CHC2DST
Economic Assessment

Independent assessment carried out by Dr Jonathon Belsey Phase 1 SBRI

Continuing Healthcare Software Solution

eChecklist, Workflow Manager, eMDT and eDST

Background

NHS continuing healthcare (CHC) is a package of care provided outside of hospital that is arranged and funded solely by the NHS for individuals aged 18 years and older who have significant ongoing healthcare needs.

When someone is assessed as being eligible for CHC, the NHS is responsible for funding the full package of health and social care.

The number of people assessed as eligible for CHC funding has been growing by an average of 6.4% a year over the last four years. In 2015-16, almost 160,000 people received, or were assessed as eligible for, CHC funding during the year, at a cost of £3.1 billion.

Funding for ongoing healthcare is a complex and highly sensitive area, which can affect some of the most vulnerable people in society and those that care for them. If someone is not eligible for CHC, they may have to pay for all or part of their social care costs. Social care services, such as care home fees, may be paid for by local authorities, but the person may need to pay a charge depending on their income, savings and capital assets. Therefore, decisions about whether someone is eligible for CHC may have a significant impact on their finances.

The national framework for CHC states that eligibility should be based on someone's healthcare needs and not their diagnosis. Many people that are assessed for CHC funding are reaching the end of their lives or face a long-term condition, because of a disability, accident or illness. They can have a wide range of healthcare conditions and may receive funding for just a few weeks or many years

The Department of Health (the Department) is responsible for the legal framework for CHC. This includes: setting criteria for assessing eligibility for CHC through a national framework and providing supporting guidance; publishing screening (checklist) and assessment tools; and setting principles for resolving disputes.

Clinical commissioning groups (CCGs) are responsible for determining eligibility for CHC and NHS-funded nursing care (for those not eligible for CHC but assessed as needing care from a registered nurse) and for funding and commissioning this care if patients are assessed as eligible.

The CCG is legally required to provide CHC funding for all those assessed as eligible. NHS England is responsible for making sure that CCGs comply with the national framework and may arrange independent reviews of CHC decisions if requested by patients.

The complex process and comprehensive assessments can lead to delays and appeals and are during the process it is reported there is poor communication with patients and their families.

Software development

IEG4 have developed the eChecklist which consistently delivers complete data and speeds up the completion and checklist review process. Mandatory fields ensure complete data, lookups ensure that GP and CCG is correct and document upload facility ensures accompanying information such as consent is built into the referral.

Initial testing on mobile devices (iPad) as well as web based completion on laptop computer has demonstrated:

- Good usability by frontline nurses in the hospital setting.
- Mandatory fields easy to complete and straightforward submission of checklist.
- Digital checklist content saved into the Department Of Health standard format and emailed as .pdf to referrer.
- Instant transmission to CCG.
- Complete data in the checklist allowing automation of process checks in CCG.
- Patient story told once and automatically populated to further stages of assessment.

In addition to the checklist the software solution includes:

- Digital process and workflow – including email functionality
- "Virtual MDT" to allow remote collaboration to discuss, agree and document patient needs
- Digital DST – Digital completion of the DoH Decision support tool
- Creation of Multi disciplinary needs assessment tool
- Digital Decisions process by CCG clinical leads

Additional Benefits

Once a Checklist has been completed and submitted, it appears instantly in the "back office" as a new case. There is no need to send a fax, no physical paper as the transmission of information can be instant.

CCG's process approved checklists which are forwarded for a multi-disciplinary need assessment (MDNA) stage. MDNA's are automatically generated and mounted onto the patient. The system manager can invite clinicians or specialists to contribute their assessment within the MDNA's which are shown on the patient case.

Each case needs a GP summary so instead of each time requesting and chasing a GP summary by email or telephone – the software automates the request for this for uploading to the case.

Clinicians are invited and run a digital MDT meeting to create the final Decision Support Tool on the back of which a recommendation of eligibility is made.

All previously manual and paper based process are now automated and stored digital.

Health Economics

Although there is scope for extending the remit of the IEG4 system beyond CHC assessments to cover other aspects of delayed transfer of care, for the purposes of this economic sketch we have restricted our assessment to the CHC process. This reflects the availability of data from a cluster of 5 CCGs that have evaluated the software.

There are two key areas where savings can be made – the first reflects a reduction in administrative burden and the second based on a reduction in length of stay consequent on more effective assessment and transfer of care.

Administrative burden

Within the CCG cluster, the five organisations are required to execute 455 checklists per month and prepare for submission 216 DST forms. Directly monetizable benefits of the IEG system in this process include:

1. Speedier completion of forms
2. Improved accuracy and consistency in form completion
3. Reduction in admin, photocopying, faxing and postal costs
4. Improved collaboration between commissioners, health providers and social care teams

Additional benefits are also attributable to improved patient experience and better service planning, although these are less easy to assign monetary savings to. A final benefit is a reduction in medico-legal costs, consequent on inaccurate form filling and deviation from standard operating practices. Although a real benefit, one conventionally does not include legal costs in NHS economic assessments, so we have omitted this factor from our calculations.

Health Economics

IEG4 have carried out a savings assessment to build the business case. This is documented using audit data, based on actual time taken for each task and the estimated savings attributable to using the new system. Although space in this report prevents our reproducing it in full. Table 1 shows the breakdown of the potential annual savings by CCG.

Table 1 – sample administrative saving based on audit carried out in the initial CCG cluster. Numbers in "Savings" headers refer to the four categories identified above

CCG	Checklists per month	DSTs per month	Monthly savings				**Annual total**
			Item 1	Item 2	Item 3	Item 4	
CCG 1	120	48	£21,600	£21,600	£5,280	£21,600	**£840,960**
CCG 2	80	40	£16,000	£16,000	£4,000	£16,000	**£624,000**
CCG 3	40	17	£7,400	£7,400	£1,820	£7,400	**£288,240**
CCG 4	100	54	£20,800	£20,800	£5,240	£20,800	**£811,680**
CCG 5	115	57	£22,900	£22,900	£5,720	£22,900	**£893,040**
TOTAL	**455**	**216**	**£88,700**	**£88,700**	**£22,060**	**£88,700**	**£3,457,920**

Health Economics

- To set against this £3.5 million annual savings, the cost of the IEG4 system for the five CCGs will be £150,000 - £300,000, yielding net savings in the range £3.16 million - £3.31 million.
- The population of these 5 CCGs is 1.09 million. If the same benefit were to be seen throughout NHS England, net savings in excess of £150 million might be expected
- Even if the estimates for savings are overestimated by 50%, the magnitude of potential savings purely on admin costs is huge - £75 million +.

Decreased length of stay

Delays in transfer of care while awaiting CHC assessment can be substantial. IEG4 have surveyed a number of trusts and estimated that the typical delay is 39 days from the point when the CHC process is started to the ultimate discharge, with a potential reduction in this figure of 18 days if the new software is used. This latter figure is based on real world data from an NHS trust in West Yorkshire who have been involved in trialling the system. It may not be indicative of all NHS Acute Trusts and this will be more completely evaluated.

The cost per bed additional bed day is somewhat uncertain as it varies substantially depending on the diagnosis, specialty and geographical location of the hospital. Additionally, the published data relate to overall costs of bundled care, rather than a true cost per day. However, NHS England have estimated an overall mean cost of £400 per day [Data.gov]. An alternative approach is to look at the cost of excess bed days. Each diagnostic category (HRG) assumes a maximum duration of admission, following which payment is made per additional day. For elective admissions, the mean additional cost per day is £361.67, while for non-elective patients it is £298.41 [Department of Health]

Health Economics

Given the uncertainty, we will assume a midpoint value of £350 per bed day. On this basis, table 2 models the potential savings attributable to the same 5 CCGs as used in the previous example, approx 30% of cases in hospital.

Table 2 – savings predicated on a reduction in discharge delay of 18 days per case.

CCG	Cases per month *(target - reality)*	Bed days saved per month	**Annual total cost for CHC DToC**
CCG 1	18 - 36	324 - 648	**£113,400 – £226,800**
CCG 2	12 - 24	216 - 432	**£75,600 - £151,200**
CCG 3	6 - 12	108 - 216	**£37,800 - £75,600**
CCG 4	15 - 30	270 - 540	**£94,500 - £189,000**
CCG 5	17 - 34	306 - 612	**£107,100 – £214,200**
TOTAL	**68 - 134**	**1224 - 2448**	**£428,400 - £856,800**

Although these forecast savings are large, one needs to bear in mind a number of factors:

- The reduction in length of stay is based on results from one initial pilot so far, and it is unclear whether a similar improvement will be seen once the service is rolled out. Having said that, the low cost of the system, coupled with the enormous burden of blocked beds means that at almost any level of improvement, it will generate net savings.

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Health Economics continued

- It may be that the potential for reduction in length of stay will vary from one trust to another, depending on what system is currently being used.
- Most importantly, savings from length of stay may not translate into actual reductions in budgetary spend, as demand for beds will usually outstrip supply, so an empty bed will quickly be refilled. However, the new patient will likely generate more income for the trust than if it had been blocked, and the potential for the NHS as a whole will be to manage demand more effectively within existing budgetary constraints.

Conclusions

By digitising and automating data collection and processing, IEG4 have been able to demonstrate the potential for huge savings in the CHC assessment procedure. Savings are generated by both a reduction in administrative burden and a reduction in delayed transfer of care. Based on early experience with the system, we can estimate savings in a cluster of 5 CCGs serving 1 million people of around £3.2 million in admin costs and £856,000 in freed up bed days. Even if we accept that pilot benefits tend to be truncated somewhat in more general use, the potential return on investment is very large and likely to prove attractive to NHS organisations.

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