YHEC

York Health Economics Consortium

NHS Innovation Accelerator

Economic Impact Evaluation Case Study: Health Coaching

1. BACKGROUND

Health coaching is a collaborative and person-centred process that is based upon behaviour change theory and may be delivered by health professionals across a range of community, social care and clinical settings. Through self-discovery, education and active learning, patients are encouraged to clarify and set their own goals and work towards achieving them, supported by an interpersonal relationship with their health coach.

Health coaching training provides clinicians (and peer coaches) with new mind-sets and communication techniques to structure and personalise their interventions and activate patients to change behaviour, tapping into their own internal motivation. This supplements their clinical knowledge and skills as a useful tool for behaviour change. Training options include two day, four day and a 10 day cascade-training model, whereby local staff attend a Train the Trainer course delivered by the health coaching training provider (The Performance Coach), and are then able to train other staff in these health coaching techniques.

The health coaching approach is mostly used with people with long term conditions. The theory is that patients become more active participants in their care, more motivated and are more likely to achieve their goals. This can lead to increased patient satisfaction and less demand on healthcare due to improved health behaviours, improved wellbeing, and improved self-management and medication compliance.[1]

[1] http://www.betterconversation.co.uk. Accessed 2 June 2017.

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Whilst health coaching is not a new concept per se, the intervention being supported by the NHS Innovation Accelerator (NIA) is the approach advocated by Dr Ruth Wolever and supported by the Better Conversations collaboration.[2] This was first piloted in the East of England Region with The Performance Coach, and has subsequently spread to other parts of the country with the support of Health Education England and the NIA. The model to introduce health coaching in a local area may vary, with some areas employing a 'system leader', to encourage implementation of the approach and facilitate access to the health coaching training. In some cases, the system leader also becomes a health coach trainer via the Train the Trainer approach described above, as well as being a practising health coach. Train the trainer programmes are active in many places including Norfolk, Essex, Cambridge, Hertfordshire, Leeds, Bristol and Yeovil.[3]

This case study describes a cost-consequence and cost-benefit analysis for health coaching, which identifies the potential consequences arising from adoption of the innovation, based on the theory of change and assumptions stated. The case study utilises a previous economic analysis conducted on the health coaching approach in a rehabilitation ward, called recovery coaching, to illustrate the potential outcomes and economic impacts from adopting a health coaching approach. The analysis was developed in spring 2017 and was based on the information and evidence available at the time. The limitations of the analysis are as follows:

- The numbers of patients in the Recovery Coaching study were small, so the results should be interpreted with caution;
- The case study refers to two example sites where the potential economic benefits were measured. There are many other sites where health coaching has been implemented and their benefits are not included in this analysis.

2. INPUT COSTS

The development of the health coaching programme nationally has received funding from a variety of sources over the last six years. Training was initially created by the NIA Fellow with Dr Andrew McDowell from The Performance Coach and piloted in the East of England Region in 2010/11. Regional Innovation Funding supported piloting and evaluation at a total cost of approximately £100,000. In 2013/14, Health Education East of England invested £500,000 for training and project management, to roll out the training to 800 clinicians. Subsequently, in 2015-2017 Health Education England invested £76,000 commissioning an implementation toolkit, and approximately £54,000 to employ the NIA Fellow part-time as project lead for the dissemination of the health-coaching approach, including creating the website www.betterconversation.co.uk.[4] There have been contributions of between £2,000 and £4,000 from three Academic Health Science Networks (North West Coast, Eastern and Yorkshire & Humber) for three launch events held for nearly 300 participants across Sustainability and Transformation Partnerships in Cambridge, Liverpool and Leeds.

[2] Wolever RQ et al. A systematic review of the literature on health and wellness coaching: defining a key behavioural intervention in healthcare. *Global advances in health and medicine.* Volume 2, Number 4 • July 2013

[3] Newman P. *NIA analysis framework: Health coaching*. March 2017.

[4] in addition to the NIA Bursary

The annual cost to implement health coaching into a local area depends on how many participants are trained and how many patients they subsequently support using the health coaching approach. The training provided by The Performance Coach includes a two-day basic course at £400 per person or a four-day accredited programme at £800 per person. The Train the Trainer (TTT) course is for 10 days and costs £1,600 per day for 8-10 participants (i.e. £1,600 to £2,000 per person trained). Other costs associated with the training include backfill for trainers and participants, design time, training resource guides, venue costs and local evaluation. If a local area employs a health coaching 'system leader' to catalyse and advocate for change in their organisation, there may be additional employment costs. The extent of these costs is unknown.

Once staff are trained in the health coaching approach, they will use it within their day-to-day practice. The cost of deploying this approach will, therefore, depend on whether health coaches are existing staff, utilising a different approach with their patients, or are employed in a bespoke health coaching service. In the former scenario, health coaching does not displace other activity and there is no opportunity cost associated with the on-going delivery of the intervention. In the latter scenario, there may be additional costs to employ health coaching staff, unless these individuals are re-deployed from another service. As the health coaching approach is appropriate to use in many clinical settings, these local costs will be variable and it is not possible to specify a standard cost for the purpose of this case study.

A further variable which will determine the cost of health coaching is the 'dose', i.e. how much input the patient receives, over what time period. Studies have found different approaches and lengths of time used, although most of the studies in a systematic review found over half the health coaching to take place over a period of up to six months, with some programmes lasting longer than this. [5]

For illustrative purposes, the costs of introducing health coaching into a rehabilitation ward are shown in Table 2.1 which also includes dedicated evaluation costs.

Table 2.1: Input costs: example costs for health coaching (recovery coaching)

Input	Description	Cost
Recovery coach training	Training provider for the coach training (38 people) & TTT training (6 people) Nursing overtime for attending training Stationary/IT	£36,756 £4,134 £1,665
Project management	Research practitioner	£19,785
Total		**£62,340**

3. OUTCOMES

There has been much research into the effectiveness of health coaching, although a systematic review concluded that variation in approaches and, until recently, lack of definition, can make it difficult to compare studies and identify interventions that are most effective for chronic disease prevention and management.[6]

[5] Summary of SRs, R Wolever, Harvard_CC_2016_Featured_Talk_Res_Overview_91716_Ruth_talk

[6] Wolever RQ et al. A systematic review of the literature on health and wellness coaching: defining a key behavioural intervention in healthcare. *Global advances in health and medicine.* Volume 2, Number 4 • July 2013

There is good evidence from research and evaluations about the potential of health coaching to achieve a range of benefits for patients and staff, plus potential for economic benefits for the health and social care system. The potential for economic benefits may arise from the following:

- Reduced demand for care due to improved patient wellbeing;
- Increased efficiency due to quicker discharge from caseload and potential to cut waiting times;
- Less waste from unnecessary tests and medication;
- Improved health outcomes. [7,8]

When introduced into a physiotherapy service, health coaching was found to result in a 51% increase in new patients onto one clinician's caseload due to reduced clinical time required per patient. This equated to a potential saving of £12,438 per year per full-time equivalent Grade 6 physiotherapist.[9]

One study investigating the benefits of health coaching for activation and its associated outcomes found respondents not receiving the intervention to have experienced 18.29% more emergency department visits, 97.78% more hospital admissions, poorer glycaemic control and higher systolic blood pressure.[10] This study also found that targeting the health coaching based on the patient's level of activation was more likely to be effective.

Using the information from real world implementation examples of health coaching, the Realising the Value programme has developed an economic modelling tool for commissioners, with the health coaching service for people with coronary heart disease estimated to bring savings to the health system of between £1,000 to £1,500 per person.[11] When implementing health coaching with patients at high risk of readmission to hospital, the Vale of York CCG has observed positive results and early findings indicate there will be an estimated net benefit to the commissioner of £248 per person over a two-year intervention.[12]

There are also reported intangible outcomes from health coaching that may not have a monetary value. Patient benefits include increased knowledge, skills and confidence, improved health outcomes and increased satisfaction with services.[13] Staff also report improved satisfaction when integrating the health coaching approach into their role.[14]

7 Gierisch JM, et al. *The Effectiveness of Health Coaching.* VA ESP Project #09-010; 2017.
8 Sforzo GA et al. Compendium of the Health & Wellness Coaching Literature. *American Journal of Lifestyle Medicine.* Accessed 28.7.17 at: http://journals.sagepub.com/doi/pdf/10.1177/1559827617708562
9 Carter A et al. *The case for health coaching Lessons learned from implementing a training and development intervention for clinicians across the East of England* Institute for Employment Studies 2015.
10 Reistroffer C et al. An Examination of the Relationship Between Care Management With Coaching for Activation and Patient Outcomes. *The American Journal of Managed Care*, 23: (2). 2017.
11 Realising the value *Impact and cost: summary of the economic modelling to for commissioners.* Not dated.
12 NHS Vale of York CCG. *NHS Confederation case study: Reducing hospital admissions among high users of urgent care.* June 2017
13 Newman P. *NIA analysis framework: health coaching*. March 2017.
14 Clinicians case studies WSFT.pdf

When introduced into the rehabilitation ward, the health coaching approach was found to result in increased independence of patients, which in turn led to decreased length of stay in the hospital, smaller social care packages / lower level of homecare packages, and fewer discharges to residential care homes.[15] As the numbers in the study were small, the results were not found to be statistically significant and should be interpreted with caution. The impacts, outcomes and proxy values for recovery coaching are listed in Table 3.1.

Table 3.1: Impacts, metrics and proxy values for health coaching (recovery coaching)

Outputs	Outcomes	Proxy value (patient level)
Patients achieve rehabilitation goals and are discharged earlier	Average length of hospital stay decreased by 17 hours per patient (based on cost of rehabilitation bed day of £175,17 hours equates to £124)[16]	£124
Patients increase their level of independence and require lower level of social care support	Discharges to residential care homes avoided. Based on local authority residential care for older people, £999 per week x 52 = £51,948 per year. [17]	£51,948

4. ECONOMIC ANALYSIS

Health coaching may be implemented in different settings with patients with different conditions, at varying scales in local areas. It is not possible, therefore, to conduct an economic analysis for the overall approach. The information available from the recovery coaching case study example is used to illustrate the potential economic benefits that could be achieved from implementing one particular form of health coaching in one setting.

The information in the case study example was used to calculate the net benefit gained from the recovery coaching service in a rehabilitation ward setting. In order to do this, a number of assumptions were made, as follows:

- 728 patients are admitted to the ward in the course of a year (based on an average 14 day stay, in 28 beds);
- Once trained, the intervention of recovery coaching conversations does not take any additional time in the working day for the staff on the ward;
- The local evaluation found the average length of hospital stay (LOS) to have a reduced by 17 hours per patient. As this is an average value, it was assumed that this potential reduction in LOS applied to 100% of patients;
- The local evaluation found that 8% of patients in the intervention group were discharged to residential care, compared to 27.3% in the control group.[18] It was therefore assumed that 19% of patients will have potentially avoided the need for residential care as a result of the recovery coaching intervention. It was assumed that of the 19% who may have needed

[15] York Health Economics Consortium. *Health and wellbeing economic evaluation: health coaching.* 2016.
[16] Kibble S et al. Recovery coaching in an acute older people rehabilitation ward. *BMJ Quality Improvement Reports,* 2014.
[17] Personal & Social Services Resource Unit. *Unit costs of health and social care 2015 care for older people. 2016.*
[18] Kibble S et al. Recovery coaching in an acute older people rehabilitation ward. *BMJ Quality Improvement Reports,* 2014.

residential care, half would have used private provision, with the remaining half requiring residential care costs to be met by the local authority;

- For the purposes of the economic evaluation, and based on the local service evaluation, the recovery coaching intervention was assumed to account for 100% of the improvement in independence and the resulting reduction in need for residential care placements.

The estimated net benefit value per service user for recovery coaching is shown in Table 4.1.

Table 4.1: Net benefit per service user for recovery coaching

Item	Value
Cost of the intervention is £62,340 Divided by 728 service users in year 1 = £85.63 per service user	£86
Total value of the outputs per service user: ○ 17 avoided bed hours = £124; ○ Yearly cost of local authority residential care avoided = £4,935.06 (annual cost of £51,948, reduced to 19% of patients, with only half using local authority provision).	£5,059
Net benefit per service user	£4,973
Net benefit for 728 service users	£3,620,657

The analysis above shows the intervention to be cost saving, based on fairly conservative assumptions. Although the largest financial benefit falls to the local authority, from avoided residential care placements, the intervention is still cost effective if only the NHS costs are included i.e. the net benefit per service user is £38.37 (£27,933 for 728 service users).

Using the assumptions stated, the cost of the intervention would have to rise by 5,908%, before it ceased to produce a net benefit. It should be noted that not all of the benefits identified will be cash releasing. Some of the outcomes identified will produce a financial benefit, for example, an avoided need for residential care; others, such as the reduction the length of hospital stay, may serve to improve the flow of patients through the hospital and reduce delays in admissions and transfers.

4.1 Sensitivity Analysis

The assumptions made in the analysis can be varied to allow for over or under estimation of the impacts and costs. The following scenarios were tested to observe the effect on the financial impact:

- Cost of avoided residential care: if this is reduced by 50%, to £25,974 per year, the net benefit per service user reduces to £2,506 (£1,824,295 for 728 service users);
- Number of hospital bed hours avoided: if this is reduced by 50%, to 8.5 hours, the net benefit per service user reduces to £4,911 (£3,575,521 for 728 service users);
- Cost of the intervention: if this is doubled to £124,680, to allow for an underestimation of the implementation costs, the net benefit per service user reduces to £4,888 (£3,558,318 for 728 service users).

5. IMPACT ON EMPLOYMENT

The health coaching innovation has led to employment of the NIA Fellow on a part-time basis. Local areas implementing health coaching have also employed additional staff to be 'system leaders'. Examples of areas taking this approach are Leeds, Horsham, North West Coast and West Suffolk, although the exact number and value of such posts is not known. For those staff introducing health coaching into their working practice, there is report of greater clinician resilience, with shared responsibility and teamwork, and increased satisfaction.[19]

6. CONCLUSION

Whilst it is not possible to quantify the total benefits from the roll out of the health coaching programme, there is good evidence for the effectiveness of the approach and the potential for it to be cost saving from an NHS and social care perspective. The information available has been used to conduct a cost-consequence analysis, with an illustrative cost-benefit analysis of one case study example. This shows the potential for significant savings from introducing health coaching into a rehabilitation ward setting, which is applicable to other settings. There are also consequences in the form of intangible benefits such as improved confidence and quality of life, plus improved patient and staff satisfaction, and staff resilience.

As the training results in an approach that is integrated into care-giving without taking additional time, it becomes an efficient way of improving patient outcomes. Furthermore, where local areas chose to train local staff in Train the Trainer roles, the approach will become more cost-effective as the input costs are reduced.

As previously mentioned, the limitations of the analysis are that there are many other sites where health coaching has been implemented and their benefits are not included in this analysis.

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[19] Newman P. *NIA analysis framework: health coaching*. March 2017.