Implementing a District and Community Nursing workload tool, to determine safe staffing levels and skill mix in a community care provider organisation [1]

An economic assessment of potential benefits for workforce planning

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Background
Achieving safe district and community nurse caseloads, staffing levels and skill mix in order to deliver the increasing demand for care close to or in the home are a key challenge for primary and community care organisations in the UK. However there is a national crisis in relation to robust workforce evidence due to a lack of tools available to capture the complexity of care being delivered in different geographical locations to meet rural and urban patient population need. This paper presents a case study to illustrate the potential benefits of implementing Cassandra, a community workload analysis tool in one community provider organisation in the south of England.

Method
The impact of using the Cassandra community workload tool over a 12 month period is considered. Trust data drawn from CQC reports, Safer Staffing Programme Board minutes and quality committees are considered in order to set the context for key challenges facing the organisation to establish a baseline for priority actions. An analysis of the potential benefits, outcomes and impacts of using the Cassandra tool are considered for a range of beneficiaries and wider literature explored to enhance understanding of the wider implications of changes made to practice.

Findings
The set up and running costs to the organisation for using Cassandra are very small in comparison with the potential savings that can be made in terms of improvements in staffing levels, quality of care and patient experience, and staff wellbeing,. Where possible cost savings are presented in order to provide illustrative examples.

Conclusion
The Cassandra tool provides potential to: i) model the multidimensional complexity of care in different contexts and populations; ii) develop a potential blueprint for robust monitoring of decisions related to safe caseloads, staffing levels and skill mix; iii) when triangulated with other metrics, provides additional value to organisations as it enables an accurate picture to be created to monitor safe caseload, staffing levels, skill mix and competence and impacts on quality of patient care and commissioning of services in different geographies. As a place based demand tool this offers real opportunity to improve the evidence base of workforce planning and development driven by the needs of community populations.

[1] The identity of the case study site has been anonymised as this is for illustration purposes only. All data provided is available in the public domain

Introduction

The issue of safe staffing levels has dominated political debate in the UK for the past five years, gathering pace over the past 12 months as the government seeks to make efficiency savings in the NHS. However, whilst research has demonstrated that nurse staffing levels and skill mix impact on the quality of patient experience and outcomes, the evidence available focuses primarily on impact in acute care settings (Twigg et al 2014). The NHS Five Year Forward View (2015) however, is driving for the delivery of care in the community which requires commissioners and providers of care to produce workforce planning tools capable of systematically capturing workforce planning evidence to balance supply, demand and capacity in the district and community nursing (DCN) workforce in order to make informed decisions about safe caseloads, staffing levels and skill mix. The current district nursing service is seen as flexible and clinicians frequently state that individuals are referred to the service as a 'catch all' if no other option is available (QNI 2014). Measures of workload and output are not routinely robust, leading to poor understanding of the district nurses' role and work.

This paper takes a pragmatic view of how robust workload planning can be achieved. It aims to demonstrate how the principles of economic assessment can be applied to explore the potential direct and indirect benefits of implementing the Cassandra community workload tool at the frontline, to make evidence- informed decisions about district and community nurse (DCN) staffing and skill mix and impact on patient care outcomes in a community care provider organisation in the South of England. The paper has been written to demonstrate the value of the intervention in terms of cost benefits and more effective use of existing resources drawing on evidence from the literature, Health and Social Care Information Centre, Treasury guidance, CQC reports and organisational quality monitoring reports.

What is Cassandra?

Research demonstrating the development and application of the Cassandra tool has recently been published (Jackson et al 2015; Jackson et al 2014) (Appendix 1 and 2) and features in the new NHS England framework Transforming Nursing for Community and Primary Care Programme (TNfCPC) (NHS England 2015). Cassandra provides i) a mechanism for capturing workforce data in real time to underpin decisions about safe staffing levels, ii) models the multidimensional complexity of community based nursing care for clients with increasingly complex comorbidities and interdependencies in rural and urban population; and iii) captures information about missed care or care left undone. It provides systematic evidence for trend monitoring to base evaluative decisions about the effectiveness of community services and skill mix to meet patient needs currently as well as enabling organisations to identify the gaps in workforce, skill mix and service coverage on which to base decisions about commissioning and workforce development for the future. The mathematical modelling that underpins its design enables the tool to automatically generate both individual, team and organisational reports that demonstrate trends, gaps and overlaps in staffing, skill mix and services for monthly monitoring purposes that can be used by a Trust Board to

analyse workforce data and make informed decisions based on systemically gathered evidence to determine the cost effectiveness of changing nurse staffing and/or skill mix to meet demand.

Background Literature

Extensive international research over the past decade has demonstrated that nurse staffing levels and skill mix (the proportion of hours of care provided by registered nurses) are associated with acute care patient outcomes, including mortality, failure to rescue and other adverse outcomes (Aiken et al. 2002, 2014, Needleman et al. 2002, Cho et al. 2003, Duffield et al. 2011, Twigg et al. 2011). To strengthen the case for maintaining or increasing nurse staffing and skill mix at a level that will promote patient safety, it is also necessary to consider the cost effectiveness of nursing as an intervention. This requires economic evaluations of nurse staffing and skill mix (Michigan Nurses Association 2004), to see whether increasing nursing hours or changing the skill mix is a cost effective way of improving patient outcomes (Twigg et al 2014). However, in the last 10 years there have only been six published reviews that have either focused on or included a review of economic evaluations of nurse staffing and skill mix. The most recent review was conducted by Shekelle (2013), who reviewed the literature published between 2009–2012 on nurse staffing ratios and in-hospital death and reported on 15 studies, four of which were economic evaluations. Shekelle (2013) concluded that it was not possible to calculate the cost of increasing the nurse-patient ratio due to the lack of intervention studies in this area.

What the literature says about workforce planning and safe staffing for District and Community Nursing services in England

Community health services have around 100 million patient contacts each year, and account for approximately £10 billion of the NHS budget, covering a huge range of essential services (Lafond et al 2014). Since the Francis Inquiry, significant progress has been made in acute hospitals in relation to staffing levels, with numbers increasing rapidly from 2013, however there has been only a 0.6% increase in the number of nurses working in the community in that time. The Queens Nursing Institute (QNI 2014) reports concerns that:

i) the size and mix of community nursing staffing levels have been determined historically based on custom around patient caseload rather than the systematic collection of evidence on which to base decisions about workforce planning,
ii) there is poor national understanding of district and community nursing roles;
iii) there is a lack of national consensus around definitions used to describe DCN activities, starting with the service (what is being done, how frequently it involves contact with clients) and the population served (and its density);
iv) this is compounded by variation in how ‘caseloads’ are defined.

Caseloads often include a large number of older people, with complex multi-morbidities, polypharmacy and a myriad of psychosocial needs-higher levels of

dependency require increasing levels of nursing time. Currently many community organisations are finding it difficult to allocate case load evenly because of a lack of ability to capture workforce activity data systematically that measures trends and impacts in demand, supply and capacity of the workforce. This makes it difficult to measure whether patients are receiving the right care from the right nurse with the right skills in their own homes (QNI 2014).

It is therefore vitally important to have accurate data that can underpin decisions around commissioning skill mix and services so that the duration of each individual care episode provides the highest quality of interaction for both the practitioner and the client at home. In some parts of the country DCNs have 15 minutes per visit with a client and in others, 30 minutes. It is not difficult to determine anecdotally the potential impact on the quality of care and what may be left undone or missed due to lack of time. If the level and mix of staffing is not well matched to what is needed, it is not just the volume of care that is affected, but the quality of each and every nursing action or interaction could be impacted by excessive workloads, the net effect being increased stress, sickness and low staff morale, as well as a higher rates of staff leaving the profession (QNI, 2014, RCN 2010).

A lack of consistent systematic approaches to patient allocation locally and nationally, negates potential for comparison across the service in terms of practice, impact, efficiency and effectiveness (Thomas et al, 2006). Currently there are very few models available and the literature consists instead of tools that are demand or supply driven, designed for hospital settings, and not transferable to the community context. Existing workforce planning models rely on (i) subjective methods employed by local managers and practitioners to decide the size and mix of teams for specific locations (Goldstone et al 2000),(ii) use practitioner population ratios considered to be too generic (Dobby and Barnes, 1987(a,b), Audit Commission (1999), (iii) use caseload profiling, notably the number of practitioner-patient contacts, (Drennan 1990) or (iv) dependency acuity algorithms which are poorly supported by thin and outmoded data (Hasman et al 1993, Tiesinga et al 1994). Such methods do not capture complex work well (De Leon 1993, Raiborn 2004). Measuring workload based on counting patient contacts alone does not clearly demonstrate the full workload of nurses (QNI 2014) – the bulk of work is “unseen”. The real danger here is that workforce models that collect supply data only could result in under-supply of workforce numbers and therefore result in unmet care needs, whereas over-supply could result in an underutilised workforce and wasted resources. If the wrong decisions are made about workforce now, commissioners and providers run the risk of locking the service into outdated models of care for the future that will not be able to respond flexibly to changing society’s needs and population health demands.

This paper will now set out the key workforce challenges in the case study site, which has been chosen to provide a pragmatic example for implementation of the Cassandra workload tool.

Community Care Provider Organisation Case Study Site-Current Intelligence on Workforce Challenges and Priorities

The case study implementation site is a provider of mental health, specialist mental health, community, learning disability and social care services with an annual income of £343 million. It employs around 8,000 staff who provide care and support for 243,207 patients in over 176 sites, including community hospitals, health centres, inpatient units and social care services, with 766 inpatient beds (Figure 1).

Figure 1: Population Metrics by Number of Contacts (Annual Quality Report and Quality Account 2014-2015)

1,349,651 community contacts
243,826 outpatient appointments
26,813 Minor Injury Unit attendances
219,665 occupied bed days

The key challenges facing the organisation identified by the publicly available Annual Quality Report and Quality Account (2014-2015), Safer Staffing Programme Board Report (October 2015) and the CQC report (February 2015) are:

1. Stability of the Workforce

Turnover has remained steady at 13% throughout the year, although there are areas where this is significantly higher. The key challenges for the Trust have been to attract and retain staff within the integrated care teams in the more rural and remote locations, those that border with services in a neighbouring county where pay rates include London fringe allowance as well as those mental health and learning disability services that provide care for people with severe challenging behaviours. Sickness absence rates for the nursing, midwifery and health visiting workforce is currently running at 4.49% (HSCIC 2015).

2. Safer Staffing

The Trust has acknowledged a lack of validated or approved acuity or dependency tool available nationally to calculate the staffing requirements in community teams that can take account of the 'transforming community services' agenda and include demographics and local travel issues. The Trust has recognised that it must take action to ensure there are sufficient numbers of suitably qualified staff in all community teams and ensure safe caseload levels. However there are challenges in recruitment and workforce capacity which is reviewed through monthly exception reporting to the Safer Staffing programme board. There is a need to improve staffing levels in inpatient units as required for this period, where staffing levels have fallen below 80% of establishment. There are key issues associated with registered general nurses (with or without RMN) staffing in 2 mental health and 2 learning disability inpatient wards where day shift figures are running at 66%-78.7% capacity although this rises to safe levels when combined with health care support workers. Skill mix dilution creates a potential safer staffing risk which is managed on a shift by shift and day by day basis. 17 Wards across the Trust have reported using more than 50% temporary workers to

meet their fill rates which presents a potential safer staffing risk (Safer Staffing Programme Board Report October 2015).

Staff survey results show that there is a need to review work planning and scheduling in order to reduce conflicting work demands on staff. Information and electronic patient record systems were being improved by the trust but staff have reported that the system is unreliable for use in patient's homes leading to long periods beyond their hours of work to complete records at the office. This results in risks in delayed recording and incomplete electronic patient records.

The CQC report (February 2015) highlighted that providing safe and responsive care to adults requires improvement highlighting "*Staff at all grades told us that staffing levels were too low in many community teams. We found staffing issues were raised with inspectors for more than half of the teams we spoke with. The effects of being short of staff in some areas meant there were negative consequences for patients. Staff told us there had been times when they were not able to make the expected visit to patients. Staff also told us of the effects on them of shortages. They regularly worked over their contracted hours."* The CQC also found that there were inconsistencies between staff deployment across areas. Some staff were not reassured that gaps in their teams or the workload would be covered. A key recommendation identified that the Trust must take action to ensure sufficient numbers of suitably qualified staff and reduce the waiting time for therapy assessment and treatment in those community teams where waiting times are excessive. In some community teams there were missed visits to patients and increases in pressure ulcer prevalence. Long waiting times for treatment by a therapist delays in the supply of equipment such as hospital beds for home use, or special mattresses, also meant that patients could be at increased risk of pressure ulcers (Figure 2).

Figure 2: Key Priorities for Safer Staffing October 2015

Priority action required
To continue to increase the recruitment of substantive staff and reduce the reliance on Bank and Agency workers
To develop a more flexible peripatetic workforce to increase flexibility of deployment especially around service user needs where 'specialling' is indicated. More creative workforce solutions are being explored to manage patients effectively and safely within an improved cost envelope as part of the pilot.
To re-profile skill mixes – to include the introduction of more Band 4 roles in inpatient units and community teams in line with best practice and guidance, and agree standardised Registered to Unregistered workforce ratios within inpatient establishments in line with emerging new best practice findings.
To standardise senior clinical leader job plans (Band 7 and Band 8a Clinical leaders and specialist roles) with an agreed and specifically defined clinical and managerial job plan split, including the registered nursing workforce.
To continue to improve and refine the existing acuity and dependency methodology in line with national developments
To continue to develop the SHFT developed community acuity and dependency tool across all Integrated Care Teams (ICTs), with a plan to implement it against the workforce model in 2015/16
Continuing to source appropriate staffing to meet the requirements of SHFT inpatient units as cited in the Director of Workforce, Development and Communication's reports.
Managing the financial challenges associated with any workforce establishment changes in line with national guidance and as a result of revised acuity and dependency measurements.
Maintaining staff competence in undertaking risk assessments and resource management where any gaps in services are identified.
Ensuring flexibility in the workforce to meet the needs of all services which may require staff moving environments at short notice.
Reduce temporary staffing, including bank and agency usage and increase the proportion of substantive staff in accordance with the acuity and dependency measurement recommendations

In conclusion it was determined that the case study site would potentially benefit from implementing the Cassandra tool to enable capture of systematic workforce data on which to base decisions about safe staffing and skill mix in order to meet some of its key priorities.

Considerations for Setting up the Implementation of Cassandra in the Case Study Site

To address the workforce issues and challenges outlined above, the Cassandra tool will be implemented and impact evaluated for a 12 month period. This does not involve any additionality because staff already record their workload activity using the Rio online diary management system. Instead they will use the Cassandra tool through a web based platform which is available to them by mobile phone, tablet and computer free of charge. This will enable the organisation to systematically capture workforce data and evidence about what care is being delivered, in which care contexts, by which grades of staff and what care is being missed or left undone. It offers a potential

blueprint to the organisation as it will facilitate trend analysis from a baseline that the Safer Staffing Programme Board can draw upon to identify the value and benefits of interventions and measures it is taking to address skill gaps, tackle areas of unsafe staffing levels and identify impact of innovations on patient metrics and outcomes. This data can then be used through its reporting mechanisms to lobby the local Clinical Commissioning Group to invest in initiatives required to address workforce challenges and delivery of improved patient services. It will provide opportunity to capture the impact of initiatives that address staff recruitment and retention, job satisfaction and intent to leave and staff wellbeing through monitoring of sickness absence.

The size of the workforce

The case study site has 33 teams of nurses aligned to GP practice populations supported by therapy, intermediate and specialist care teams (Figure 3).

Figure 3: Total Workforce Numbers taken from HR Workforce Information System of number of staff in post at 31.10.15 (N/B. No band 1 stats available)

Band	Community	Community - Specialist	Grand Total
Band 2	31	9	40
Band 3	194	21	215
Band 4	77	8	85
Band 5	227	5	232
Band 6	181	26	207
Band 7	50	30	80
Band 8a		2	2
Band 8b		2	2
Medical		7	7
Grand Total	761	110	871

Preparing to Use Cassandra

In order to develop a rich picture of workforce activity, the tool would need to be used by 100% of the registered district and community nursing workforce (Bands 5-8) and their unregistered workforce (bands 1-4). This is important because we have recently uncovered a piece of work by Spilsbury (2014) that identifies an increasing reliance on assistant practitioners in the community setting so we need to understand what their workload looks like. An information letter will be sent to all participating nurses to inform them about the purpose of the tool and to provide clear guidance about how to use it. The tool will be used instead of their current workload analysis tool (Rio) rather than 'in addition to", so there are no additionality implications in terms of workload. Each practitioner will be required to collect their daily workload activity through a mobile device such as tablet, phone or laptop using the web portal set up for their use.

Free training will be provided to 16 Band 6 Champions covering the 33 nursing teams (1 champion to 2 teams) so that they are able to problem solve locally should there be any issues that require troubleshooting on the ground. Our previous experience has shown that this is an effective way of resolving any IT issues, monitoring usage and

promoting ownership. The training will take one hour of a band 6 practitioner's time (Figure 4).

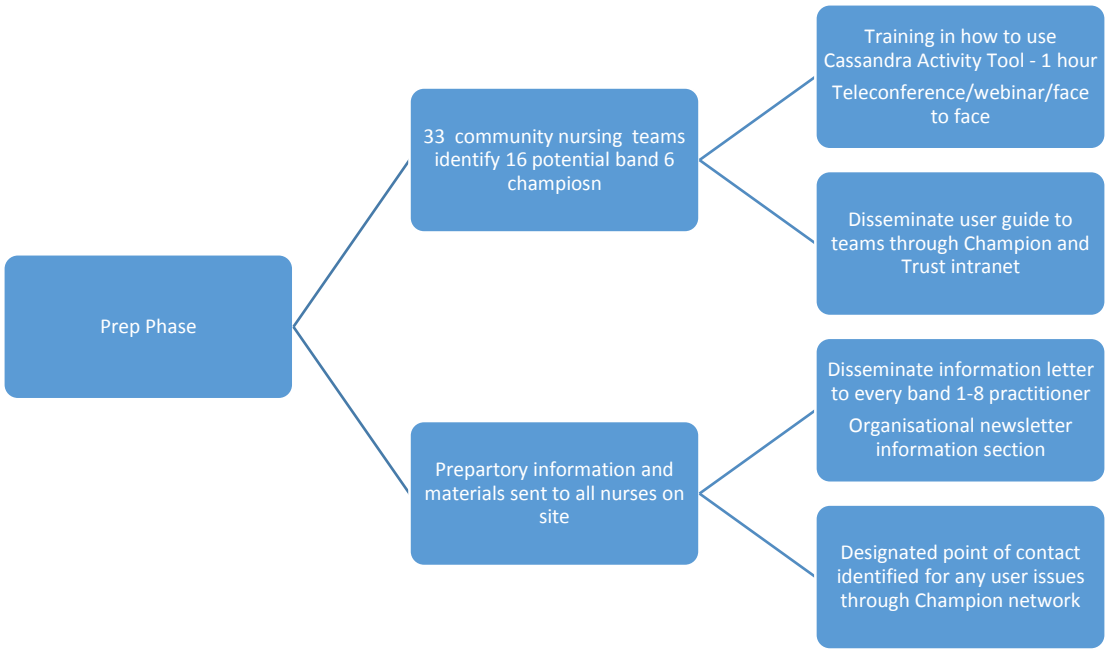

Figure 4: Preparing to use Cassandra

Assessing the Impact of Using Cassandra

To assess the impact of using Cassandra an economic assessment was carried out. This economic assessment focused upon:

- Set up and on-going running costs including direct costs i.e. additional equipment and indirect costs i.e. additional input from supporting departments including the admin team
- Cost and time avoidance for specific activities such as staff training

The economic assessment focused on the impacts across a range of stakeholders:

The direct and indirect financial set up and running costs for the project over a 12 month period have been calculated using 2015 figures (including on costs) presented in Appendix 3 and 4, and a Pathways to Outcomes model used to map key activities and outcomes (PtO Appendix 5). A summary benefits model for practitioners, organisation and the wider health economy is presented in Appendix 6. The total financial cost of the project would be **£29,992.31** (Figure 5).

Figure 5: Project Set up and Running Costs

Project Phase	Total Cost	Direct	Indirect
Set Up Phase	**£4520.13**	£4520.13	£0
Running Costs	**£25362.18**	£25062.18	£300

Impact for the Organisation

The benefits of having detailed insight into what the existing DCN workforce is currently doing across the 33 locality teams, will potentially lead to greater use of workforce intelligence that will benefit the wider system and enable staff time and resources to be used more effectively. Currently a band 6 DCN costs the NHS £39 per hour using the NHS reference costs for 2013-2014. Based on a study by Ball & Philippou (2013), community nurses spent 43 per cent of their time on direct care and a further 18 per cent of their time on care planning, assessment and coordination. Nineteen per cent of time was spent on admin, 5 per cent on management, 14 per cent travelling with a further 1 per cent on other duties. Having a detailed analysis of workload on a bigger scale will enable the Safer Staffing Board, workforce managers and commissioners to understand the patterns of care and how skill mix is impacting on patient outcomes. If the above picture is accurate 39% of current nursing work is directed away from direct patient care. Understanding these patterns on a broader scale will enable detailed analysis of how to use the workforce more effectively to ensure that the patient receives the right and best care possible when they need it.

Whilst the published literature and research evidence provides no existing economic evidence about the potential cost effectiveness of changing district and community staffing levels and skill mix and impact on patient outcomes.

There are a number of metrics and indicators identified in the international literature published around Magnet hospital characteristics that would be helpful to draw upon to measure impact. These include nurse turnover rates, staffing levels (RGN and unregistered workforce bands 2-4 day and night shift), vacancy rates, staff sickness and absenteeism figures and staff reported job satisfaction and intent to leave survey data (Aiken et al, Buchan 1996, Interdisciplinary Nursing Quality Research Initiative 2015, McClure et al 1983). Measures of impact could also include:

i) potential improvements in patient satisfaction scores by the organisation using the Friends and Family Test which is nationally benchmarked,
ii) potential improvements in staff wellbeing measured through organisational staff wellbeing survey tools and indicators of work related stress and sickness rates,
iii) quality dashboards for measuring improvements in quality of care,
iv) agency spend,
v) serious incident reports,
vi) patient complaints.

Quality of care and SIRIs may be attributed to staffing levels and skill mix although a recent national study by Griffiths et al (2015) indicates that while a causal association between registered nurse staffing and patient outcomes remains plausible, the current evidence base is not sufficient to identify safe staffing thresholds across different types of in patient wards let alone community settings.

There are a range of readily identifiable qualitative benefits that could improve quality outcomes for a range of different stakeholder groups within the organisation itself and more widely across the health economy. For example the tool will:

(i) Facilitate an ongoing quality review of the current availability of 24/7 DCN services and assess the impact on nursing establishments of extending around-the-clock services, based on need, to all areas.
(ii) Promote critical review of the capacity and capabilities within existing DCN teams to ensure that appropriate numbers and levels of decision making nurses are available to the public to meet demand at all times of the day.
(iii) Engage DCN staff and their representatives in discussions on how best to extend existing services to improve patient outcomes.
(iv) Provide resources to measure the outcomes and impact of nursing interventions in community care, including in the evening, night and weekend to evaluate innovations and ensure continued best value.
(v) Refresh the role of DCN teams to maximise their contribution as leaders and co-ordinators of care focussing on anticipatory care, prevention, early intervention and the need for robust "out of hours" provision.

A number of illustrations are now made to demonstrate how Cassandra might be applied to help focus on reducing staffing costs, improving the quality of care and patient experience, and enhance staff wellbeing in the workplace.

i) Impact on Agency Spend

In the Trust Safer Staffing October 2015 Board Report, 17 Community Hospital Inpatient and Older Persons Mental Health Wards reported using more than 50% temporary workers to meet their fill rates over a 12 month period. It is not possible to determine how many temporary workers are unregistered and how many are registered across these 17 wards, but the cost of splitting this evenly between band 4 and band 5 workers at 25% for each group per shift, week and per month is calculated below (Figure 6):

Figure 6: Excerpt from Trust Safer Staffing Board Report on Agency Spend October 2015

Band of Clinical Worker	Day Cost for a 12 hour shift	Night Rate for a 12 hour shift	Weekly Cost for 4 x Day Shift per worker	Weekly Cost for 4 x Night Shifts per worker	Monthly Cost 48 hours per week x 4 weeks	
					Day	Night
4	£272.76	£354.60	£1091.04	£1418.40	£4364.14	£5673.60
5	£345.60	£449.28	£1382.40	£1797.12	£5529.60	£7188.48

The priority for the Trust is to increase the recruitment of substantive staff and reduce the reliance on Bank and Agency workers and to uplift the staffing establishment by 17.7 wte (Safer Staffing Board Minutes October 2015) so there are significant savings to be made in reducing agency spend, focusing on reinvesting the savings made on recruitment and retention of staff. Both Fitzgerald and Gibson (2015) have presented economic savings to be made from reduction in agency spend in their economic assessments demonstrating this is an important potential saving to the Trust. The

benefit of using the Cassandra tool in this instance will that it will be possible to triangulate workload activity of the workforce across bands 1-8 with patient acuity and dependency metrics to provide a robust trend analysis on which to measure the impact of improving recruitment to permanent posts.

ii) Impact on Incident Reporting

The graph below shows the number and grade of staffing related incident forms submitted each month for the past 12 months. 90 staffing related incident forms were submitted in September 2015 – 0 of which was graded 'Major - Amber' and 10 were graded 'Moderate - Yellow' resulting from an administration backlog, staff sickness, and increased workload (Figure 7).

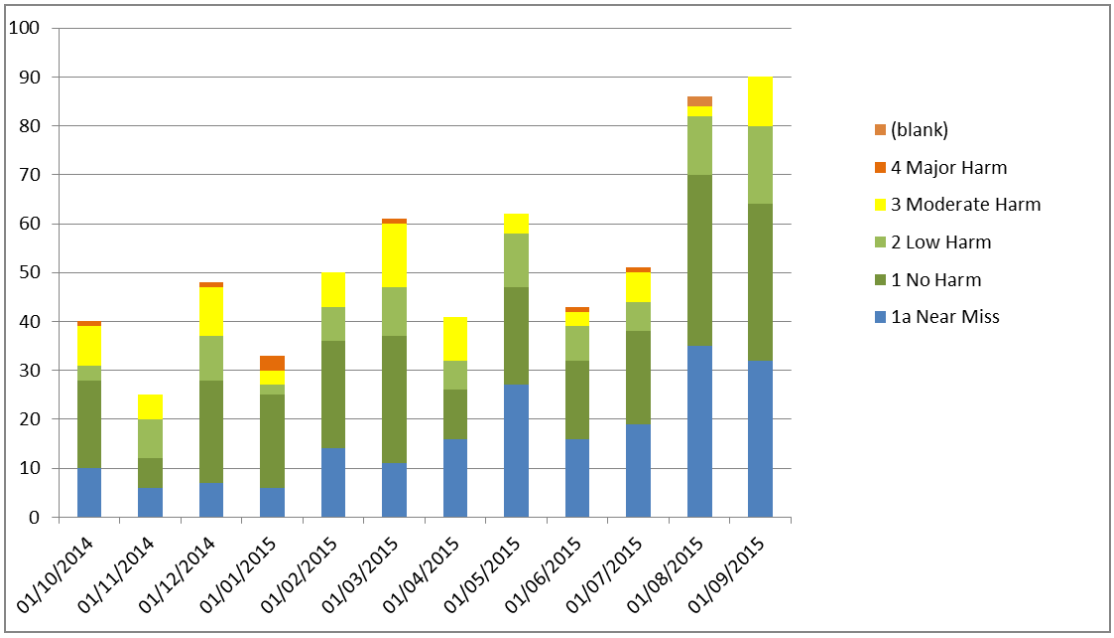

Figure 7: 12 Month record of SIRI data September 2015

The NHS England Serious Incident Framework (2015) provides clear guidance on the process for investigating different grades of SIRI but the guidance for outcome is an anticipated response within 45 days for a grade 1 incident which is inclusive of grade 3/4 pressure sores and safeguarding concerns.

Serious incidents, whilst rare, are investigated in the Trust by a Band 8d at a cost of £51.23 per hour (includes FEC 22.5% on costs at 2015 rates) requiring an initial response within 2 days (NHSE 2015). This level of investigation per case would cost £819.68 for 2 days investigation and £18442.80 for a 45 day case. These are only illustrative and crude for the purpose of demonstrating what potential minimum cost could be avoided if incidents were reduced. It does not take account the cost of employing members of the patient experience team and the consequences for patients, family members and staff involved in each incident so costs in terms of monetary and non-monetary values would be higher but need to be considered on a case by case basis.

The benefits of using the Cassandra tool for 12 months will enable trend analysis to be developed from a baseline measurement for serious incident reporting correlated with interventions aimed at reducing temporary worker employment and increasing recruitment to permanent staff, alongside initiatives aimed at training and development of staff.

The Trust aims to reduce the incidence of Grade 3 and 4 Pressure Sores by 95% within 3 years (Quality Annual Board Report 2014-2015) and by 50% in 2015-2016 (Quality Annual Board Report 2015-2016). Figure 8 illustrates the total incidence of grade 3 and 4 pressure sores between 2011-2015 and provides a calculation for the cost of 132 cases of a grade 4 pressure sore to the Trust in 2014-2015. Given the target reduction in 2015-2016, a 50% reduction of grade 4 pressure sores would save the Trust £696,366 per annum.

Figure 8: Case Study site incidence of Grade 3 and 4 Pressure Sores

Total	2011-2012	2012-2013	2013-2014	2014-2015
Pressure Ulcers Grade 3 (total: avoidable/unavoidable)	141	144	143	158
Pressure Ulcers Grade 4 (total: avoidable/unavoidable)	95	101	134	132 Cost 132 cases x £10551 per patient = £1.392,732.00

According to NHS England (2014) nearly 700,000 people are affected by pressure ulcers each year, across all care settings, including patients in their own homes, with the most vulnerable of patients aged over 75. Around 186,617 patients develop a pressure ulcer in hospital each year, and each pressure ulcer adds over £4,000 in additional costs to care (NHS England 2014). The total costs in the UK estimated as being £ 1.4 to 2.1 billion annually, which is equivalent to 4% of the total National Health Service (NHS) expenditure (NHS England 2014). The benefits of using the Cassandra workload activity tool is that it will facilitate trend analysis of safe staffing and skill mix with series incident reporting like pressure sores. Of particular benefit will be the ability to capture what care is being left undone because of staff shortages and workload and this can be correlated with targeted interventions aimed at improving quality of patient outcomes in relation to the incidence of Grade 3 and 4 pressure sores.

iii) Impact on Patient Complaints

In 2014/15 the Trust received 453 formal complaints, 522 concerns that were dealt with informally and 1604 compliments. The majority of compliments were praising staff for their clinical care and attitude (Figure 9).

Figure 9: Incidence of Complaints, Concerns and Compliments 2011-2015

Total	2011/12*	2012/13*	2013/14*	2014/15
Complaints	200	395	467	453
Concerns	322	464	493	522
Compliments	382	1501	1737	1604

The most common complaint categories reflect the national picture and are the same as reported in previous years within the Trust: i) clinical and nursing care 27 % (123), ii) attitude 20% (91), iii) access to services 12% (53), iv) communication 11% (50). Triangulation of evidence generated from patient complaints with data generated by the 12 month implementation of Cassandra will enable an assessment of any correlation between staffing levels and complaints, concerns and compliments. The aim would be to reduce the cost of complaints management and facilitate learning that can be shared across services to improve quality. This will have economic benefits for the organisation in the short and longer term.

iv) Impact on staff well being

The rate of sickness absence amongst the Trust's workforce has continued to remain a concern with the two most prevalent reasons for this being mental health issues (anxiety/stress/depression) and musculoskeletal problems (Trust Quality Account Report 2014-2015) (Figure 10). A Freedom of Information request (FIO) for 2012 indicated that the Trust sickness level at that point was running at 4.37% at a total cost of £4,036,817.67. It was not possible to determine from the FIO which proportion of the workforce that had higher or lower sickness absence rates however the figures below show the scale of the problem. Sickness absence rates for the nursing, midwifery and health visiting workforce is currently running at 4.49% in the Trust which is on a par with the national average (HSCIC 2015) and thus potential savings can be made by bringing the rates down locally .

Figure 10: Rate of Sickness Absence

Level 1 sickness Reason	Sum of FTE Days Lost	Associated Total Cost
Anxiety/stress/depression/other psychiatric illnesses	17281.2764	£1,255,721.46
Musculoskeletal /Other Joint, Lower Limb	9866.78443	£716,957.05
Surgery	7420.53646	£539,203.63
Unknown causes / Not specified	5933.28968	£431,134.77
Gastro-intestinal/Diarrhoea/Vomiting	5380.12525	£390,939.80

It is hoped that the implementation of the Cassandra workload activity tool will yield baseline monitoring data that will be helpful in managing staff wellbeing through measures that will focus on the reduction of additional hours worked and overall sickness levels across the organisation as this can enhance team resilience. The tool is accompanied by an online survey that enables staff to capture what impact the workload activity tool has had on raising awareness about their own individual workload by using a pre-test post-test approach to measure the difference it has made. This information can then be triangulated with evidence generated by the Trust Friends and Family Test and their Staff Survey to provide a rich picture of how interventions impact on sickness, recruitment and retention of staff.

Impact across the Wider Health Economy

There are a range of beneficiary stakeholder groups that will benefit from the reports and recommendations generated by the 12 month use of the Cassandra Tool and a range of impacts that will provide much clearer and robust evidence for future workforce planning summarised in Table 1.

Table 1: Beneficiaries, Outputs and Impact for different stakeholder groups in the Wider Health Economy

Beneficiary	Output	Impact
Commissioners	Report for Commissioners outlining findings with key recommendations for action	Workforce model to support establishment of contracts for community nursing service provision in a geography based on local population need Gap analysis of workforce bandings across community and district nursing services to identify posts that require further recruitment, realignment or development of new posts e.g. for specialist services Predictive optimum caseload model linking workforce planning to patient outcomes Summary report and potential economic cost analysis of missed care providing indication of what investments are needed in local workforce and services to inform risk management strategy to meet population needs
Directors of Organisations/Services	Organisational report	Identify gaps and overlaps in case, and propose robust case to local CCGs for commissioning services and workforce based on optimum case load for local population need Informed workforce development plan for education and training of DCN workforce to meet service transformation agenda Succession plan for developing leadership potential within services
Locality Leads	Organisational report	Identification of the gaps in the locality service teams to make a targeted response to recruitment and retention issues and manage workload more effectively Identification of dashboard metrics most at risk of care missed or left undone Overview of what services are at risk or need further investment in order to meet local population needs
Practitioners	Workload activity analysis report	Increased awareness of workload and development needs linked to personal development review, appraisal and career planning Insight into how the wider team is functioning and what strategies can be employed to managed case load Insight into needs of client group and what impact care missed might be having on quality of care
Patients	Newsletter via local Health Watch Groups and Trust news	Increased awareness of what their local community nursing services offer to meet population needs- right service, right place, right skills Insight into services that require further support and investment and strategies to achieve this alongside

		opportunities to engage with and inform service commissioning.
Health Watch and Local Community Groups	Newsletter and report	Insight into areas that require further investment and research to meet population needs Clear understanding of the complexity of the role of district and community nurses, the context in which care is delivered and services offered to promote community awareness of how to use services effectively.

It is hard to determine what the optimum skill mix of the DCN workforce should look like for the future especially in relation to the use of Clinical Nurse Specialists (CNS) and advanced Nurse Practitioners (ANPs), but research undertaken by Curtis and Netten (2007) with 27 nurse practitioners on time use showed that 58 per cent of time was spent on surgery consultation, and only 0.4 per cent of time spent on home visits. As a result travel time to home visits was negligible (0.1%).

Another study undertaken by Ball (2005) found that 60 per cent of a nurse practitioner/clinical nurse specialist's time was spent on clinical activities. Face to face contact time tends to be lower than a band 5 or 6 practitioner with clinic contact time averaging a mean of 11.57 minutes face-to-face with patients (SD 5.79 mins) (Venning et al 2000). Using the Cassandra tool will provide workforce intelligence to enable employers to identify whether it would be more cost effective to employ more CNS's than DCNs in providing different services because population health needs differ greatly across the country depending on rural and urban location across the 33 teams.

The release of additional capacity in the wider health economy will potentially enable patients with complex needs to be managed more flexibly in the home 7 days a week preventing unnecessary hospital admission and ultimately a reduction in the need for review by a GP. For example a clinical specialist DCN with a nonmedical prescribing qualification could review and issue a prescription to a patient at home thus releasing GP capacity and having wider economic benefits to the health care system.

Conclusions

In conclusion this case study has identified that the set up costs associated with using the Cassandra tool would be **£4520.13** and the running costs **£25362.18** for a year. This investment will provide value for money in terms of the potential cost savings that could be made in relation to staff well-being, sickness and absence, enhancing recruitment and retention and reducing agency spend, and improving the quality of patient experience and outcomes by having systematic evidence available to support decision making about right care, right place, right skill mix.

Whilst there is a body of international literature that provides limited evidence about the impact of nurse staffing levels and skill mix on quality of patient care in acute settings, there are no published economic evaluations of the impact of safe district and community nursing staffing levels or safe caseloads in the community and no published evidence of effective workforce planning models that can capture the systematic evidence required to balance workforce supply, capacity and demand.

"*Not understanding capacity may lead to imbalanced workforces, assigning too much work, resulting in missed or late sessions, or not having enough time to deliver services in line with specification. This may also miss seasonal fluctuations*". (QNI 2014, p. 17)

This case study demonstrates how the Cassandra workload activity tool has the potential to enable a range of quantitative and qualitative benefits for quality of patient care and outcomes, staff recruitment and retention, wellbeing and staff development. Its relatively small start-up costs alongside small running costs offer value for money when weighted against the economic benefits of being able to evidence the impact of safe staffing and skill mix on quality of patient care experiences and outcomes. Its particular strengths are that it reflects the multidimensional complexity of care being delivered across different patient populations and geographical (urban versus rural) populations, as well are clearly demonstrating what care is being missed or left undone.

Used as a blueprint for trend analysis within a community provider organisation it provides opportunity to systematically capture data on which to base sound decisions that correlate safe staffing and skill mix with impact on patient outcomes and services provided in order to meet CQC, Monitor, TDA and CCG requirements.

The Cassandra community workload activity tool will enable a wide range of stakeholders to identify:

1. What the existing workforce is doing and where care is optimally delivered
2. What gaps and overlaps exist in skill mix and service
3. What care is being missed or left undone and how much money this is costing the NHS
4. How best to develop the workforce to meet the changing needs of the population to deliver the Five Year Forward View of new care models in the future
5. What knowledge and skills are required to deliver this vision in terms of training, learning and development of the workforce to ensure it is fit for future purpose.

Finally, workforce planning tools which deliver at both a strategic and an operational level are particularly important with the changing requirements of an integrated care agenda. They must meet population need and provide the right staff, with the right skills, in the right place at the right time (NHS England 2015). It is vitally important at this point in time that commissioners and providers understand and can articulate the workload of community nurses and that community nursing demand (including planned and urgent care), activity, dependency/acuity and risk is regularly assessed to identify the required nursing resource. Caseload management is a vital component of the community nursing role, which requires effective and efficient management. The importance of understanding caseloads, referrals and capacity of the service to meet the demand is essential.

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This case study was completed by ***Carolyn Jackson***, Director of England Centre for Practice Development, Faculty of Health and Well Being, Canterbury Christ Church University, Kent *in* ***February 2016.***

Carolyn successfully completed a collaborative learning programme designed to empower nurses to understand, generate and use economic evidence to continuously transform care.

The programme was delivered by the Royal College of Nursing and the Office for Public Management, funded by the Burdett Trust for Nursing and endorsed by the Institute of Leadership and Management.

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Appendix 1

Making the complexity of community nursing visible: the Cassandra project

Carolyn Jackson, Tricia Leadbetter, Kim Manley CBE, Anne Martin, Toni Wright

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There is a growing body of research evidence showing that staffing levels make a difference to patient experience and outcomes, quality of care and the efficiency of care delivery (Royal College of Nursing (RCN), 2010a; Francis, 2013; National Advisory Group on the Safety of Patients in England, 2013; National Institute for Health and Care Excellence (NICE), 2014). There are significant limitations to the current evidence on skill mix in the global health workforce, and there is a lack of specific literature on nursing workforce tools and models (Buchan and Seccombe, 2012), especially within the community context (Storey et al, 2009). Hurst (2006) predicts that workforce planning and development will increase in complexity as the variables affecting it proliferate with the pace of services. The critical question is how to positively and progressively support, develop and transform the community nursing workforce in times of change to meet demand as populations overall increase in age, live longer, and as ever more complex comorbidities rise (Buchan and Seccombe, 2012; Smith and Jack, 2012; RCN, 2013, 2015). In addition, the political rhetoric and imperatives currently surrounding health-care provision are compelling workforce planning and development teams and commissioners to implement strategies that will deliver on effectiveness, safety and person-centredness (Francis, 2013).

ABSTRACT

The need to effectively promote safe staffing levels in community settings challenges commissioners and providers of services to find rigorous methods of capturing workforce evidence that can be systematically used to shape effective services and skill mix for the future. This article presents a brief review of current approaches and challenges to measuring community nursing workload activity in England. Specifically, it shows phase 1 pilot results using the Cassandra Matrix activity tool and review of ongoing developments and progress to demonstrate scalability for national implementation. As part of a much larger practice development project to develop community nursing, the pilot used mixed methods to collect 10 days of workload activity data from a self-selected sample of band 5–7 nurses working in general and specialist community nursing roles in three community organisations, and to evaluate their experiences of using the tool via an electronic survey. The findings indicate that the tool has significant potential for capturing the complexity and multiple dimensions of nursing work in community contexts, and phase 2 work has led to a community version of the tool being piloted on a larger scale across six community organisations.

KEY WORDS

- Community nursing
- Safer staffing
- Workload activity tools
- Complexity of care
- Workforce modelling

Situating nursing

Nursing work itself is complex (Hall, 1964; Leary et al, 2008; Warren et al, 2012); however, when portrayed in terms of supply and demand, nursing work in the inpatient, specialist or community setting is often represented as a linear series of tasks that are deterministic in nature. These assumptions have led to nursing work being subjected to reductionist research methods using activity analysis that are quite simplistic (e.g. time and motion studies), but such methods do not capture complex work well (De Leon, 1993; Raiborn, 2004). In the research undertaken by Leary (2011) with specialist nurses in oncology settings, for example, a nursing act has eight dimensions, including intervention, context, time, emotional effort and other factors (Breast Cancer Care, 2008; Leary et al, 2008; RCN, 2010a; 2010b; Oliver and Leary, 2012). These aspects are rarely accounted for in any kind of time and motion or work-sampling study, particularly the application of vigilance in order to rescue patients from adverse consequences of disease or treatment (Oliver and Leary, 2012).

Scottish, Welsh and English contexts

The collection of meaningful data in the community nursing context is difficult to coordinate or even access, given that

Appendix 2

What does Cassandra do?

The Cassandra Matrix Tool™ has previously been developed and published in the literature for specialist nursing contexts demonstrating a robust approach to its development over a 10 year period (Table 1).

Table 1: Listed publications identifying application of modelling complexity to health care

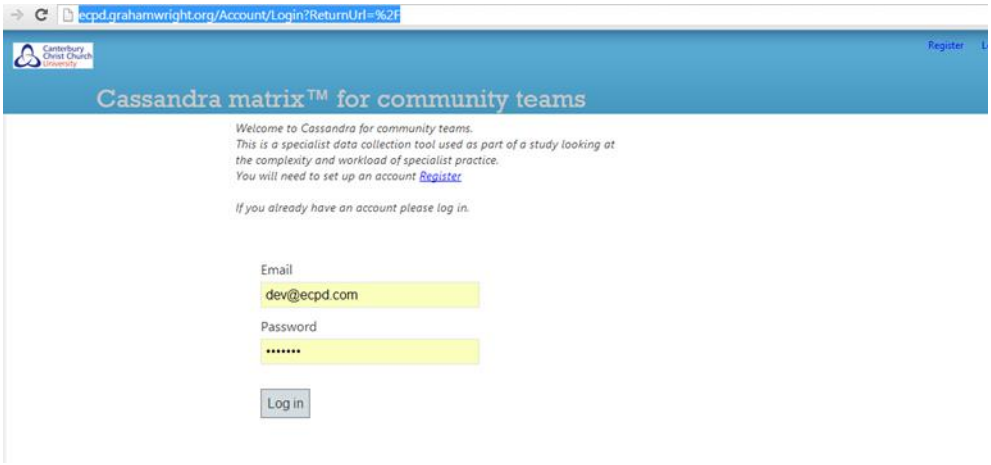
Workload Activity Tool	Author	Year of Publication	Context	Publication
Varied	Leary A	2015	Workforce Modelling for advancing practice	http://www.hsj.co.uk/Journals/2015/02/25/f/c/y/HSJ-Workforce-Supplement-150227.pdf
Cassandra Matrix	Jackson C et al	2015	District and Community Nursing	British Journal of Community Nursing http://www.magonlinelibrary.com/doi/abs/10.12968/bjcn.2015.20.3.126?af=R
Cassandra Matrix	Leary, A & Baxter, J.	2014	Impact of lung cancer clinical nurse specialists on emergency admissions.	British Journal of Nursing http://www.researchgate.net/publication/266085840_Impact_of_lung_cancer_clinical_nurse_specialists_on_emergency_admissions
Cassandra Matrix	Leary, A & Anionwu E.	2014	Modelling the Complex Activity of Sickle Cell and Thalassemia Specialist Nurses in England	Clinical Nurse Specialist http://www.ncbi.nlm.nih.gov/pubmed/25111407
Cassandra Matrix	Leary A, White J. & Yarnell L.	2013	The work left undone. Understanding the challenge of providing holistic lung cancer nursing care in the UK	European Journal of Oncology Nursing http://www.researchgate.net/journal/1532-2122_European_journal_of_oncology_nursing_the_official_journal_of_European_Oncology_Nursing_Society
Cassandra Matrix	Leary, A & Oliver, S.	2010	Clinical nurse specialists: adding value to care in Rheumatology	Royal College of Nursing http://www.rcn.org.uk/__data/assets/pdf_file/0008/317780/003598.pdf
Pandora	Leary A	2010	The value of the nurse specialists' role: musculoskeletal care	Musculo-Skeletal Care http://onlinelibrary.wiley.com/doi/10.1002/msc.186/abstract

Now adapted by and piloted in urban and rural community nursing contexts, Cassandra is a workload activity model designed to be used in "real time" as practitioners go through their day using a mobile device e.g. computers, phones or tablets to input their activity. The interventions are grouped into six main categories:

1. Case management
2. Clinical admin
3. Non-clinical admin
4. Physical
5. Psychological
6. Social

Using a web platform a series of easy to use screens (Fig 1) enable practitioners to enter their workload activity data and a guide to using the tool has been developed for all stakeholder organisations. After 70 hours of inputted workload data, the tool generates (i) an individual workload report for a practitioner to use for their personal development planning, workload and annual appraisal negotiations and for career progression; and (ii) an organisational report demonstrating the spread and complexity of work across professional career bands, service localities and contexts, as well as demonstrating what work has been left undone. The more workload data captured the easier it is to see patterns of workforce activity emerging.

Figure 1: Log in Page for Cassandra Web Application



Appendix 3: Project Set Up Costs

Set Up Costs[2] £4520.13				
Direct costs				
Identify	**Additionality**	**Apportion**	**Full costs**	**Real terms**
Simply name the cost type / category	Is this 'over and above' for the purpose of your EA?	Should 100% of this cost type / category be included?	Do you need to adjust figure to reflect full costs (e.g. on-costs)?	Do you need to adjust figure to express it 'in today's money'?
Direct Staff Costs				
MSN Web Developer to set up mobile software application – 12 hours	YES	YES	No Commercial hourly rate of £100 and no.hours = 12	**£1200**
Cost of a Senior Lecturer to facilitate training in the organisation supplied by the Centre x 6 x 1 hour sessions	YES	YES Basic rates for top of scale SL pt.43 = £264per day or £35ph.	Add to this the University TRAC FEC = £438pd or £58ph.	**£348.00**
Training for 16x Band 6 Champions x 1 hour x 6 sessions	YES	YES includes 22.5% on costs for hourly rate of pay at £17.84 /hour	YES	£24.00 per hour x 16 - **£384.00 offered over 6 sessions = £2304.00**
Initial planning meeting with Workforce Leads on the Safer Staffing Board for 3 hours to map 12 month implementation – 1 x Band 9 2 x 8b 2 x 8a	YES	YES includes 22.5% on costs added to hourly rate of pay (Band 9) £45.84 plus 22.5%= £56.15 per hour (Band 8b) £29.68 plus	YES	(Band 9) £56.15 x 3 = £168.45 (Band 8b) £36.35 x 2x3= £218.10 (Band 8a) £27.73 x 2 x 3= £166.38 TOTAL **£552.93**

[2] Set up costs reflect full economic costing based on 2015 costs including oncosts for the NHS and University published FEC (TRAC) rates

		22.5% = £36.35 per hour (Band 8a) £22.64 plus 22.5% = £27.73 per hour		
Administration support from the Centre for training sessions x 6 sessions of 1 hour	YES	Basic rates for top of scale C pt.14 = £115 per day or £16ph.	FEC is not applicable to non-academic posts but we would usually include a proportionate overhead on projects where permissible therefore 20% overhead (standard project costings for all Centre projects) applied £19.20	£115.20
Indirect Non pay costs				
Equipment-mobile devices	NO all staff currently have access to a laptop, mobile phone or pad	No set up costs but will be important to build in a contingency fund to running costs in case of technical failure		£0
Cassandra Software	YES	Free of charge		Free of Charge
Online guidance materials	YES	Free of charge		Free of Charge

Appendix 4: Running Costs

Running costs:[3] £25362.18 for 12 months				
Direct costs for 12 months				
Identify	**Additionality**	**Apportion**	**Full costs**	**Real terms**
Simply name the cost type / category	Is this 'over and above' for the purpose of your EA?	Should 100% of this cost type / category be included?	Do you need to adjust figure to reflect full costs (e.g. on-costs)?	Do you need to adjust figure to express it 'in today's money'?
100% of the workforce bands 1-8 inputing workload activity into software for 100% of shift activity for 12 months	NO because they already input workload activity into a diary based system called RIO			£0
Web developer maintenance of website and troubleshooting advice	YES	No because the charges a fixed hourly consultancy determined by his charges @ £100 per hour	Commercial hourly rate of £100 and no.hours of support = 8 hours a month x 10 months = 80 hours	**£8000**
Project Manager supplied from the England Centre for Practice Development to input to steering group meetings with Safer Staffing Board and oversee implementation and completion of work	YES	YES	Locally Determined Terms & Conditions = £376 or hourly rate of £50ph. Add to this the University TRAC FEC = £550pd or £73ph.	1 day per month x 12 months = 12 x £550 = **£6600**
Data analyst to assist interpretation of workload activity.	YES	YES	Yes Research Fellow basic rates for top of scale RF pt.29	1 day per week for 8 weeks = 8 days x

[3] Running costs reflect full economic costing based on 2015 costs including oncosts for the NHS and University published FEC (TRAC) rates

			= £175 per day or £24ph. Add to this the University TRAC FEC = £349pd or £47ph.	£349/day = **£2792**
4 meetings with 16 Champions at Band 6 x 1 hour for troubleshooting	YES	YES	YES includes 22.5% on costs for hourly rate of pay at £17.84 /hour = £24.00 per hour	£24.00 per hour x 16 - £342.40 offered over 4 **= £1536.00**
4 Steering group meetings x 4 x 3 hour meetings with Safer Staffing Board 4x Band 9 1 x 8d 4 x 8b 2 x 8a	YES	YES	YES includes 22.5% on costs for hourly rate of pay (Band 9) £45.84 x 22.5% = £56.15 per hour (Band 8d) £41.74 x 22.5% = £51.23 (Band 8b) £29.68 x22.5% = £36.65 per hour (Band 8a) £22.64 x22.5% = £27.73 per hour	4 x £56.15 x 3 hours x 4 = £2695.20 1 x £51.23 x3x4 = £614.76 4 x £36.35 x 3x4 = £1744.80 (Band 8a) 2x£27.73 x 3x4 = £665.52 Total = **£5720.18**
Administration support from the Centre for report production	YES	Basic rates for top of scale C pt.14 = £115 per day or £16ph.	FEC is not applicable to non-academic posts but we would usually include a proportionate overhead on projects where permissible	£138 x 3 days **= £414.00**

			therefore 20% overhead (standard project costings for all Centre projects) applied to daily rate = £138	
Indirect costs for 12 months				
Meeting space	NO free at the Trust			£0
Travel	No cost for Trust employees as meetings are already scheduled for Safer Staffing Board Travel costs for Centre staff to attend steering group meeting			£200
Workload Activity Reporting monthly	No costs as software automatically produces workforce reports for individuals, teams and organisation			£0
Final Report for Case Study site	YES to provide a summary report for the organisation			£100 report production costs

Appendix 5: Implementing Cassandra in one Community Provider Trust: Pathways to Outcomes model

Input

Direct Set up Costs
- MSN Developer to set up Web Platform
- Training Facilitator time to train Band 6 Champions
- Admin support
- Initial planning meeting with Nursing leaders and managers to optimise use over 12 month
- Cascade training programme for Band 6 Champions Cassandra Tool

Indirect Set up costs
- Equipment - Mobile IT devices e.g. Mobile phone/tablet cost borne by the Trust
- Meeting /training space/venue-provided by Trust
- Free access Cassandra software
- Free Cassandra user guide

Running Costs
Direct Costs
- Web platform maintenance and trouble shooting
- Every band 1-8 member of staff uses Cassandra instead of usual Rio Diary Management system to record caseload activity
- Project Manager working with Safer Staffing Board to manage analysis of data
- Data analyst
- 4 x meetings with Band 6 Champions
- 4 x steering group meetings with Safer Staffing Board
- Admin support

Indirect Costs
- Meeting space
- Travel to steering group meetings
- Monthly workload activity report
- Final report at 12 months

Activities & outputs

Activities
- Development of the web platform to ensure it is fit for purpose
- Development of knowledge base of the Band 6 champions through a training scheme to use Cassandra in their locality teams
- Planning meeting with nurse leaders at start of implementation
- Every Band 1-8 practitioner uses Cassandra as a repository to record their daily work activity for 12 months
- 4 x steering group meetings with Safer Staffing Programme Board to monitor impact at 3 monthly intervals
- 4 x trouble shooting meetings with Band 6 Champions to monitor ongoing usage and uptake

Outputs
- Organisational workforce report detailing benefits and recommendations for addressing care left undone, skills gaps/service gaps
- Impact analysis of difference it has made to staff sickness and absence, monitoring and reducing agency spend,, quality dashboard metrics e.g. SIRIs, Pressure Sore incidence, patient complaints
- Staff survey about impact on staff well being and workforce issues affecting workload e,g, sickness absence

Groups targeted

For intervention
- Band 6 champions in 33 locality teams
- Band 1-8 district and community staff using Cassandra in their daily practice on mobile devices
- Senior nursing and workforce leads

For data and report delivery
- Safer Staffing Trust Board and steering group

For working to influence with findings across Wider Health Economy
- Safer Staffing Trust Board
- Trust Quality Board
- Community Provider Trust Board
- Clinical Commissioning Group
- Local regional HEE LETB and NHS England groups
- Regional AHSN and Patient Safety Collaborative
- Regional Health and Well Being Board
- Regional patient groups e.g. HealthWatch
- Regional University provider of DCN learning programmes
- CQC
- Monitor/TDA

Outcomes

For practitioners

Potential for
- Enhanced staff job satisfaction scores reported through organisational staff survey results and FFT over 12 months
- Evidence of gaps and overlaps in caseload staff competence and skill mix across locality teams
- Evidence for CPD to be used for revalidation with the NMC

For Organisation

Economic report outlining gaps in care and services detailing costs to organisation

Potential for demonstrable improvements and cost savings over 12 months in
- Agency staffing spend
- Staff sickness and absence- staff well being
- Staff retention, staff satisfaction
- Staff competence across the locality teams
- SIRIs
- Incidence of Grade3/4 pressure sores
- Patient satisfaction and complaints reduction

For Wider Health Economy (Cross ref Table 1 Case Study Page 15)
- Evidence base to enable more effective use and deployment of workforce according to context, services required and supply, demand and capacity
- Potential to redeploy existing workforce for more effective use and cost reduction

Appendix 6: Benefits of Implementing Cassandra

Inputs

Investment
Set up Costs **£4520.13**
Running Costs **£25.362.18**

Costs consist of

1. Web platform set up and maintenance
2. Staff training to use tool
3. Staff capturing workload activity on
4. daily basis on mobile devices when delivering
5. Care to patients
6. Quarterly meeting with Band 6 champions
7. Quarterly meeting with steering group
8. Members of Safer Staffing Board
9. Admin, analysis and report production

Implementing Cassandra

History

- Lack of robust evidence base for making
- decisions about safe caseloads, staffing
- and skill mix in different geographies
- Community nursing viewed as a task based profession
- Existing workload tools only capture linear data
- Poor understanding of demand, supply and capacity

Pressure Points
Issues in Case Study site with:

- Caseload demand and capacity
- Staff recruitment and retention
- Agency spend and use of temporary staff
- Staff sickness and absence
- Serious incidents
- Grade 3/4 pressure sore incidence
- Patient complaints
- Staff well being

Action
Implement 12 month period of using Cassandra and evaluate impact in terms of

- Identifying gaps and economic costs of missed care
- Impact different workforce interventions have on pressure points listed above

Summary of Benefits

For practitioners

Potential for

- Enhanced staff job satisfaction scores reported through organisational staff survey results and FFT over 12 months
- Evidence of gaps and overlaps in caseload and skill mix and workforce competence across locality teams
- Evidence for CPD to be used for revalidation with the NMC

For Organisation

Economic report outlining gaps in care and services detailing costs to organisation

Potential for demonstrable improvements and cost savings over 12 months in

- Agency staffing spend
- Staff sickness and absence- staff well being
- Staff retention, staff satisfaction
- SIRIs
- Incidence of Grade3/4 pressure sores
- Patient satisfaction and complaints reduction
- Gaps in workforce competence

For Wider Health Economy (Cross ref Table 1 Case Study Page 15)

- Evidence base to enable more effective use and deployment of workforce according to context, services required and supply, demand and capacity
- Potential to redeploy existing workforce for more effective use and cost reduction