From Programme Theory to Logic Models for Multispecialty Community Providers: A Realist Evidence Synthesis

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Data sharing:

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SCIENTIFIC SUMMARY

Background

Multispecialty Community Providers (MCPs) are proposed as a means by which the English NHS can reduce demand pressures on hospitals and general practices whilst improving the quality, especially the continuity, of care for people with complex, chronic or multiple health problems; and all this whilst contributing substantial savings to the NHS budget. This policy rests on a complex of assumptions about what mechanisms will achieve these ambitious and complex policy outcomes, and in what contexts. The proposed mechanisms include new NHS organisational structures, working practices and inter-organisational collaboration. The purpose of this realist synthesis was to elicit an initial programme theory about MCPs from policy makers' assumptions and to use secondary evidence to evaluate which parts of the initial programme theory are supported by evidence, under which conditions and for which populations. We also identify which parts are not supported by evidence. From that, we propose revisions to the initial programme theory. The revisions yield a more fully evidence-based logic model for achieving the policy outcomes which MCPs are intended to achieve.

Objectives

We addressed the research questions:

1. How do policy makers and top NHS managers predict MCPs will generate the policy outcomes stated in the Five Year Forward View (5YFV)? What variants of MCP are they creating?
2. Internationally (including in the United Kingdom (UK)), what equivalents to MCPs, or components of MCPs, exist?
3. How do these equivalents and their mechanisms compare to those proposed for MCPs in the NHS?
4. What policy outcomes (comparable to those required of MCPs) are these equivalents reported to produce?
5. What is the evidence about the ways in which these mechanisms depend upon specific contexts (e.g. the presence of non-hospital beds for frail older people)? That is, how do the different components of the MCP models of care produce different outcomes in different contexts?

6. What do the answers to the above questions imply for the organisational design (logic models of governance structures, internal management and working practices) of MCPs in the NHS?

Methods

The overall research design was a realist synthesis. Our rationale for using this method was that we wished to test from secondary evidence (which was likely to be very varied in quality, types and sources) a set of assumptions about how a policy (creation of MCPs) would produce various outcomes (better care coordination etc.) in NHS context. The research design consisted of three stages:

1. Elaboration of NHS policy-makers' assumptions in to an initial programme theory regarding the mechanisms by which MCPs bring about their intended outcomes and in what contexts, elicited from policy documents and 'think-tanks' with stakeholders. The policy documents were found by searching the Health Management Information Consortium (HMIC) database (via Ovid), which indexes policy content from the Department of Health (DH) database (DH Data) and the King's Fund database. HMIC indexes all the relevant policy papers. The elaboration of the policy-makers' assumptions (the initial programme theory) about MCPs provided search terms for the second stage.

2. Systematic review, i.e. a search for published evidence relevant to the 'causal links' in the initial programme theory. Because MCPs are new, no studies about them had been published at the time of our searches and so we searched for studies of MCP equivalents i.e. organisations and networks serving the same functions as MCPs (horizontal coordination, that is . the coordination of primary, including community, health, mental health and social care; care 'integration'; and substituting primary for in-patient care). Relevant published evidence was found by searching topically appropriate databases, including MEDLINE, MEDLINE In-process, PsycINFO (all via Ovid), CINAHL (via EBSCO) and ASSIA (Applied Social Sciences Index and Abstracts; via ProQuest). 1319 titles and abstract were reviewed in two rounds, and 116 selected (from 2014 to the search date) for full-text data extraction. Inclusion criteria:

(a) relevance to key terms and assumptions in the initial programme theory
(b) contained data about an Organisation for Economic Co-operation and Development (OECD) country
(c) published since 2013

Secondary data from included studies were extracted and synthesised by collating them into a formal framework whose categories reflected the causal links in the initial programme theory. As applicable, we used the Mixed Methods Appraisal (MMAT) and the Assessment of Multiple Systematic Reviews (AMSTAR) tools to assess the quality and validity of the included primary studies and systematic reviews respectively.

3. Logic analysis systematically comparing the initial programme theory with the evidence review findings. We removed from the initial programme theory those causal links for which the review found no evidential support. Using evidence from the review we elaborated and supplemented the remaining parts of the programme theory. That produced a revised, more strongly evidence-based revised logic model of MCPs.

Results

The initial programme theory of MCPs contained 13 key components linked through 28 interconnected context-mechanism-outcome (C-M-O) relationships ('causal links'), although few of the policy sources specified what contexts the policy mechanisms required. The main causal links and their evidential status in light of the review were as listed below. We categorised their evidential status as follows. 'Substantial support' means that systematic reviews and (other) primary studies support the causal link. 'Supporting evidence' means that multiple primary studies support the causal link. 'Minimal evidence' means that we found just a single primary study supporting the causal link. 'Partial support' means we found evidence supporting the causal link with qualifications. 'Equivocal' means that we found evidence both for and against the causal link. Other causal links were supported by 'No evidence' that we found.

1. IF National Health Service (NHS) managers establish MCPs, THEN:

(a) Network management will develop PROVIDED that the specified contextual conditions apply. This assumption had partial support.
(b) Planned referral networks will develop. This assumption had supporting evidence.

2. IF Network management develops THEN:
   (a) Multi-disciplinary teams (MDTs) will be established. This assumption had supporting evidence.
   (b) Care coordination through Health Information Technology (HIT) use will develop. This assumption had supporting evidence.

3. IF Multi-disciplinary teams (MDTs) are established THEN:
   (a) Reciprocally, planned referral networks will develop. This assumption had supporting evidence.
   (b) Preventive health care will develop. This assumption had supporting evidence.

4. IF organisational culture changes in the participating organisations THEN:
   (a) MDTs will develop. There was substantial evidence for this assumption.
   (b) Demand management systems will develop. We found no evidence for this assumption.
   (c) Preventive care will develop. There was substantial evidence for this assumption.

5. IF the voluntary sector becomes involved in MCPs THEN:
   (a) Demand management systems will develop. We found no evidence for this assumption.
   (b) Preventive health care will develop. This assumption had supporting evidence.
   (c) Patient outcomes and experience of care will improve. There was minimal evidence for this assumption.

6. IF health information technologies are used to strengthen informational continuity of care, THEN:
   (a) Planned referral networks will develop. We found equivocal evidence about this assumption.

(b) Care planning at the patient level will become more prevalent. We found equivocal evidence about this assumption.
(c) Patients will be diverted from inpatient services to primary healthcare (PHC). We found equivocal evidence about this assumption.

7. IF Planned referral networks develop THEN:
   (a) Demand management systems will develop. We found no evidence for this assumption.
   (b) Care planning for individual patients will become more prevalent. We found equivocal evidence about this assumption.
   (c) More patients will be diverted from inpatient to other services. There was substantial evidence for this assumption.

8. IF Demand management systems develop THEN:
   (a) Preventive care will develop; which will reciprocally develop demand management systems. We found equivocal evidence about this assumption.
   (b) Care planning for individual patients will become more prevalent. We found no evidence for this assumption.
   (c) More patients will be diverted from inpatient services to PHC. We found equivocal evidence about this assumption.

9. IF Preventive health care develops THEN:
   (a) More patients will be diverted from inpatient services to PHC. We found no evidence for this assumption.

10. IF Care planning for individual patients becomes more prevalent THEN:
   (a) Preventive care will develop. This assumption had supporting evidence.
   (b) More patients will be diverted from in-patient to primary care. There was substantial evidence for this assumption.
   (c) Patient experience of care will improve. This assumption had supporting evidence.

11. IF Patients are diverted from in-patient care THEN:
    (a) Patient experience of care will improve. There was minimal evidence for this assumption.
    (b) NHS costs will reduce. We found equivocal evidence about this assumption.

Most studies in the review specified mechanism-outcome relationships, but few of them also specified what contexts the mechanisms required. We also found evidence for further mechanisms (with their contexts and outcomes) also relevant to MCPs.

1. IF Multi-disciplinary teams (MDTs) are established THEN:
    (a) Organisational culture is likely to change
    (b) Voluntary involvement in care is likely to increase
    (c) Informational continuity of care is likely to develop
    (d) Demand management systems are likely to develop
    (e) Care planning for individual patients is likely to become more prevalent
    (f) More patients will be diverted from in-patient to primary care.
    (g) Patient experience of care is likely to improve

2. IF organisational culture changes in the participating organisations THEN:
    (a) Planned referral networks are likely to develop
    (b) Patient experience of care is likely to improve

3. IF the voluntary sector becomes involved in MCPs THEN: Patient experience of care is likely to improve

4. IF health information technologies are used to strengthen informational continuity of care, THEN:
    (a) MDTs are likely to develop
    (b) Demand management systems are likely to develop
    (c) Preventive care is likely to develop
    (d) NHS costs are likely to be saved

5. IF planned referral networks develop THEN:staff wellbeing and satisfaction are likely to increase.

Adding these new context-mechanism-outcome relations produced an elaborated programme theory, with a stronger evidence-base than the initial programme theory for MCPs. It was possible to focus and simplify the revised logic model by removing redundant (effectively duplicate) sets of links.

Conclusions

The revised logic model itself has implications for healthcare management. Multidisciplinary teams are likely to be the central mechanism by which MCPs work, provided that the MDTs include the relevant professions (hence organisations) and, for care planning, individual patients. The evidence that we found suggests that doing so would involve:

1. Setting up new MDTs as a core component of a managed referral network, such as the locality teams which many MCP are setting up to manage admission avoidance, for long-term care management, and for well-being promotion including social prescribing.
2. Enhancing existing teams (e.g. in general practices which follow the primary care medical home model) that already coordinate care for individual patients
3. Supporting inter-professional links and collaborative working practices within existing MDTs at both the above levels.
4. Creating roles, above all of care coordinators, which span the boundaries between organisations and professions and use 'boundary objects' (e.g. agreed referral criteria, care compacts, shared documentation) to do so.

Important facilitating contexts appear to include a strong culture of mutual knowledge and respect between professions; the existence of alternative primary care and social services to divert suitable patients into as an alternative to hospital; and co-location and co-employment of MDT members.

Future work

At the time of this review no empirical studies of MCPs were yet available, so instead the review studied how MCPs might be predicted to work in light of the evidence about MCP-like networks and organisations elsewhere. Further primary research would be required to test elements of the revised programme theory, in the research that we reviewed a number of gaps were apparent. They indicate further research needs. We judge them to be in the following descending order of importance. They concerned:

1. How, and what circumstances, MDT-based locality teams and enhanced general practice (the primary care medical home; and general practice 'at scale') compare and interact, or can be combined, in managing referral networks so as to reduce workload for other healthcare providers.
2. Whether, and if so how and in what circumstances, diverting patients from hospital into enhanced primary care does indeed:
   (a) Reduce the overall cost of healthcare
   (b) Improve patients' experience of care.
3. How general practices are affected and have to adapt if larger numbers of patients are diverted from hospital to enhanced primary care
4. How the other new models of care (above all, PACS) being developed concurrently with MCPs interact with MCPs. The work would compare and synthesise the findings from this studies with those from the concurrent studies of the other new models of care.
5. How urgent care services will be affected and have to adapt if more patients are diverted from hospital to enhanced primary care.
6. How care coordination through HIT supports (or not):
   (a) the management of inter-organisational referral networks
   (b) diversion of suitable patients from hospital into enhanced primary care services
   (c) the production and use of care plans for individual patients
7. How the resources and mechanisms deployed in MCPs will contribute to changing care for different groups of people (defined by morbidity, e.g. single major condition (e.g. cancer), multiple low functional impact morbidities (e.g. diabetes, coronary heart disease), high functional impact multi morbidity (e.g. stroke, arthritis, dementia)).

8. How referral networks are established and managed in such a way as to establish referral management systems.
9. How and under what circumstances the management of referral networks promotes (or not) the use of care plans for individual patients.
10. How and under what circumstances the voluntary sector and MCP-like networks and organisations collaborate in pursuit of the ends for which MCPs were set up.

How organisational culture is produced and changes in MCP-like contexts (an area lacking research despite the abundance of studies in hospital and non-healthcare settings).