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HOW CAN THE NHS ACCOUNT FOR "CARE CORRECT FIRST TIME"

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ABSTRACT

NHS Healthcare providers are under constant pressure to make costs savings. There does not appear to be a way to account for the costs of errors, harms and inefficiencies in patient care. If we could account for these costs, then medium to long term plans could be created in order to reduce the costs lost in the consequences of errors, harm and delayed or low-quality care of patients. If we get 'Care Correct First Time' then these wasted costs will fall, which could well achieve the 5% savings target within 5 years. I propose a conceptual framework, which would account for these costs wasted on the consequences of error, harm or delays caused by opportunity costs in the inefficient way that frontline staff have to provide Patient Care.

INTRODUCTION

A few years ago, I was on a ward round in Worthing Hospital. We needed to get the results of a patient's CT scan before we went to see him. There were four doctors and a Senior Nurse on the round. We found that the computer had been left logged out on another user's name. We had to reboot the computer to be able to login, then load the imaging system, only to find that the CT had not yet been reported. This palaver took 10 minutes, meaning that a total of 50 minutes of expensive professional time had added nothing to the patient's care. The waste of our time irritated us and left us in a worse state of mind for the consultation. The NHS currently has no way to account for the cost of this type of unproductive time, or to use that costing to make a case for investment to improve the processes of care. Ideally, there would have been a push notification for new results so that we would have known the scan was not yet reported. However, this would require an order communication system. In the 27 years since I became a consultant, the Directors of Finance have repeatedly turned down business cases for order communications because they are 'too expensive'. Outside of the NHS, a business which did not adopt 'barn door obvious' new processes in order to improve the productivity and safety of its main product or service would rapidly fail. The failure of the NHS to do just this results in inefficiency so incredible that it appears practically inconceivable to the outside observer.

BACKGROUND

Many NHS providers are required to make savings of up to 5% on their costs for 2021-2022. The only way to achieve this currently is to reduce services and to reduce staffing. These are not savings, they are cuts.

WHAT ARE THE PRODUCTS OF THE NHS SUPPOSED TO BE?

To talk about productivity, quality and safety, we must be able to define the valued products. Fortunately, the NHS England Constitution[1] makes these clear. I sum up the purposes of the NHS as the following:

With regards to expectant mothers and their children:

1. To support mothers throughout pregnancy, during delivery, and following delivery, to ensure they may be as healthy as possible.

2. To provide excellent care to newborn babies. This includes supporting children's physical and emotional development, particularly ensuring immunisation against serious infectious diseases

For all age groups:

3. For patients with serious acute illnesses, to enable early safe diagnosis, timely effective treatment and restoration of wellbeing to the maximum achievable by the constraints of the illness

4. For patients with long term illnesses, to enable them to have as much wellbeing as possible and to live independently as long as possible

5. To support a calm end of life for those inevitably dying

"THE **VALUE OF A NURSE IS FAR GREATER** THAN THE COST OF A NURSES SALARY"

WHAT DOES THIS MEAN FOR AN NHS HOSPITAL?

I believe that these 5 simple objectives can remind the Executive Team that the main work of a hospital is its Obstetrics and Paediatric Services, Accident and Emergency, Acute Inpatients and Outpatients Services, and Palliative and End of Life Care. The structure and processes within a hospital must focus on high-quality and safe services within these 5 areas of work. If there is a choice between funding a new carpet for the CEO's office or of 5 new iPads to improve communication between the emergency obstetric theatre and neonatal intensive care team, then the ultimate purpose of a hospital must figure in the final decision. When we understand the purpose of the NHS and what it is 'making', then anything that can make the work easier and swifter to achieve must be considered seriously as an investment to improve the chances of 'Care Correct First Time'.

WHERE DOES THE MONEY GO?

Although the NHS generally provides adequate accounts of budgetary decisions, its ability to assess value for money other than for expensive new therapeutics through the National Institute for Clinical Excellence is severely limited. This means that if cuts are made the consequences are not always clear. For example, as part of a 4% savings plan, a Hospital might reduce nurse numbers on each shift and superficially appear to save money. However, we know that patients are more likely to fall and fracture a hip once there are fewer staff members. Once a patient has fractured their hip, their life is put at risk and they require an avoidable complex operation and must spend many extra days in hospital. There is an undeniable risk that the patient may well not make a full recovery, and that they may even die. These costs are substantial, and even greater when the requirement to report and investigate every fall is considered. They become massive if a complaint is made, resulting in an investigation and a legal settlement.

The value of a nurse is therefore far greater than the cost of a nurse's salary.

It is difficult to see the accounting for the costs of iatrogenic harm, incident investigations, legal cases and settlements,

or the costing for the Datix Governance processes in NHS accounts. The NHS also has no way to account for opportunity cost. If 20 staff members are involved in the investigation into the fall and the fractured hip, the complaint, the meetings and in producing an action plan, then they are not on the wards attending to patients and potentially preventing another fall. If frontline ward staff have to spend an hour completing paperwork for each admission – a conservative estimate – then that is an hour in which they are not doing the direct work of diagnosing and treating a patient, nor are they showing and doing patient care.

Failure to get 'Care Correct First Time' and inefficient processes which slow down the pace of work therefore cost a significant amount of money. A slowed pace of work may not have devastating consequences in an accountancy department but slowing the work by even a few minutes in A&E may mean death not life. I believe that with effective, efficient structures and processes, we could get 'Care Correct First Time' and work at twice our current pace without feeling hurried or pressurised.

Once we get 'Care Correct First Time', the costs of incident investigations, complaints and legal cases will plummet, and we may achieve the 5% savings required for 2021-22. However, this requires the Director of Finance to understand both the priorities of a hospital and the structure and processes of care, and to be allowed to create a 5-year plan rather than a 1-year plan. For such a plan to achieve the required 5% savings, we must be enabled to see the totality of the expenditure and be allowed to invest for improvement in the priority areas of productivity, and in treating patients in order to make them better or to maintain their health.

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THE WASTE OF INEFFICIENCY AND ERROR IN PATIENT CARE

I must explain the process of clinical care for an acutely unwell patient requiring admission to hospital. This is not limited to the call to 999, the arrival of the paramedics, the transport to hospital, the 3h 59min in A&E, transfer to the Acute Medical Unit, transfer to a General Ward and eventual discharge from the Hospital, although each of these steps is riddled with inefficiency and possible error. I wish to explain the processes from a doctor's point of view and will probably stray out of my area of expertise into the realms of Nursing, Pharmacy and other Allied Healthcare professions.

When a patient requires acute admission to hospital, the diagnosis is rarely clear. To reach a reliable working diagnosis, a doctor requires reliable "Background" information.

- What important current and previous medical condition does the patient have? This is known as past medical history, or PMH.
- What are the current and recent medications that the patient has taken?
- Does the patient have any serious adverse reactions to prescribed medications?
- What important previous blood tests, investigations and imaging has the patient had, and what are the results?

The doctor then needs to be able to give the patient their full attention, and to listen to the patient's account of the current illness, then actively check for other symptoms and examine the patient head to toe. At this juncture the doctor often requests - or is given results of - near patient tests such as an ECG or a urine test. They may then order immediate blood tests and imaging. Once these are available, the doctor can establish a working diagnosis in the context of the patient's clinical and social background. If the diagnosis remains unclear, as is often the case, the doctor may write a list of differential diagnoses. The summary of the case might then be as follows:

A 75y retired teacher presents with a 3-day history of chest pain and breathlessness with fever. His background is Type 2 Diabetes Mellitus

with retinopathy and kidney impairment, Chronic Obstructive Pulmonary Disease, Prostate Cancer and early Dementia, ex heavy smoker. He is known to have a severe penicillin allergy. On examination is clearly unwell with low oxygen levels and signs of consolidation of the left lung. Tests show a high white cell count, high CRP, raised D Dimer, low oxygen levels, glucose high at 30 mmol/l. The differential diagnosis is Pneumonia / Pulmonary Embolism / Lung cancer with importantly high glucose levels. Plan because of penicillin allergy treat possible pneumonia with levofloxacin, possible pulmonary embolism with full dose Dalteparin, order a CT chest for tomorrow and give some insulin now to bring down the glucose.

In an ideal structure and process this could take as little as 30 minutes from door to antibiotic, with all of the information obtained and then verified with the patient. However, efficiency within the NHS is often so poor that we cannot find the background information, so we would not even know about the penicillin allergy. Even if the background information is found, it cannot be transacted from the GP information system to the hospital system other than by paper or a pdf file. This means that information must be manually rewritten or retyped into multiple systems, each time with the potential for error. In an efficient process information such as the patient's weight, the diagnosis of Type 2 Diabetes Mellitus and the medications for diabetes, would be transacted digitally from the GP to the hospital system(s), and error checked with the patient. Once validated and transacted into the hospital system, the information would then be usable wherever needed without rewriting or retyping. Each occasion a member of staff rewrites or retypes information is a waste of time, a wasted cost, a delay in care and a dangerous opportunity to create a transcription error which could result in patient harm. If we could release staff from this wasted time rewriting and retyping known and validated information, then the 4-hour target in A&E could be halved to merely two hours. We would provide 'Care Correct First Time' with fewer harms, incidents, reports, investigations, meetings and legal costs.

To labour this hypothetical summary with some personal anecdotes; when I worked in England in the 2000s, there was no way of finding the background information about a patient in A&E from GP records. There was also no way of getting information from a hospital 10 miles away. The development of the NHS England Summary Care Record (SCR) of GP-held information has led to some improvements, although sharing information from a neighbouring hospital remains incredibly difficult unless the two hospitals are in the same Trust. I currently work in NHS Scotland; if the patient with the penicillin allergy is a resident of England who falls ill whilst visiting Scotland, I can access no information about them at all. There is an impenetrable digital barrier between NHS England and Scotland which sets us up for Care Incorrect First Time, and risks all of the subsequent costs.

However, this is not the only area of concern; even the background information of local patients is not readily available to the clinicians involved. If a GP attends the penicillin-allergic patient at home, they may handwrite the background diagnoses and medications. GP information cannot be transacted into the Ambulance Service System (ASS) should they be required, so paramedics must elicit a full PMH, conduct a brief examination and provide immediate treatment. This is then typed into the ASS and a copy printed to give to A&E on arrival. A triage nurse in A&E often elicits the history again, does a brief examination and either writes this down by hand, or types it into an A&E system (which, should it even exist in the first place, is very unlikely to be able to communicate with inpatient systems). The patient is then treated by an A&E Doctor, who elicits a history, establishes the background including medications, examines the patient, orders tests, and then writes or types this all down. The A&E Doctor then calls for an Acute Medical Unit (AMU) Doctor, who also elicits a history, gathers the background information, medications etc., and writes or types it all for the hospital inpatient system. The doctor has to rewrite all the medications onto an inpatient prescription chart or computer chart. By now errors are more likely than correct transcriptions, and the notes are littered with abbreviations because staff soon tire of rewriting and retyping. On the AMU, the nurse assesses

the patient and rewrites or retypes the same information. The pharmacist rewrites or retypes the medications list for their records. The physiotherapists, occupational therapist, dietitian etc. all have their own paper or computer notes, none of which are able to link with the doctors' or nurses' notes.

The discharge process brings about yet more instances of wasted time. The discharge medications often have to be rewritten or retyped into separate discharge documentation, which does not collect the diagnoses from the inpatient documentation nor include any tests results. The summary is then sent to the GP as hard copy or a PDF file, which cannot be linked into the GP record other than as a digital fax. If the patient's medication is changed, this would appear in the summary without any notification to the GP staff of the change. They must identify a change which may or may not exist through comparison with past records, then type the new medications into the GP system and manually deleting the old one.

This waste of expensive staff time through simply documenting known information in multiple places, often creating errors on the way, is so incredibly inefficient and dangerous that those outside of the NHS find it unbelievable. As there is not yet a way to account for such waste, it is impossible to offset it against the development of a future method through which we may safely transact digital information within a multidisciplinary team.

Similar wastes bedevil outpatient care, with the additional encumbrance of creating clinic letters. Because diagnoses and medications cannot be transacted within most hospital's information processes, the patient's diagnoses and medications are endlessly dictated and typed again each time the patient attends. Some patients may attend as many as three clinics in one week, causing an error on the list of diagnoses and medications to be almost expected. Often the list may be omitted just because there is so much effort in the dictation and retyping. If a process existed within hospitals to communicate past diagnoses and medications to present clinicians, the administrative workload would be so much reduced that real time letters could be produced for instant validation and then despatched to the GP and the patient.

Another area of massive waste and opportunity for error within a hospital is the requesting of tests, reception of results, and the preparation for future action. Of the few hospitals which have electronic order communications, even fewer have instigated fool-proof systems which ensure that the responsible clinician receives, reads and acts on the results of tests. A two-fold strategy would provide a potential solution. Firstly, the results would be sent to an electronic patient folder, and the next clinician available to access the folder would read the result and take some form of action (even if their action is as limited as passing the information on to a colleague). Secondly, patients would be offered the choice to be sent a copy of each result, rather than hospitals relying on individual paper requests. Currently, results request forms must either be handwritten or have physical labels typed and then applied – both are examples of waste and opportunities for error, in comparison to an electronic system. With an electronic system, the working diagnosis and background information would be automictically transacted onto the request, and its progress could be tracked through the relevant department. Push notifications for the recipient would resolve the uncertainty surrounding the completion and collection of results and would also avoid results being sent to doctors no longer attached to a particular ward. A closed-loop order communications system would dramatically reduce wasted time and cost associated with the late reading or outright loss of results, which is currently unaccountable. Such a boon would be invaluable to patients, as it would result in earlier identification and therefore more choices of treatment pathways.

The philosophy of our current governance processes has also contributed towards wasted time and effort. After an 'avoidable harm' such as a fall there is an incident report, an investigation, a new policy and usually new paper or electronic forms to complete. It is undeniable that reducing the number of falls would result in a reduction in patient harm, and from all past investigations we know that having more staff close to the patients reduces harmful falls. However, the NHS "solution" to falls is to merely introduce a falls risk assessment form – and here again, most of the information must be rewritten or retyped rather than fed into the form. Doctors have found that the value of this form is negligible in comparison to the presence of a qualified nurse, who is able to identify a patient at risk of falls in the blink of an eye. What matters most is that a nurse or health care assistant (HCA) is near at hand when the patient requires aid. However, as the completion of the form is currently necessary, every second which a patient-facing member of staff spends rewriting known information behind a desk is a second in which a patient could fall. Once a patient falls and has been rescued, there must follows an 'After a Fall Huddle', which takes all the staff away from the at-risk

patient. The Huddle has to be documented and then the same information retyped, once again taking staff away from patient care. The Senior Nurse of the ward is usually responsible for investigating and reporting the incident, confining yet another member of staff to an office and away from their patients and colleagues. Instead of safeguarding patients, the governance process exacerbates the problem it is meant to solve.

The falls risk form is not the only paperwork necessary, with each one requiring the patient's ID and the same repeated information to be rewritten or retyped. This plethora of paperwork then makes it very difficult and time consuming to find basic information about the patient, causing ward rounds to either take far longer or to not be thorough enough to ensure safe care and discharge.

WHAT SHOULD BE OUR NEXT STEPS?

It is possible to work out the costs of staff time using the publication Unit Costs of Health and Social Care from www.pssru.ac.uk. It then possible to combine this with time and motion models in order to estimate the financial and opportunity cost of staff activity. These can then be used to identify particular points of congestion within a hospital, and design new methods to alleviate wasted time and cost. For example, I designed a new ward round trolley which made it much quicker to find a patient's hospital notes folder. We counted how often the notes were accessed each day, and therefore how much staff time we released to be used elsewhere. We showed that the cost of the trolley could be offset within 5 working days by the cost of time released. Those moments could be used for diagnostic thinking, for teaching and training, or for a few words of comfort to a patient which may in turn reduce the risks of complaints. Another example of equipment to increase efficiency would be the introduction of dual screen monitors. Many IT applications that are needed for a clinical consultation must run concurrently due to a of lack of integration of applications. I personally found that a task which took an hour using one screen could be achieved in 45 minutes with two screens. The cost of the second screen could be offset within 8 hours of a consultant using a computer.

Another significant area of professional waste within the NHS is the issue of unnecessary emails. Counting the number of emails which staff receive per day, estimating the average length of each attachment and dividing this by the average reading speed of an adult will result in a rough estimate of how many professional hours per day patient-facing staff are required to spend responding to emails. Given that staff are advised not to use email for individual patient care communications, this time can be considered as detrimental to the top priority purposes of the NHS.

A NEW PHILOSOPHY FOR NHS BUDGETING

Aims to 'reduce costs by 5%' for 2021-22 will inevitably fail unless care practices change, as we must aim to work more efficiently rather than more quickly. Continuation of current systems without advancement will cause patient care to suffer, with increased errors, harm, incident investigations, complaints and legal claims ultimately increasing costs and further reducing frontline resources. 'Care Correct First Time' must be presented as a business alternative, which will save both economic and professional costs in the long term. In order to do so, new methods of accounting for the financial and opportunity costs of wasted effort must be developed, in order to credit against the initial cost of improvement plans. In order to achieve this, senior leaders and managers must acknowledge the outdated, wasteful and error-creating processes in current use. Nursing leaders and clinicians must be introduced to a new method of digital documentation rather than handwriting and recopying, to ensure maximum working efficiency and to improve ease of information access.

THE WAY FORWARD

The NHS must first account for the costs of incident reporting, investigation, governance committee meetings, Significant Adverse Event Review (SAER) meetings, complaints, legal costs and any insurance costs that are paid. Then, it must be argued that anything that improves the efficiency of the processes of patient care will ultimately improve 'Care Correct First Time'. This will ensure that targets are met, and that patients are safely discharged earlier in the long term. As a consequence, errors, harms, complaints and cost of legal proceedings will be reduced. Staff will therefore be happier, and turnover lowered.

The initial step that we must take is to account for wasted time and effort. This will become credit to be released to get 'Care

Correct First Time’

KEY WORDS

NHS, Cost improvement plans, Error, Harm, Opportunity Costs, Productivity, Governance, Waste

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1. Department of Health & Social Care. The NHS Constitution for England. [Online] https://www.gov.uk/government/publications/the-nhs-constitution-for-england/the-nhs-constitution-for-england.