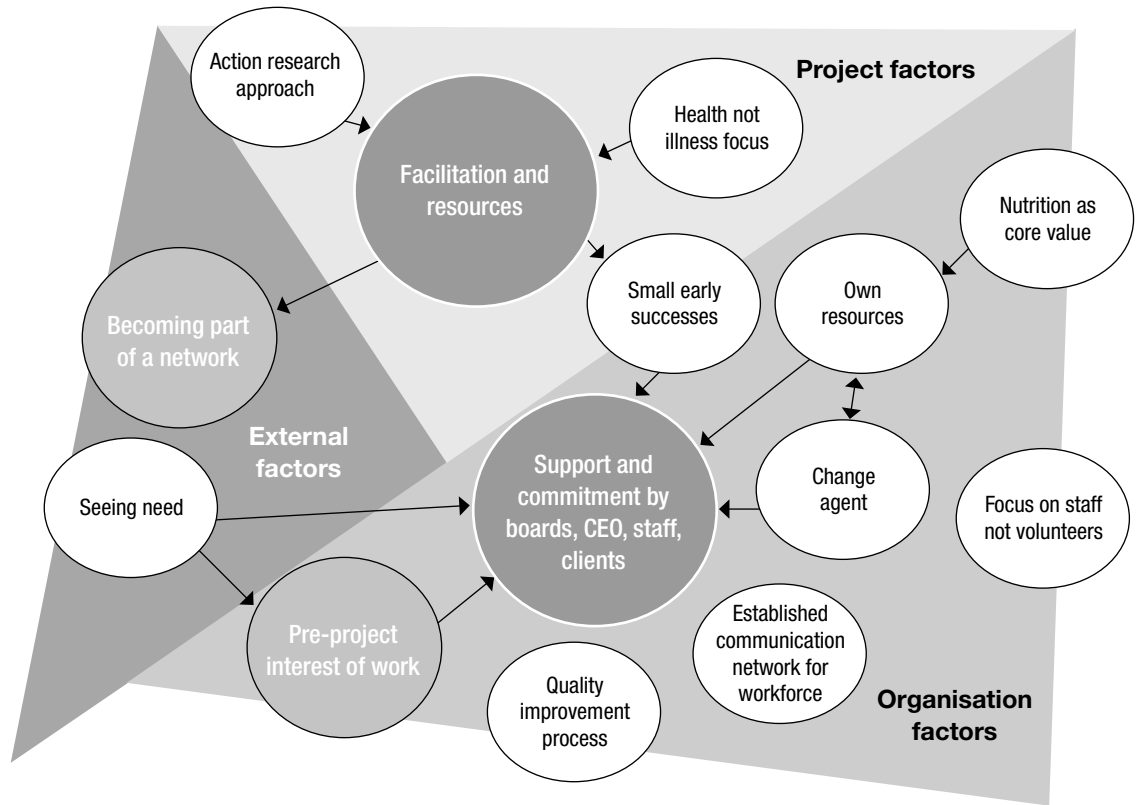
A number of enablers and challenges to achieving organisational change can be identified from the multiple data sources to this evaluation. These are illustrated in Figures 2 and 3. Enabling factors include the facilitation and resources provided by the project and the support and commitment by boards, management, staff and clients in relation to change. The main challenge is the time and resources required from the organisation, particularly when there are competing priorities and resistance to (yet more) change.

### Sustaining change

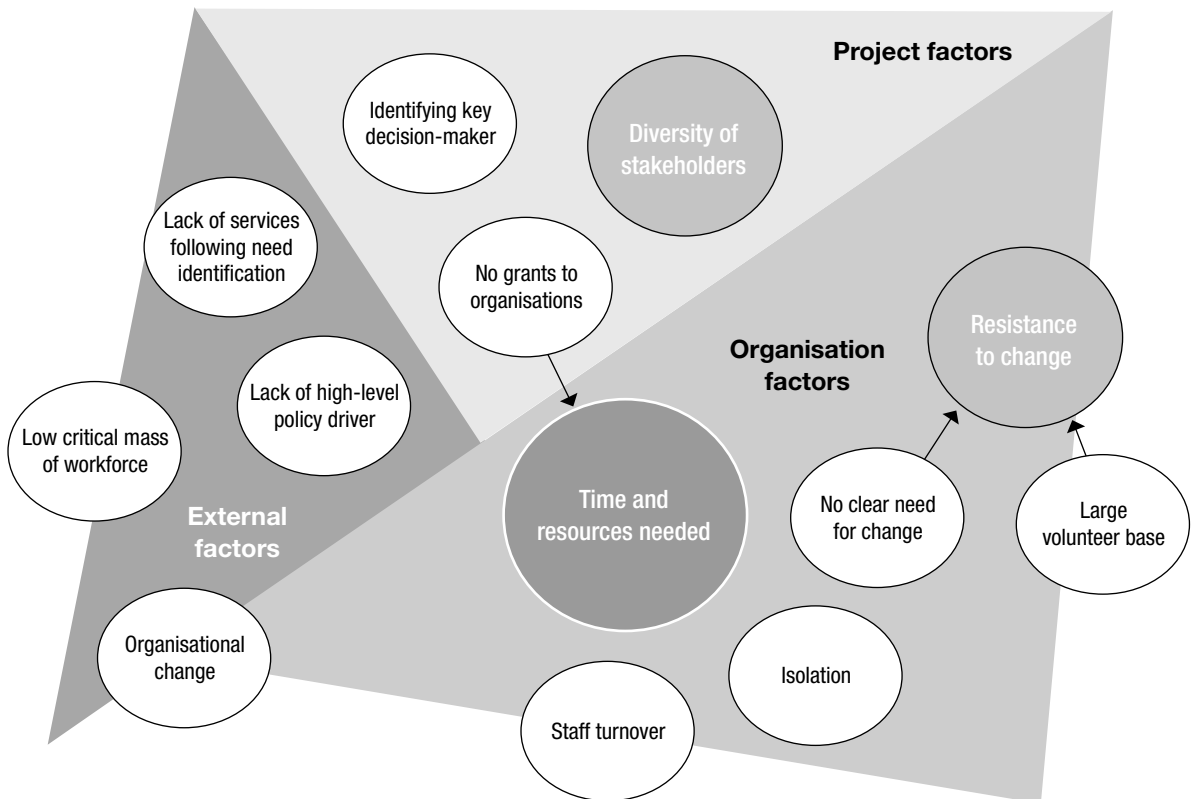
In the absence of ongoing project funding it seems likely that some changes will be sustainable, particularly in larger organisations that have embedded nutritional screening into their intake assessment policy. A 'change champion' in the organisation is important in getting change onto the agenda but if change has been driven by one individual there is a risk that this will be lost if the person moves to another organisation. On the other hand, individuals moving to new positions take their knowledge and skills with them so this could be a way to increase the project reach.

Ongoing funding would be useful in maintaining the momentum with participating organisations. Few have the resources to update the information and resources that have been an important part of the project and, as described above, when individual workers move positions their networks may be lost to the organisation. Further development of the nutrition and ageing agenda needs a commitment from policymakers and funders to support an

**FIGURE 2: ORGANISATIONAL CHANGE—ENABLERS**



**FIGURE 3: ORGANISATIONAL CHANGE—CHALLENGES**



individual or an organisation to act as a driver in bringing about and sustaining change.

## Conclusion

The Healthy Ageing—Nutrition Project has resulted in a large increase in awareness and knowledge about healthy ageing and nutrition in the 10 case study organisations, and to a lesser extent, in the broader health and aged care sectors. Nutritional screening and assessment has been introduced in all the service provider organisations and protocols for intervention following screening are being developed by most organisations. There is some concern about the capacity of the system and the workforce to respond with appropriate interventions following screening activity.

For the 10 case study organisations it seems likely that transformational change has been made through the project's work of building capacity, mediating and facilitating change and providing resources. Support at board and management level as well as thoughtful development of the workforce were critical success factors in bringing about organisational change. This helped to overcome the main challenge, which was identified as time and resources needed. Another achievement is the extent of collaborative partnerships that have been established or strengthened around exchange of information and resources, referrals and access to services. The action research approach has contributed to a sense of ownership by organisations and allowed each to develop in its own way, guided by the project. The opportunity for each organisation to establish its own action plan and monitor progress was a key factor in keeping organisations motivated.

The project has achieved an increased focus for ageing and nutrition in South Australia. However, it is unclear if and how this will continue to grow in the absence of dedicated funding for an organisation or individual to take on the driving role. Another concern is about the capacity within South Australia to maintain ageing and nutrition as an important issue, with only a small interest group compared to other states. For the future it will be important to build on the achievements so far and continue to keep ageing and nutrition high on the agenda of governments and service providers. Follow-up evaluation of the health outcomes from nutritional assessment, screening and intervention should also be implemented in order to provide further evidence of the value of this effort.

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## References

- Elliott, J 1991, *Action research for educational change*, Oxford University Press, Buckingham, England.
- Farmer, T, Robinson, K, Elliot, S & Eyles, J 2006, 'Developing and implementing a triangulation protocol for qualitative health research', *Qualitative Health Research*, vol. 16, no. 3, pp. 377–394.
- Greenwood, J 1994, 'Action research: a few details, a caution and something new', *Journal of Advanced Nursing*, vol. 20, no. 1, pp. 13–18.
- Gregory, M 1994, 'Accrediting work-based learning: action learning—model for empowerment', *Journal of Management Development*, vol. 13, no. 4, pp. 41–52.
- Hart, E 1996, 'Action research as a professionalizing strategy: issues and dilemmas', *Journal of Advanced Nursing*, vol. 23, no. 3, pp. 454–461.
- Jolley, G & Masters, S 2003, *Public health nutrition: identifying models and effective approaches to workforce development*, South Australian Community Health Research Unit, Adelaide.
- Malterud, K 1995, 'Action research: a strategy for evaluation of medical interventions', *Family Practice*, vol. 12, no. 4, pp. 476–481.
- van Eyk, H, Baum, F & Blandford, J 2001, 'Evaluating healthcare reform: the challenge of evaluating changing policy environments', *Evaluation*, vol. 7, no. 4, pp. 487–503.