

The Evidence Base for Integrated Care

1 Introduction

1.1 Background and purpose of this document

This document is intended to support prospective Integrated Care Organisation pilots develop their applications. This review of the evidence, building on previous work (Fulop et al, 2005), identifies the changes integration brings about; the conditions that support successful integration; and gaps in the evidence base that evaluations of the pilots might help address.

1.2 What is vertical integration?

Vertical integration describes a context where different components of a supply chain are brought together in a single organisation. In health care, there are two main types of vertical integration

- where agencies involved at different stages of the care pathway are part of a single organisation; and
- where payer and provider agencies are part of a single organisation

Further, six dimensions of integration have been described which identify the key requirements for successful integration: organisational, service, clinical, functional, normative and systemic (see Annex A for more detail).

1.3 Summary of findings

There is evidence that suggests integration can be an effective way of delivering health care and that it can provide opportunities to break down barriers between primary and secondary health care, as well as health and social care. The evidence also highlights conditions that support successful integration which should be taken into account by the Integrated Care Pilots. However, the evidence is weak in certain areas, and evaluations of the pilots can help strengthen our knowledge about integration. To illustrate, the key findings of this review are:

- vertical integration may lead to perceived improvements in partnerships between participating organisations; also, findings point to an improved focus on governance and guidelines. All these findings, however, would be strengthened considerably by empirical measurement;
- there is some evidence of reductions in patient admissions and length of stay; this finding requires further empirical study, ideally through use of suitable controls;
- the evidence of vertical integration's impact on costs, health outcomes and patient experience remains weak. Further work should look towards measuring these outcomes and demonstrating their relationship with the integration process; and finally
- the evidence suggests consistently that a suitable context - e.g. supportive leadership, strong local partnerships and effective IT and admin systems -

is vital to successful integration (see also 'Lessons for prospective Integrated Care Pilots' pp7-8).

2 The evidence base

This section presents evidence related to relevant models of integration. We will give a brief definition for each form of integration. We will then outline key examples of their implementation and discuss their impact on:

- *structures* – the organisations that provide and pay for care;
- *processes* - the way in which services are managed and provided; and
- *outcomes* – costs, access to and uptake of services, clinical outcomes, etc

Evidence will be assessed in terms of the rigour and independence of the research; and their equivalence and applicability to NHS context.

2.1 Integration of payment and provision

Much of the research reported in this section refers to integration of services in the US, where people have many more options in terms of insurers and providers; and the option to “vote with one’s feet” is available to any who can afford it. The extent to which this applies to the NHS setting is limited. Later in this section, we present findings drawn from an evidence base developing beyond the US – e.g. the UK, Canada and Italy – illustrating some of the changes vertical integration has brought about in more relevant contexts.

Enthoven and Tollen (2004) describe the advantages of systems that integrate payer and provider in the form of Health Maintenance Organisations (HMOs) as: purchasers and providers plan membership and facilities together; and physicians deal with one insurer only, resulting in a partnership rather than the arms-length or even hostile relationships that can characterise clinician-insurer interaction; in theory, these characteristics should support a more coherent and effective system of health provision. However, these advantages can only be exploited where the HMO actually functions as intended.

Burns and Pauly (2002) present a largely negative picture of integration of payers and providers in the US healthcare system, e.g. in terms of high medical loss ratios (the proportion of revenue that is spent on care). They argue that the handful of HMOs that achieved the potential identified by Enthoven and Tollen, such as the Carle and Marshfield Clinics, existed in conditions that are difficult to emulate. These included there being a well established health plan and multidisciplinary team around which to build the integrated system; having many years to develop a coherent culture; and being located within rural locations, with less pressure from competitors. Enthoven and Tollen (2004) describe the importance of integration developing “organically”, with successful systems growing up and out from primary care; Burns and Pauly (2002) present numerous examples of failed attempts at integration in the opposite direction, e.g. hospital acquisition of primary care practices.

Robinson (2004), also noting integrated programmes’ limited spread in the US, discusses limitations of its core elements. He suggests that vertical integration of providers and insurers can be unprofitable when compared with contracting independent suppliers. He also suggests that the focus of payer and provider are naturally quite different, with payers focusing on a regional or national level, while providers look more locally. It can also lead to increases in bureaucracy.

He also argues that integrated systems have difficulty in performing in competitive environments (e.g. Kaiser’s attempts to spread beyond its established markets in the 1980s (Gitterman et al., 2003)). In considering

capitation payment, he notes its encouragement of efficient and effective practice, in terms of cost, care and prevention. He also suggests, however, that capitation can encourage selection of a healthier than average patient mix. He argues that a blended approach, combining prospective and retrospective payment, might be more effective. He suggests two examples of such a system: where the physician group is funded through capitation, while individual doctors are salaried; and where routine procedures are capitated, while rare procedures and hospital admissions are funded retrospectively. Finally, while recognising that multi-speciality group practice – where organisations combine general practitioners, specialists and non-physicians to provide inpatient, outpatient and long-term care - can offer high quality service provision by covering many components of care and providing appropriate capacity to meet patient needs, he also notes some hazards. With growth, groups risk increased bureaucracy and a loss of cohesion in groups where specialities are too diverse.

Johri et al (2003) review integration in older peoples' care, presenting case studies of programmes carried out in the US, UK, Italy and Canada that integrated the paying agency with providers. Overall, this review suggests that integration reduces costs and admissions; provides more appropriate care; and improves quality of life of service users and carers. The extent to which these effects are statistically significant is unclear. The authors also identify common features of effective systems of care. These include integration of case management into multidisciplinary teams, ensuring that ongoing evaluation informs long term care; the presence of a single point of entry to services; financial levers, i.e. where providers share responsibility for finances with commissioners. They also emphasise the "pivotal" role of case managers, in linking health and social care; and potentially linking with financial responsibility.

Kaiser Permanente is a Health Maintenance Organisation (HMO) developed in the USA and is the largest organisation of its type, with 8.7 million members. Kaiser combines the roles of insurer and provider, providing inpatient and outpatient care, based on a multidisciplinary approach across all relevant services; it focuses on chronic disease pathways, supporting prevention, self-management, disease management and care management. Key supports of the system include leadership training and a strong focus on IT and communications systems (Ham, 2005).

Following hotly debated research indicating that bed use in Kaiser services is significantly lower than in the NHS (Feachem et al., 2002), a series of UK-based pilots attempted implementation of certain aspects of the Kaiser model. These were initiated from 2003. Integration took various forms, with commissioners and providers working in partnership looking to ensure accessible, well coordinated care, with a key focus on reducing admissions to hospitals.

Increased local partnership was demonstrated in a concrete fashion in some pilots with the formation of Care Trusts. Beyond this, the main impact of pilot status was in terms of reduced admissions and lower length of inpatient stays (Ham, 2006). The extent to which pilot status influenced these outcomes is not evidenced. The data presented tend to be cross-sectional, comparing with the rest of the NHS rather than showing performance "before and after"; it is difficult to attribute the changes to the pilots, as there have been similar patterns of reduction across the NHS.

IT systems were identified as central to pilots' progress. Other improvements, such as improved leadership capacity, partnerships and identification of individuals' care needs, were reported by local (usually senior) personnel, who viewed pilot status in a very positive light; but these improvements were not grounded in any suitable measures, e.g. training evaluations, or frequency of

meetings with local partners. Explicit measures of the impact on cost have been difficult to locate.

Evercare was piloted in the period 2003-2004 in nine Primary Care Trusts (PCTs). It sought to improve care for people aged over 65 through introduction of case management administered by specially trained Advanced Practice Nurses (APNs) who were based within the PCTs and mentored by a nominated GP: case management was intended to support more appropriate care for the target population by bridging all key service providers (e.g. primary care, secondary care, social services).

An evaluation of the programme (Boaden et al., 2006, Gravelle et al., 2007) describes reported changes in the ways in which people worked, with developments in project management, increased frequency of contact with high-risk patients (e.g. regular medication reviews), nurse-reported improvements in appropriate treatment, and patients' and carers' views of services. The evaluation reports no significant impact of Evercare on admissions, bed days and mortality (with the caveat that the low number of pilot practices gave the analysis little statistical power, thus reducing the likelihood of finding significance).

It argues for a more dramatic redesign of services, recommending better IT systems, a less cumbersome administration system and significant integration of primary and secondary care.

Summary of the impact of integration of payment and provision

- Perceived improved partnerships;
- some increases in capacity are reported, but not quantified;
- increased focus on case management and use of IT systems;
- mixed evidence on admissions and lengths of stay; and
- mixed evidence on costs, with little information available from the NHS domain; and inconsistent information internationally.

2.2 Integration of provision

This section covers integration of different elements of care provision – either through service integration or organisational integration (Annex A). The first review reported covers reviews of work carried out internationally; the remainder of the research presented comes from the NHS context and therefore has high relevance to Integrated Care Organisation pilots.

Ouwens et al (2005) summarise the findings of systematic reviews of the effectiveness of care programmes that integrate providers rather than commissioners, covering research carried out in the US, the UK and other parts of the EU, e.g. Sweden and the Netherlands. They identify common elements of the work described: self-management support and patient education; clinical follow-up; case management; multidisciplinary patient care teams; multidisciplinary care pathways; and feedback, reminders and education for professionals. The authors report trends suggesting positive impacts of integration, e.g. improved staff adherence to guidelines; reduced hospitalisation, e.g. readmissions and length of stay; reduced cost; and improved patient health, quality of life and satisfaction. Only one effect related to health outcomes was statistically significant; and no patient experience or cost effects were significant.

This review also identifies certain enablers of successful integration: supportive clinical information systems; the presence of specialised clinics; agreement between personnel involved on the nature of the integration; leaders with a clear vision of integrated care; finances for implementation and maintenance;

management commitment and support; patients capable of and motivated for self management; and a culture of quality improvement.

Finally, the authors raise a concern that the evidence base might suffer from a traditional bias towards publication of research that shows positive results in terms of processes and outcomes.

Macdonald et al (2006) review several processes relevant to integration carried out in the NHS setting over recent years, including local health care cooperatives in Scotland (which brought together GPs, community nurses and other health and social care professionals) and the introduction of primary care mental health workers. The majority of impacts reported are on organisational structures, e.g. formation or strengthening of local partnerships and an improved focus on organisational governance; and processes, in terms of some changes in service delivery, e.g. increasing personnel to provide services, reductions in waiting times and, in some cases, extending the range of services provided. The authors report very little evidence related to impacts on cost and quality in care and health outcomes, however.

Care trusts were introduced by the NHS Plan (DH, 2000), supported by the Health and Social Care Act (DH, 2001). They encourage closer working between NHS and local councils to support better coordinated health and social care, based on the principles of pooled budgets (where partner organisations contribute resources to a common budget, with staff given a say in how resources are to be used), lead commissioning (where one partner organisation commissions integrated services provided by both partners); and integrated provision (where a single organisation provides both health and social care services) (Glendinning et al., 2003).

To date, 10 Care Trusts have been formed, though more are anticipated (NHS Choices website). Glasby and Peck (2005) report significant concerns amongst local personnel over integration: these included its evidence base; its limited focus (which did not include the voluntary sector); and the possibility of social care coming to be dominated by NHS targets. Glendinning et al. (2005) report that, due to service-specific external factors, i.e. audit, inspection, etc, the components of the "integrated" organisations were forced to remain quite inward-looking. Additionally, outcomes have not always been good: one Care Trust encountered financial difficulties, while another received accusations of abuse. Glasby and Peck (2005) report that, ultimately, Care Trust status is viewed locally as having been hard work to establish, but worthwhile: services are felt to be more accessible, flexible, building a foundation for future improvement; though respondents cannot identify anything that makes Care Trusts stand out from other forms of partnership. Furthermore, clear measures of effectiveness, e.g. in terms of cost and impact on health outcomes, are yet to be reported.

The **Unique Care** approach integrates health and social care by creating a small team containing staff from both domains, then basing this team in one of the local services (e.g. social services, or a GP surgery). The Unique Care team identifies people who have complex needs or are at high risk of hospital admission; and it engages with all local providers, e.g. obtaining daily updates on admissions from the local hospital, and visiting patients there to help plan for discharge and aftercare in the community. This approach was first piloted in 1999 in North-West England and reported substantial reductions in hospital admissions and length of stay (Lyon et al., 2006); this finding has been replicated in pilots elsewhere in the UK, with some suggesting integration has resulted in reduced costs (Keating et al., 2008). The extent to which pilot status influenced these patterns remains to be established satisfactorily.

Summary of the impact of integration of provision

- Some evidence of strengthened partnerships, but also of organisational integration being hampered by lack of coordination at national policy level;
- some reports of improved capacity, e.g. personnel; and improved focus on governance and adherence to guidelines;
- little evidence of impact on health outcomes; and
- limited evidence of impact on cost.

2.3 Networks

Evidence from the UK shows that formal organisational integration of acute and community care trusts that took place during the 1990s did not necessarily result in the delivery of more integrated care (King et al., 2001). In fact, what this research demonstrated was that effective forms of both formal and informal clinical integration can develop regardless of the organisational configuration of the Trust. Both formal and informal networks remained significant factors in the provision of child health services, and the authors argue that the incentives to develop these networks may not necessarily be provided through organisational structures. Indeed, reconfiguration can result in unintended consequences, such as finding that community services in combined acute and community Trusts may lose out to the more powerful acute interests.

There is some evidence to show that virtual integration using networks can provide a valid alternative form of health care delivery to the *structural* reorganisation involved in horizontal or vertical integration. Studies on the former have found that the process of change itself can constrain service improvement (Fulop et al., 2002). This section presents two examples, one from the UK and one from Sweden.

Managed Clinical Networks

Managed clinical networks were established in Scotland in response to concerns about e.g. quality of emergency care, provision of care to a dispersed population and meeting workforce requirements.

Consisting of multidisciplinary teams of health care providers, networks provide appropriate and high quality care irrespective of their organisational and professional boundaries (Goodwin et al., 2004). Hamilton et al (2005) report a case study indicating that involving patients, sharing information, mapping patient pathways and constructing protocols, standards and guidelines have been relatively successful aspects of some network development; they also report a small number of significant improvements in care provision. While there was a significant cost of setting up and maintaining the network in 2001, no benefits in resource costs could be demonstrated four years on.

Chains of Care

This model consists of a network of providers aiming to deliver high quality, coordinated healthcare, supported by a system of contractual relationships between purchasers and providers.

Ahgren (2003) reports that there have been no significant changes in systems or services. There has been resistance from staff, particularly doctors, and consequently reluctance on the part of frontline staff to adopt new roles and practices. Noting slow progress of the scheme, Ahgren and Axelsson (2007) present a comparison of successful and unsuccessful chains of care, with criteria of success focused on structure and process-level changes. Where changes are successful, the process is driven by local staff and aims to improve service delivery; change agents must be respected by personnel; and managerial support and local willingness to innovate and collaborate are vital.

Summary of the impact of networks

- Mixed evidence on networking: while some cases show improved communication across organisations and with patients, others show key personnel resistant to role changes;
- some evidence of improvements in care provision, but few statistically significant; and
- little evidence of improvements in costs or health outcomes.

3 Lessons for prospective Integrated Care Organisation pilots

The lessons below are adapted from Fulop et al (2005). The evidence presented in the current document serves only to confirm their ongoing relevance to meeting the challenge of integrating care. Useful guidance on the practical issues surrounding governing integration of health and social care provision is provided by Glasby and Peck (2006).

Lesson 1. Integrate for the right reasons

Successful integrated systems have grown organically; situations where top-down attempts to integrate care, e.g. through vertical integration or mergers of service providers have often had less happy outcomes. The objectives of integration need to be made explicit. If they include reduction in use of hospital beds then the implications of that within the current payment by results system need to be addressed.

Lesson 2. Don't necessarily start by integrating organisations

Integration that focuses mainly on bringing organisations together is unlikely to create improvements in care for patients. There is also the danger that integration might only act to distract local personnel. An alternative approach is to begin integration at the frontline, which impacts directly on the patient experience; based on this, the most apt organisational supports for service provision might be identified. Excessive focus on patient pathways might lead to a loss of the benefits of overall service coordination, e.g. in managing co-morbidities.

Lesson 3. Ensure local contexts are supportive of integration

This review identifies several key contextual elements that are important to successful integration. These include a culture of quality improvement; a history of trust between partner organisations; existent multidisciplinary teams; local leaders who are supportive of integration; personnel who are open to collaboration and innovation; and effective and complementary communications and IT systems.

Lesson 4. Be aware of local cultural differences

Several cases reported in this review demonstrate the very significant challenge of bringing together organisational cultures that have, in many cases, evolved separately over decades. Clearly, this is an obstacle that must be considered when planning future integration.

Lesson 5. Ensure that community services don't miss out

One of the most valuable potential outcomes of vertical integration is in terms of better integration of community services. King et al (2001) note the existence of longstanding power imbalances between acute and community services, which makes such integration a challenge.

Lesson 6. Give the right incentives

It is important that frontline staff recognise and buy into the integration process. Shortell (2000) suggests that this requires not just persuasion from a clinical standpoint, but in the form of financial incentives.

Lesson 7. Don't assume economies of scope and scale

Significant improvements in quality of care could follow better coordination of previously fragmented service providers. Potential economies of scope and scale are likely to take time to achieve, however; and much evidence from the US (e.g. Burns and Pauly, 2002; Robinson, 2004) suggests integration has seldom increased efficiency. This is due to such factors as the significantly different practices existent in the organisations that are to be integrated; and the steep learning curve inherent in joining with another organisation.

Lesson 8. Be patient

The time required to implement effective integration is a recurrent theme and is unsurprising given the changes required to address all six elements of integration in Annexe A. While the research we cover in this document shows limited impact of integration, it should be kept in mind that some of the integration work evaluated took place quite recently: some is viewed positively by local personnel; and it might, in time, bring about more positive outcomes. It takes time to effect demonstrable changes in organisational structures and processes; and to have these filter down to outcomes.

4 Elements for evaluation to address

Many integration programmes bring with them support (in the form of personnel and finance) and training. Formal evaluation of the impact of these resources on local capacity and learning would be extremely valuable.

There should be a focus on the relationship between the process of integration and changes in staff behaviour at all levels of the organisations involved.

There are significant gaps in the evidence base related to key measures of the impact of integration, especially around identifying change in performance across time:

- costs;
- use of health care resources, especially inpatient beds;
- patient choice of providers (and payers);
- health outcomes; and
- patient experience.

Therefore, baseline and ongoing measurement of these dimensions should be prioritised; and the degree to which pilot status influences any changes observed needs to be evaluated using comparison sites where possible. However, the timeline required to show changes in health outcomes needs to be borne in mind, and proxy measures developed.

5 Key references

BURNS, L. R. & PAULY, M. V. (2002) Integrated Delivery Networks: A Detour on the Road to Integrated Healthcare. *Health Affairs*, 21, 128-143.

ENTHOVEN, A. C. & TOLLEN, L. A. (Eds.) (2004) *Towards a 21st Century Health System*. San Francisco, Jossey Bass.

FULOP, N., MOWLEM, A. & EDWARDS, N. (2005) Building integrated care: Lessons from the UK and elsewhere. London, The NHS Confederation.

- GLASBY, J. & PECK, E. (2005) Partnership Working Between Health and Social Care: the impact of Care Trusts. Health Service Management Centre, University of Birmingham.
- HAM, C., GLASBY, J., PARKER, H. & SMITH, J. (2008) Altogether now? Policy options for integrating care. Birmingham, Health Services Management Centre, University of Birmingham.
- Ouwens, M., Wollersheim, H., Hermens, R., Hulscher, M. & Grol, R. (2005) Integrated care programmes for chronically ill patients: a review of systematic reviews. *Int J Qual Health Care*, 17, 141-146.

6 References

- AHGREN, B. (2003) Chain of Care development in Sweden: results of a national study. *WHO/IJIC International Conference on New Research and Developments in Integrated Care*. Barcelona.
- AHGREN, B. & AXELSSON, R. (2007) Determinants of integrated health care development: chains of care in Sweden. *International Journal of Health Planning and Management*, 22, 145-157.
- BOADEN, R., DUSHEIKO, M., GRAVELLE, H., PARKER, S., PICKARD, S. & ROLAND, M. (2006) Evaluation of Evercare: final report. Manchester, National Primary Care Research and Development Centre, University of Manchester.
- BURNS, L. R. & PAULY, M. V. (2002) Integrated Delivery Networks: A Detour on the Road to Integrated Healthcare. *Health Affairs*, 21, 128-143.
- CONTANDRIOPOULOS, A. P., DENIS, J. L., TOUATI, N. & RODRIGUEZ, R. (2001) Intégration des soins: dimensions et mise en oeuvre. *Ruptures, Revue Transdisciplinaire en Santé*, 8, 38-52.
- FEACHEM, R. G. A., SEKHRI, N. K., WHITE, K. L., DIXON, J., BERWICK, D. M. & ENTHOVEN, A. C. (2002) Getting more for their dollar: a comparison of the NHS with California's Kaiser Permanente Commentary: Funding is not the only factor Commentary: Same price, better care Commentary: Competition made them do it. *BMJ*, 324, 135-143.
- FULOP, N., MOWLEM, A. & EDWARDS, N. (2005) Building integrated care: Lessons from the UK and elsewhere. London, The NHS Confederation.
- FULOP, N., PROTOPSALTIS, G., HUTCHINGS, A., KING, A., ALLEN, P., NORMAND, C. & WALTERS, R. (2002) Process and impact of mergers of NHS Trusts: multicentre case study and management cost analysis. *British Medical Journal*, 325, 246-252.
- GITTERMAN, D., WEINER, B., DOMINO, M., MCKETHAN, A. & ENTHOVEN, A. C. (2003) The Rise and Fall of a Kaiser Permanente Expansion Region. *The Millbank Quarterly*, 81.
- GLASBY, J. & PECK, E. (2005) Partnership Working Between Health and Social Care: the impact of Care Trusts. Health Service Management Centre, University of Birmingham.
- GLASBY, J. & PECK, E. (2006) We have to stop meeting like this: the governance of inter-agency partnerships. London, Care Services Improvement Partnership, Integrated Care Network.
- GLENDINNING, C., HUDSON, B., HARDY, B. & YOUNG, R. (2003) The Health Act 1999 section 31 partnership "flexibilities". IN GLASBY, J. & PECK, E. (Eds.) *Care Trusts: Partnership Working in Action*. Oxford, Radcliffe Medical Press.

- GLENDINNING, C., HUDSON, B. & MEANS, R. (2005) Under Strain? Exploring the Troubled Relationship between Health and Social Care. *Public Money & Management*, 25, 245-251.
- GOODWIN, N., 6, P., PECK, E., FREEMAN, T. & POSANER, R. (2004) Managing across diverse networks of care: lessons from other sectors. Birmingham, Health Services Management Centre, University of Birmingham.
- GRAVELLE, H., DUSHEIKO, M., SHEAFF, R., SARGENT, P., BOADEN, R., PICKARD, S., PARKER, S. & ROLAND, M. (2007) Impact of case management (Evercare) on frail elderly patients: controlled before and after analysis of quantitative outcome data. *BMJ*, 334, 31-34.
- HAM, C. (2005) Lost in Translation? Health Systems in the US and the UK. *Social Policy & Administration*, 39, 192-209.
- HAMILTON, K. E. S., SULLIVAN, F. M., DONNAN, P. T., TAYLOR, R., IKENWILO, D., SCOTT, A., BAKER, C. & WYKE, S. (2005) A managed clinical network for cardiac services: set-up, operation and impact on patient care. *International Journal of Integrated Care*, 5, 1-13.
- JOHRI, M., BELAND, F. & BERGMAN, H. (2003) International experiments in integrated care for the elderly: a synthesis of the evidence. *International Journal of Geriatric Psychiatry*, 18, 222-235.
- KEATING, P., SEALEY, A., DEMPSEY, L. & SLATER, B. (2008) Reducing unplanned hospital admissions and hospital bed days in the over 65 age group: Results from a pilot study. *Journal of Integrated Care*, 16, 3-9.
- KING, A., FULOP, N., EDWARDS, N. & STREET, A. (2001) Integrating Acute and Community Health Care: Integration Versus Cooperation? The case of child health services. IN ASBURNER, L. (Ed.) *Organisational Behaviour and Organisational Studies in Health Care: reflections on the future*. Basingstoke, Palgrave.
- LYON, D., MILLER, J. & PINE, K. (2006) The Castlefields integrated care model: the evidence summarised. *Journal of Integrated Care*, 14, 7-12.
- MCDONALD, J., CUMMING, J., HARRIS, M., POWELL DAVIES, G. & BURNS, P. (2006) Systematic review of system-wide models of comprehensive primary health care. Canberra, Research Centre for Primary Health Care and Equity, School of Public Health and Community Medicine, UNSW.
- OUWENS, M., WOLLERSHEIM, H., HERMENS, R., HULSCHER, M. & GROL, R. (2005) Integrated care programmes for chronically ill patients: a review of systematic reviews. *Int J Qual Health Care*, 17, 141-146.
- ROBINSON, J. C. (2004) The Limits of Prepaid Group Practice. IN ENTHOVEN, A. C. & TOLLEN, L. A. (Eds.) *Towards a 21st Century Health System*. San Francisco, Jossey Bass.
- SHORTELL, S. M. (2000) *Remaking Health Care in America: the evolution of organised delivery systems*, San Francisco, Jossey Bass.

Date: 26th September, 2008

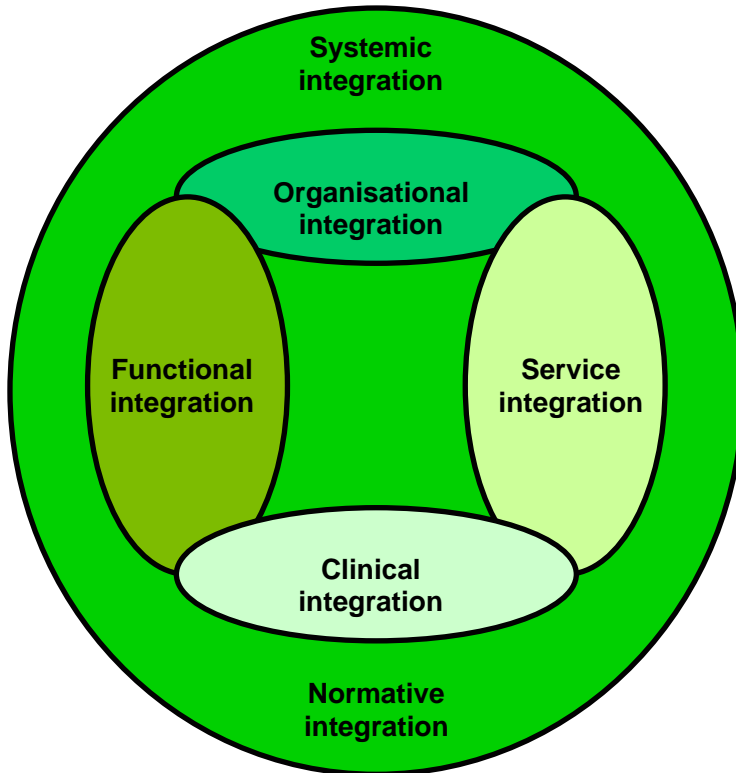
Authors: Dr Angus Ramsay and Professor Naomi Fulop

Organisation: NIHR King's Patient Safety and Service Quality Research Centre,
Kings College London

Annex A. The dimensions of integration

While there is much focus on structures and governance, process and cultural changes are likely to be just as important to integration. The following typology, summarised in Figure 1, identifies the key requirements for effective integration.

Figure 1. Typology of healthcare integration



Source: Fulop et al. (2005), adapted from Contandriopoulos et al. (2001)

1. **Organisational integration**, where organisations are brought together by mergers and/or structural change; or virtually, through contracts between separate organisations;
2. **Functional integration**, where non-clinical support and back-office functions are integrated;
3. **Service integration**, where different clinical services provided are integrated at an organisational level; and
4. **Clinical integration**, where patient care is integrated in a single process both within and across professions, e.g. through use of shared guidelines.

Two additional factors are important to successful integration:

5. **Normative integration**, where there exist shared values in coordinating work and securing collaboration in delivering healthcare; and
6. **Systemic integration**, where there is coherence of rules and policies at all organisational levels.