Integrated Care: Identifying Individuals at Risk of Becoming Complex Patients

SBRI Healthcare NHS England competition for development contracts

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www.swahsn.com

Summary

The Small Business Research Initiative (SBRI) Healthcare competition is an NHS England initiative delivered in partnership with the Academic Health Science Networks (AHSNs) to find innovative new products and services. The projects will be selected primarily on their potential value to the health service and on the improved outcomes delivered for patients.

The competition is open to single companies or organisations from the private, public and third sectors who will ultimately be capable of supplying the NHS with the resulting product or service on a commercial basis. The competition will run in two phases:

- Phase 1 is intended to show the technical feasibility of the proposed concept. The development contracts placed will be for a maximum of 6 months and up to £100,000 (inc VAT) per project
- Phase 2 contracts are intended to develop and evaluate prototypes or demonstration units from the more promising technologies in Phase 1. Only those projects that have completed Phase 1 successfully will be eligible for Phase 2.

Developments will be 100% funded and suppliers for each project will be selected by an open competition process and retain the intellectual property rights (IPR) generated from the project, with certain rights of use retained by the NHS.

This competition theme, led by South West AHSN, focuses on the need to identify and understand the cohort of the population that would benefit from enhanced integrated management of their long term condition(s). The purpose of identifying this group is to ensure care is person-centred with the aim of preventing avoidable escalation of complexity and care need.

The competition opens on 19 May 2014. The deadline for applications is 1200hrs on 10 July 2014.

Introduction

It is frequently and widely acknowledged that the fragmented delivery of health and social care services is a significant problem for patients and the public affecting both continuity and quality of care[1]. Health and social care interactions are, in general terms, either condition specific or provider specific. Each interaction with health and social care occurs in isolation, is attended by different providers of care and focuses on a specific condition or concern. This creates a situation where it is very difficult to triangulate information that indicates an increasing risk or concern and prevents early intervention to manage that risk.

The following hypothetical example illustrates this issue:

[1]Integrated Care and Support: Our Shared Commitment (2013). Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/198748/DEFINITIVE_FINAL_VERSION_Integrated_Care_and_Support_-_Our_Shared_Commitment_2013-05-13.pdf

Doris is an elderly lady. She lives alone since her husband died 18 months ago. She has few visitors and rarely leaves the house. Her confidence has deteriorated significantly and she worries about falling more as her mobility reduces. Doris has multiple medical conditions including diabetes, kidney disease and heart failure for which she has been prescribed a number of medications. She attends her local GP surgery several times a year, sometimes for annual reviews of each of her chronic conditions. These reviews are brief and focus on only one condition at a time. Doris is also visited by the local district nurse who dresses her leg ulcers but is always rushed and never has time to chat.

Socially isolated and with reducing confidence in her own abilities, Doris' compliance with her medication deteriorates. Not really understanding what each tablet is for and why she must take it, she chooses to take those that are easy to swallow most days and hides the others. Some days she doesn't take any tablets at all. Every few weeks, Doris becomes ill because of her poor compliance and reluctantly visits the GP. Each time she sees a different GP and these recurrent visits caused by poor medication compliance aren't picked up by the GP systems.

During a particularly lonely time, Doris stops taking her diabetes medication altogether and becomes very unwell. She is found unresponsive one day by the district nurse – she has suffered a severe hyperglycaemic event resulting in dehydration and collapse, resulting in an injury sustained through falling. Doris is rushed to hospital in an ambulance where she stays for several weeks as her medical condition and injuries are addressed. Doris' medications are adjusted whilst in hospital and she is given strict instructions to take all her tablets every day. Doris is then discharged home and returns to the exact situation that caused her deterioration.

The example above, although fictional, commonly occurs. Individuals with multiple co-morbidities, on multiple medications and who are socially isolated are at increased risk of escalating care needs. If we can identify those patients, we will have an opportunity to design and test integrated models of care to prevent avoidable escalations both in terms of complexity of condition and intensity of care need.

Defining Integrated Care: The provision of integrated care in this context refers to the care provided by different individuals and organisations but in a patient centred and coordinated approach, taking account of all the person's needs including physical, mental and social health.

Background

Many integrated care models focus on managing complex patients in a more co-ordinated way, for example the Kaiser Permanente Chronic Care Model[2] from the USA or the King's Fund House of Care Model[3] from the UK. Such models focus on identifying already complex patients largely based on risk stratification of their physical health needs.

The Royal College of General Practitioners (RCGP) and the NHS Confederation published a paper[4] in 2012 that highlighted, as a core principle of integrated care, the need to target services focusing on the group most likely to derive the most benefit. The primary driver for this principle is risk profiling as with many other models of care as mentioned above. However, in this context, risk profiling refers to the whole population (i.e. not just to existing service users) and, consequently, presents a more preventative and proactive approach to management.

Building on existing research, some more recent studies have identified a number of indicators, which, when combined appropriately, could provide the basis of a modern risk stratification model to identify

[2] The Chronic Care Model, Part 2 Bodenheimer, MD; H. Wagner, MD, MPH; Grumbach, MD JAMA. 2002;288 (15):1909-1914.

[3] Delivering Better Services for People with Long Term Conditions: Building the House of Care, King's Fund 2013.

[4] Making Integrated Out of Hospital Care a Reality, RCGP and NHS Confederation 2012.

population cohort(s) **at risk of becoming complex patients**. These indicators draw together a view of physical, social and mental health including:

- **Age**
- **Multiple co-morbidities**
- **Multiple medications**
- **Social isolation**

These potential indicators have been drawn from a number of sources including both national and local research. For example, a recent study of consecutive emergency admissions (patients aged 75 and over) across 7 acute trusts identified that 86% were admitted from their own homes and not from care homes as is often considered to be the case[5]. In the same study it was found that 70% of the patients admitted were on 5 or more medications with 21% on more than 10 medications. Another study, conducted in South Somerset, confirmed that the annual cost per patient for an individual with seven or more comorbidities (£10,741), is 13 times that of a patient with just one comorbidity[6]. Social isolation is also a concern for this particular cohort of the population - research suggests over 51% of people (aged 75 and over) are living alone[7].

There are many examples of risk stratification tools aimed at identifying and managing complex patients- typically those who are chronically ill and/or at high risk of emergency admission. The introduction of a Directed Enhanced Service (DES)[8] focused on identifying this group within the 2013/14 GP contract has further enhanced the use of these tools. However, existing risk stratification tools[9] predominantly focus on identifying patients who already require complex care; typically drawing on disease-specific or population-based emergency readmission risk models. Where prediction models for increasing complexity of care exist, they do not routinely cover all health care sectors (acute care, primary care and community care) and fail to include mental health needs and/or social isolation as key markers.

The Challenge

The purpose of the integrated care SBRI challenge is to identify and understand population cohort(s) *at risk of becoming complex patients*, determined by physical, mental and social health.

The core assumption underpinning this challenge is that the identification of this population cohort(s) will enable the development of person-centred, integrated models of care focused on preventing avoidable escalation of complexity and care need. This will improve quality of life for individuals, improve the effectiveness of interventions, prevent avoidable admissions and have a more significant population impact[10].

Potential responses to the challenge therefore need to consider:

- How to draw together information on risk markers from multiple data/information sources regarding physical, mental and social health.
- How to use this information to identify increasing risk - prior to unplanned interactions with emergency services - and identify a cohort(s) of individuals most likely to benefit from person-centred, integrated care.

[5] Ariadne Project (2014). Available on request from: http://www.swahsn.com/contact-us/

[6] Symphony Project, South Somerset Integration Plan, Health Services Journal, August 2013.

[7] Office of National Statistics, 2010.

[8] Information Governance and Risk Stratification: Advice and Options for CCGs and GPs (2013): Available at: http://www.england.nhs.uk/wp-content/uploads/2014/02/ig-risk-ccg-gp-2.pdf

[9] http://www.nuffieldtrust.org.uk/blog/parr-dead-long-live-predictive-modelling

[10] http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2836340/pdf/590.pdf

- How to create an affordable, scalable solution for Clinical Commissioning Groups.

It is anticipated that applicants responding to this challenge may need to develop partnerships with providers and commissioners to ensure the effective design, development and testing of projects. The AHSN lead for this challenge (SW AHSN, www.swahsn.com) may be able to assist applicants in developing these relationships. Applicants should also consider how they will prove project feasibility within a defined geographical area within the six month period for phase 1 contracts.

Key policy/ reference documents include

Key policy documents for reference include:

- ***Information Governance and Risk Stratification- Advice and Options for CCGs and GPs.*** Available at: http://www.england.nhs.uk/wp-content/uploads/2014/02/ig-risk-ccg-gp-2.pdf
- ***Integrated Care and Support- Our Shared Commitment.*** Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/198748/DEFINITIVE_FINAL_VERSION_Integrated_Care_and_Support_-_Our_Shared_Commitment_2013-05-13.pdf
- ***Predicting Social Care Costs: A Feasibility Study.*** Available at: http://www.nuffieldtrust.org.uk/publications/predicting-social-care-costs-feasibility-study
- ***Clinical and Service Integration***. Available at: http://www.kingsfund.org.uk/publications/clinical-and-service-integration
- ***A New Settlement for Health and Social Care***. Available at: http://www.kingsfund.org.uk/publications/new-settlement-health-and-social-care
- ***Making Integrated Out of Hospital Care a Reality***. Available at: http://www.nhsconfed.org/Publications/Documents/Making-integrated-out-of-hospital-care-reality.pdf

Application process

This competition is part of the Small Business Research Initiative (SBRI) programme which aims to bring novel solutions to Government departments' issues by engaging with innovative companies that would not be reached in other ways:

- It enables Government departments and public sector agencies to procure new technologies faster and with managed risk;
- It provides vital funding for a critical stage of technology development through demonstration and trial – especially for early-stage companies.

The SBRI scheme is particularly suited to small and medium-sized businesses, as the contracts are of relatively small value and operate on short timescales for Government departments. It is an opportunity for new companies to engage a public sector customer pre-procurement. The intellectual property rights are retained by the company, with certain rights of use retained by the NHS and Department of Health.

The competition is designed to show the technical feasibility of the proposed concept, and the Phase 1 feasibility contracts placed will be for a maximum of 6 months and up to £100,000 (incl. VAT) per project. It is envisaged that a competition for Phase 2 Development contracts will be run during autumn 2014.

The application process is managed on behalf of NHS England by the Eastern Academic Health Science Network through its delivery agent Health Enterprise East. All applications should be made using the application forms which can be accessed through the website www.sbrihealthcare.co.uk.

Briefing events for businesses interested in finding out more about the competition will be held on 03 June (Birmingham) and 09 June (Daresbury, Cheshire). Please check the website for confirmation of venues and to register attendance.

Please complete your forms using the online application process and submit them by 1200hrs on 10 July 2014.

Key dates

Competition launch	19 May 2014
Briefing events	03 and 09 June 2014
Deadline for applications	Noon 10 July 2014
Assessment	August – September 2014
Contracts awarded	October 2014

More information

For more information on this competition, visit:
www.sbrihealthcare.co.uk

For any enquiries e-mail:
sbrienquiries@hee.org.uk

For more information about the SBRI programme, visit:
www.innovateuk.org/SBRI

The SBRI Healthcare programme is directed by the Eastern Academic Health Science Network on behalf of NHS England and managed by Health Enterprise East.