

**Strategic Workforce Integrated
Planning and Evaluation
modelling approach
Urgent Care Workforce
Lincolnshire Health and Care**

Project Report

Draft 1

(November 2015)



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Executive Summary

This report represents the completion of work commissioned from WSP to develop a simulation model to identify the strategic requirements for the future workforce for urgent care in Lincolnshire, in the light of demographic change and a major programme of service transformation. The work was commissioned by LHAC and Health Education England and has been undertaken in partnership with all local statutory health and social care organisations and third sector representation. Engagement with local staff has been a key element of the work and there has been much learning through the adoption of this approach.

The model outputs detailed in the report provide a framework for more detailed operational workforce planning. The availability of the simulation model for local partners use in order to test out alternative assumptions and 'what if' scenarios', means that local plans can be developed and refined in the future in the light of enhanced intelligence of the local system. It is recommended that time is spent locally testing out and refining the assumptions so that the model outputs represents the 'best' current local intelligence.

The workforce mapping has identified a total of 342wte working in urgent care, as defined for the modelling work, plus a further 63.9 wte in primary care. The default assumptions indicate that by 2020 there will be a requirement for staffing to increase by c16% in order to deliver a transformed urgent care system and key system targets. This figure however masks significant change required in specific staff competency groupings. The largest increase is projected for autonomous practitioners with almost a doubling in the requirement, a competency level where recruitment is not easy to achieve. Staff with core and enhanced competency levels are also projected to increase by 43% and 11% respectively whilst the requirement for foundation is expected to fall by 40%. The model provides a route map to achieving the changes required based on a set of assumptions. A number of alternative scenarios based on differing assumptions have been identified and it is recommended these are tested out locally in order to determine which is achievable locally.

Overall the work demonstrates the importance of taking a strategic approach to workforce planning so that the interdependencies between changing population needs, service change and a changing workforce requirement are considered avoiding a silo approach to planning.

1 Background and Introduction

1.1 Context

Lincolnshire Health and Care (LHAC) is a programme of work which started in 2013 as a result of health and care organisations in Lincolnshire recognising that current services did not adequately meet the needs of residents. By the time the programme started early financial modelling had established that in five years' time, health and care organisations in Lincolnshire would have a combined budget deficit of over £100m per year. This figure is currently being evaluated however it is likely to have increased and will only continue to grow if nothing changes.

Because of this, all the health and social care organisations in Lincolnshire (Lincolnshire County Council, United Lincolnshire Hospitals Trust and Lincolnshire's four health Clinical Commissioning Groups (CCGs), Lincolnshire Partnership Foundation Trust, Lincolnshire Community Health Services and East Midlands Ambulance Services) agreed to come together to design a new model for health and care in Lincolnshire which would enable people to access the right services at the right time now and in the future.

The Lincolnshire Sustainable Services Review¹ published in 2013 considered current services and proposed future models of care in four areas: Proactive Care, Elective Care, Urgent Care and Women's and Children's. It outlined the anticipated impact on the system as a result of the service transformation proposed and the enablers that would be required to implement future changes. The enablers identified being finance, estates, IM&T and workforce.

The LHAC programme was established to deliver these changes is now in phase 2 and aims to achieve:

- Quality, safety and sustainability for health and care services;
- Improved joint working for health and care professionals - a more 'joined up' service for Lincolnshire residents;
- Providing the right care at the right time closer to peoples' homes;
- Seven day a week services for local people through 'community neighborhood teams', supported by urgent care centres across the county;
- Hospitals 'freed up' to provide specialist or genuine emergency trauma and time critical services.

The programme is now in phase two and is focused on four service work streams - Urgent Care, Proactive Care, Women and Children and Elective Care.

1.2 The workforce for the future

Workforce planning and development has been identified as being a key enabler in the delivery of the service transformation programme. Having the 'right' workforce, in the right place with the right skills will be critical to delivering the programme of change. This will require a system wide approach to the workforce in order to deliver optimum capacity, capability and flexibility, as well as maximising workforce efficiency and value for money. Strategic workforce planning needs to be an integral part of any programme of strategic service change so that workforce requirements are both

¹ Lincolnshire Sustainable Services Review: A Blueprint for future health and care services in Lincolnshire, November 2013.

informed by services changes and by population health needs and also inform the change programme.

The Whole Systems Partnership(WSP) have developed an approach to Strategic Workforce Integrated Planning and Evaluation (SWIPE) that supports local partners to combine local data, analysis and systems dynamic modelling to develop a strategic tool to help answer some critical questions for commissioners and their local providers in respect of system wide workforce planning. WSP were commissioned by LHAC and Health Education England to utilise the SWIPE approach, initially for the Urgent Care and Proactive Care work streams within the LHAC programme. The aim of the work was to explore the strategic challenges presented by the workforce requirements arising from these work streams. Outputs from the work would be sufficient to inform key workforce commissioning decisions on training and development as well as action on any constraints to transformation arising from the workforce dimension.

1.3 Project timeline & governance

The application of the SWIPE approach to both Urgent Care and Proactive Care has been undertaken between July and October 2015. It has been overseen by the LHAC Project Manager (IM&T and Workforce) and the Transformation & LETC lead (Lincolnshire) Health Education East Midlands, in consultation with the Proactive Care and Urgent Care Programme Directors. Key to the work has been the involvement of a wide range of staff (practitioners, service managers, planners, workforce leads and information analysts) from all LHAC partners through a number of engagement events. Their input has been critical to developing an understanding of current services, proposed changes and the 'ideal' workforce needed to deliver these. Workforce planners and information analysts have also supported the work through the provision of current activity and staffing data. We would wish to record our thanks to all those who have contributed to the work.

The work will be reported to and signed off by the LHAC Workforce and Organisational Development Board.

1.4 Project Outputs

The work undertaken has supported stakeholders to understand the systems modelling approach and how it can support strategic planning. The process of stakeholders coming together from across organisations to debate and clarify in an explicit manner the scope and nature of the service changes planned, how these relate to transformation targets (e.g. reduced unscheduled admissions), the timescale over which these will be achieved and the skills of staff required in the future has in itself fostered learning and greater understanding of the local transformation programme and raised questions for local consideration.

The work has produced a dynamic model of the interdependencies between demographic demand, service transformation, associated workforce requirements and potential routes to achieve additional staff capacity and capability. The model itself provides annual forecasts of demand for different categories of staff over a five year period, based on the demographic drivers and a set of assumptions about the impact of future models of service. Staff locally are to be trained in the use of the model so that they can ask "what if" questions e.g. Will the workforce requirements in five years' time change if assumptions on the timescale for service transformation changes? A computer based platform will also be available to facilitate the recording and sharing of scenarios (alternative model runs) using differing assumptions.

This report outlines the SWIPE approach, and how it has been applied to proactive and urgent care in Lincolnshire. Outputs from the model in terms of workforce requirements for Urgent Care and how these might be achieved are detailed based on the 'default' assumptions incorporated within the model. A companion report has been written covering the modelling approach and the outputs for the Proactive Care workforce.

2 The SWIPE approach and its application to proactive and urgent care in Lincolnshire

2.1 Overview

To understand future workforce needs we need to combine an understanding of population health needs, service transformation and the nature of the workforce necessary to respond to these changes. For this process, to be meaningful, it needs to be undertaken at a comparatively high level of aggregation i.e. taking a 'helicopter view'. Such an approach should provide a 'broadly right' set of outputs that can subsequently be used for more detailed operational planning.

The SWIPE approach has been developed within this context. It is a strategic and an integrated modelling approach designed to complement local operational planning for service redesign and workforce transformation. It allows local commissioners and providers to answer questions such as:

- What is the shape and size of the current workforce available to support a particular population cohort of need (e.g. those with urgent care needs)?
- What is the impact of local demographic projections for increases in need arising from this population cohort?
- What is the impact on this workforce if we achieve the service changes in our transformation programme and how does this impact on service transformation targets (e.g. reductions in hospital admissions)?

In addition, by adopting a whole system approach it allows the dependencies between different parts of the system to be explored, recognising that local population needs, the pace at which service change is expected and the time taken to develop and train the workforce are all interdependent.

The key components of the SWIPE approach are:

- Population health needs, both now and in the future for a particular cohort of people;
- Changes in the services to be delivered to meet the needs of this population cohort;
- Service functions – described as groupings of activities that deliver an outcome for the population cohort e.g. comprehensive integrated assessment and deployment;
- The scale and intensity of these service functions required for the population cohort – i.e. how many episodes of the function are expected to be needed and relatively how much human resource is required to deliver these;
- The necessary skill mix, transferrable across different professional groups, in the context of service functions and population cohort needs i.e. with whom are these service functions most effectively delivered.

These components are combined to determine the future shape of the workforce that is commensurate with local needs and the future shape of services.

2.2 Model Design and Development

A single systems model has been developed for urgent and proactive care in Lincolnshire reflecting the inter relationships between these two programmes and the local transformation targets (A&E attendances and unscheduled hospital admissions) that they will both impact upon. It is important to note however that the model has incorporated separately both the Urgent Care and Proactive Care population cohorts, service functions, workforce and future skill mix as determined locally, and provides separate estimates of the future workforce and the route to delivering these for these two work streams.

The model is set at a whole Lincolnshire level. Whilst it was originally proposed to work at a CCG level to provide more discerning and local workforce requirements this has not proved possible. Whilst much of the data required to support the model was available at a CCG level, providers were only able to supply information on the current workforce information at a county level in the timescale required for the work. The model projects forward over a five year period from April 2015 to March 2020.

In developing the model WSP drew on its experience in developing systems dynamic models with a number of health and social care communities, to explore the impact of transformation programmes aimed at delivering more care 'out of hospital'. The design and development of the Lincolnshire model was based on broad stakeholder engagement, analysis of assumptions, the use of national and local data and systems dynamics modelling. A review of local documentation and interviews with programme leads were undertaken initially to develop a basic understanding of the current system for urgent and proactive care in Lincolnshire, planned service changes and local transformation targets. Initial and follow up workshops were then held with stakeholders for proactive care and for urgent care along with additional sessions to review in detail the modelling assumptions and 'first cut' model. A workshop was also held for primary care representatives. Two final workshops were subsequently held to present and discuss the model outputs. (See Appendix 1 for the workshop programmes).

At the engagement sessions discussions took place and agreements were reached and subsequently confirmed on the model parameters:

- The cohort of population need to be used in the modelling;
- The planned services changes, potential impact and local transformation targets;
- The service functions delivered and a definition for these;
- The services currently substantially engaged in the provision of Urgent Care and Proactive Care deemed to be within the scope of the work, in order to identify the current workforce;
- 'How much' of each service function is currently delivered and the intensity of staffing input;
- The high level competency categories used to classify the workforce with clear definitions;
- The 'ideal' future shape of the workforce;
- How the future workforce requirements might be achieved.

The model developed includes a dashboard which allows a number of these parameters to be varied to test out the sensitivity of the model and its workforce outputs to variations in the underpinning assumptions.

A small group of workforce leads from each organisation worked with WSP to identify and collate data on the current workforce at a whole county level and to categorise this by competency level. Activity information relating to key transformation targets (e.g. acute hospital admissions) and to the service functions was provided by local information analysts.

2.3 Urgent Care model overview

The figure below provides a schematic representation of the model developed in relation to urgent care.

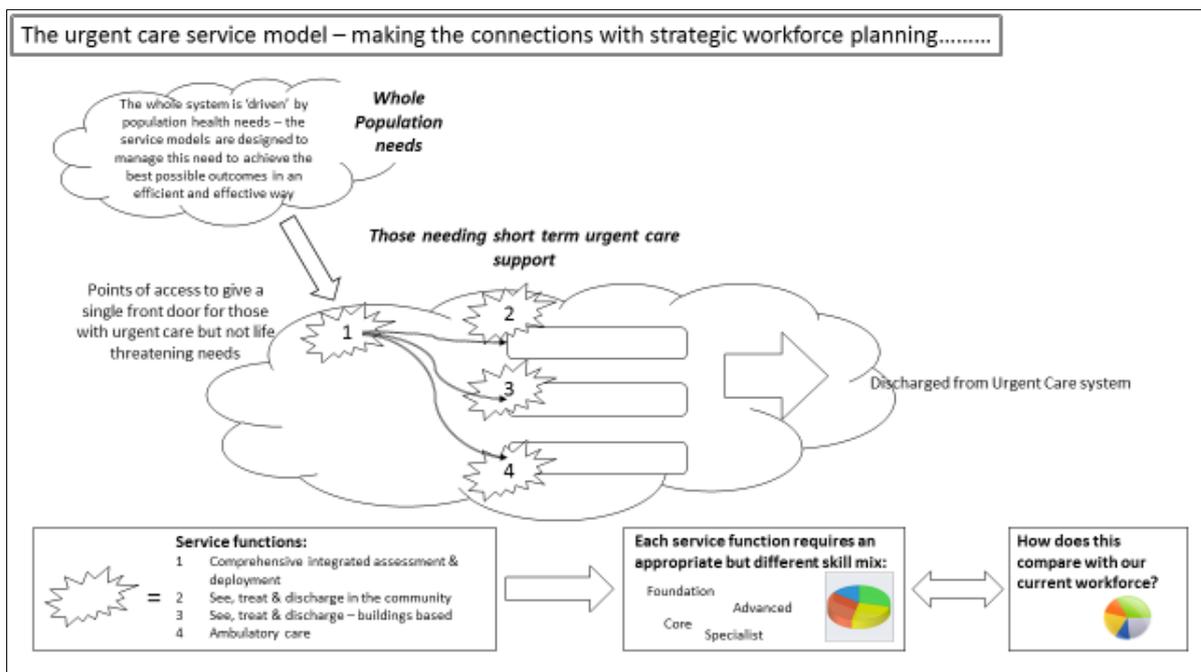


Figure 1: The Urgent Care service model

It provides a high level picture of the relationship between population health needs and the 'delivery' of urgent care (classified into four service functions) and the linkages with strategic workforce planning.

3 Urgent Care Modelling assumptions

3.1 Population health needs and demand drivers

The population cohort of need that is driving demand for urgent care was agreed with local stakeholders as the total population. Discussion took place on whether to estimate and include the transitory population (e.g. East coast static caravan residents, eastern European migrants). As no specific service changes are planned for this group nor is there readily available data on their acute hospital admissions then an 'as is' position pertains. Consequently it was agreed not to seek to include them explicitly.

ONS 2012 based population projections for Clinical Commissioning Groups by 5 year age bands have been used to provide an estimate of the demand driver for urgent care in the future. The working age adult population is forecast to remain fairly static over the next five years. However, as the figure below illustrates those aged under 18 and those aged 65-74 years are each expected to increase by 4% and those aged 75 and over to increase by 16%. The young and the older age groups will therefore be the main drivers of demand for services.

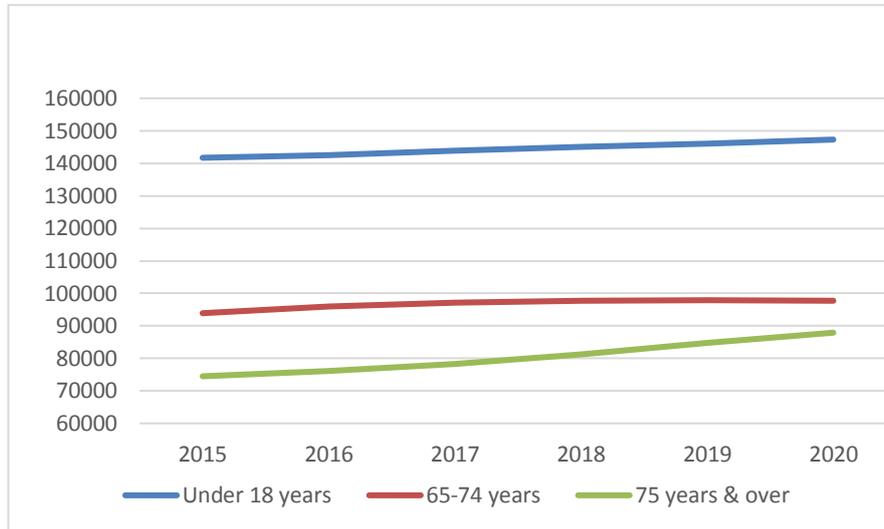


Figure 2: Population projections Lincolnshire CCGs

3.2 Urgent Care Service Transformation

The Urgent Care LHAC work stream is designed to deliver a streamlined, accessible urgent care system based on:

- A single front door Clinical Navigation Service;
- A 24/7 Clinical Assessment Service;
- 8 Urgent Care Centres and 2/3 Emergency Departments;
- Ambulatory Emergency Care;

The aim is to route individuals to the most appropriate service so that they are seen first time in the most appropriate setting and by an appropriate practitioner matched to their needs. The availability of a range of expertise in the centres and assessment service across physical and mental health should result in a reduction in the number of 'hand offs' and 'transfers on' of individuals.

3.3 Modelling and transformation targets

The key change to patient flows with regards to urgent care is the development of a Clinical Assessment service staffed by senior clinical decision makers with the ability to deflect calls and direct patients to the most appropriate setting. The model developed incorporates the introduction of this change, the associated rerouting of patients and impact on the service functions. Further, it takes into account the achievement of key system targets on the four urgent care functions.

Key performance targets have been identified by LHAC to be achieved in five years' time resulting from the LHAC transformation programme, including A&E attendances

and unscheduled hospital admissions.² The impact of achieving these on urgent care functions has been determined by:

- Developing assumptions on the relative contribution to key targets of proactive and urgent care. The key targets used are:
 - Reduction in A&E attendances by 17,800(19%) (LHAC target);
 - Reduction in unscheduled hospital admissions by 16% - equivalent to Lincolnshire being in the 80th percentile nationally for its rate of unscheduled admissions aged 18 and over (i.e. only 20% of CCGs are 'better')
- Quantifying the impact on the quantity of urgent care (as defined by service functions – See section 4.1) required as a consequence of the achievement of these targets as more people are cared for in the community;
- Translating the impact on service functions into the change in the workforce requirement.

Further detail on how the model works is provided in Appendix 2.

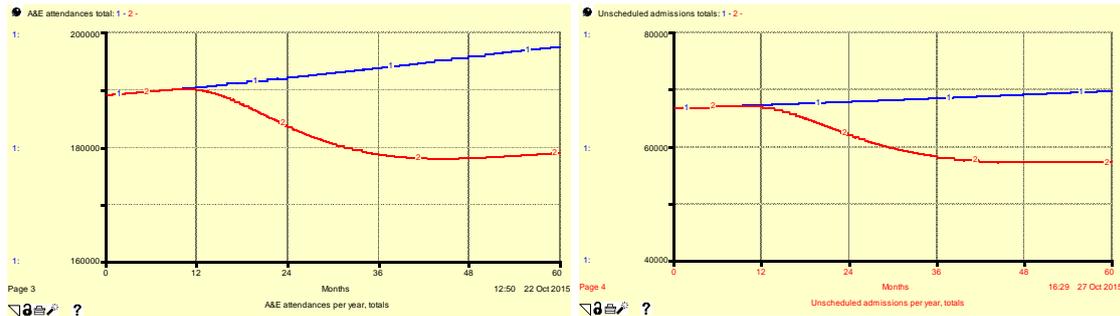
The table below details the targets, percentage achievement assumed for urgent care, timescale for achievement and resulting impact on urgent care functions. The value of each of these can be varied in the model to test out the sensitivity of the workforce outputs to alternative scenarios.

Target	Percentage share to be achieved through Urgent Care	Timescale for achievement	Impact on urgent Care functions
<ul style="list-style-type: none"> • Reduction of A&E attendances by 17,800 	50%	Oct 15- March 19	Increase in: <ul style="list-style-type: none"> • See, treat, discharge building based • See, treat, discharge community
<ul style="list-style-type: none"> • Reduction in unscheduled hospital admissions by 16% 	30%	Oct 15- March 19	Increase in: <ul style="list-style-type: none"> • Ambulatory Care • See, treat, discharge building based • See, treat, discharge community

Table 1: Service transformation model assumptions

² Lincolnshire health and Care Phase 2 status update September 2014

Demographic growth, all other things being equal, can be expected to drive up demand for services. If rates of service utilisation by age band remain unchanged, then the modelling suggests that over the five year period A&E attendances for CCG residents will increase by 4.5% and unscheduled hospital admissions by 4.6%.³ Achieving the target reductions needs to be seen against this rising tide. The figures below illustrate the impact of demographic change on A&E attendances and unscheduled hospital admissions for the total CCG populations and the impact on these indicators if the target reductions identified are achieved (by urgent and proactive care transformation) by March 2019.



A&E Attendances

Unscheduled Hospital admissions

Blue: Demographic growth, Red: Achievement of targets

Figure 3: Lincolnshire CCG population A&E attendances and unscheduled hospital admissions

The model can also be run to show the effect on the workforce if A&E attendances and unscheduled hospital admissions are contained at their current level, rather than the planned target levels.

4 The framework for identifying the 2020 Urgent Care workforce

4.1 Service functions

The modelling work is based on four key urgent care service functions that were agreed with stakeholders through discussion at the first and second workshop and pertain to the total population. Service functions are ‘high level’ groupings for activities and tasks that come together to achieve certain outcomes for the client. They may or may not be exclusive to a particular team i.e. one team may deliver more than one function and/or several teams may deliver a particular function. They are high level and build on and complement more operational planning for services and the workforce.

Each service function has an ideal/target skill mix (detailed later) that gives the most effective and efficient set of outcomes for the client group, and an associated workload. Using this approach, the model can translate the impact of changes in the demand levels resulting from demographic change and LHAC transformation plans as well as the ideal skill mix on the future workforce requirements for urgent care.

The four ‘high level’ service functions relevant to the total population for urgent care and used in this model are defined in Table 2.

³ Based on HES data 2013-14 by CCG responsibility

Label	Definition
Comprehensive integrated assessment and deployment	Determining urgency along with health and social care needs and routing the person onto the pathway determined
See, treat and discharge - in the community	The assessment and provision of treatment required by an individual to meet their immediate needs followed by discharge from the urgent care service and, where required onward referral
See, treat and discharge – building based	The assessment and provision of treatment required by an individual to meet their immediate needs followed by discharge from the urgent care service and, where required onward referral
Ambulatory care	Short term clinical assessment and input, including observations, investigations, treatment and discharge.

Table 2: Urgent Care Service functions

4.2 Service frequency and intensity

For each of these service functions estimates have been made in order to quantify the current position regarding:

- ‘How many’ – the frequency a function takes place e.g. the number of people in receipt of ambulatory care in a year;
- ‘With what intensity’ – what is the relative input in staff time required to deliver a function e.g. total staff time required to deliver an integrated comprehensive assessment and deployment relative to the other functions;

To estimate the frequency of delivery each service function we have drawn on local recorded activity levels for services currently delivering the function. The scope of activity to be included in each function has been considered and agreed as an appropriate starting point with key stakeholders at the third workshop. They could be refined locally on the basis of further exploration of local knowledge or data sets. They are detailed below in Table 3.

To estimate the intensity of delivering each service function we have used NHS reference costs⁴ as a basis. Reference costs can be seen as a broad indicator of staff costs and therefore staffing input. From this starting point the intensity figures have been amended slightly in line with discussion at the second workshop. They are detailed in the table below.

⁴ NHS Reference Costs 2013-2014

Function	Frequency - description	Frequency value per annum	Intensity
Comprehensive integrated assessment and deployment	Number of contacts for GP out of hours total, Crisis response (mental health), Rapid response service, Urgent care centres, Walk-in centre, GP out of hours at a clinic, Ambulatory care centre, EMAS treated at contact	283611	0.25
See, treat and discharge - in the community	Number of contacts for GP out of hours seen at home, Crisis response (mental health), Rapid response service, EMAS treated at contact	104676	3
See, treat and discharge – building based	Number of contacts for Urgent care centre, Walk-in centre, GP out of hours at a clinic	171934	2
Ambulatory care	Number of Ambulatory care centre contacts	7000	3

* The figure does not include primary care activity.

Table 3: Frequency (baseline) and intensity estimates urgent care functions

4.3 The workforce skill mix

In order to avoid a narrow focus on specific professional groups we have used four competency groupings (skill levels) that can be applied across health and social care staff groups, and beyond to the independent sector and voluntary organisations. What is important is the care and support provided rather than that the caregiver is employed by a particular organisation or is a member of a particular profession. This grouping therefore makes it possible to think creatively about future roles and the overlap between professional groups, and voluntary sector providers.

The competency groupings were developed and refined through the stakeholder engagement events. Table 4 details the definitions of the capability required of each of the four competency groupings used in the model.

Group	Description
Autonomous (A)	Understanding and leading across a range of work procedures underpinned by advanced theoretical knowledge acquired through extended formal education, training and practical experience. Examples of staff groups in the proactive/urgent care system are medical consultants, Advanced Nurses / Allied Health Professionals.
Enhanced (E)	Understanding of a range of work procedures and practices that require a higher level of theoretical knowledge and practical experience normally acquired through formal training or equivalent experience and applied in a specific area of need such as a single health condition or in generalist practice. Examples of staff groups in the proactive/urgent care system are Community Matrons, specialist nurses in a number of condition specific areas, a Social Worker with a specialist field, community paramedic
Core (C)	An understanding and knowledge of work procedures that requires a level of theoretical knowledge normally acquired through formal training or equivalent experience. Examples of staff groups in the proactive/urgent care system are qualified community nurses or social workers applying their core skills, radiographer
Foundation (F)	This level of skill requires staff to have an understanding and awareness of work procedures which staff would be expected to have after induction and on the job training. Examples of staff groups in the proactive/urgent care system are health care assistants, care workers or generic support workers

Table 4: Competency Groupings description

At the second engagement event attendees were asked to consider what the ‘ideal’ future skill mix would be for the workforce delivering each of the four urgent care service functions to define the future workforce in the modelling. Table 5 below details the skill mix derived from these discussions.

Function	Autonomous	Enhanced	Core	Foundation
Comprehensive integrated assessment and deployment	55%	20%	20%	5%
See, treat and discharge - in the community	35%	32%	30%	3%
See, treat and discharge – building based	36%	29%	17%	18%
Ambulatory care	14%	36%	32%	18%

Table 5: ‘Ideal’ skill mix for 2020 Urgent Care Workforce

4.4 The overall framework

Tables 3 and 5 above brings together the assumptions that combine to give us an indication of the 2020 workforce, assuming initially that such a transformation is likely to require this type of timescale. However, the modelling tool is designed to explore the potential pace and scale of change possible given underlying demand pressures and constraints within the training and education sector.

5 The current workforce

5.1 Approach

Each statutory organisation involved in the provision of urgent care in Lincolnshire plus the LIVES s service was asked to provide summary workforce data grouped by job role. Using the skill of the workforce leads these were then:

- Assigned to the skill level definitions for Foundation, Core, Enhanced and Autonomous.
- Proportioned appropriately if not all their time was allocated to urgent care

It is acknowledged that some ambiguity will be present at the boundaries, but the resulting picture provided the baseline skill mix. (See Appendix 3 for the detailed figures and how they were arrived at).

5.2 Quantifying the future workforce requirement

The calculation of the baseline workforce, by skill level, is used as the initial conditions of the simulation model. The 'vision 2020' breakdown, informed by each component of the framework described in sections 4 above and further modified by the demand driver assumptions in section 3, provides the target.

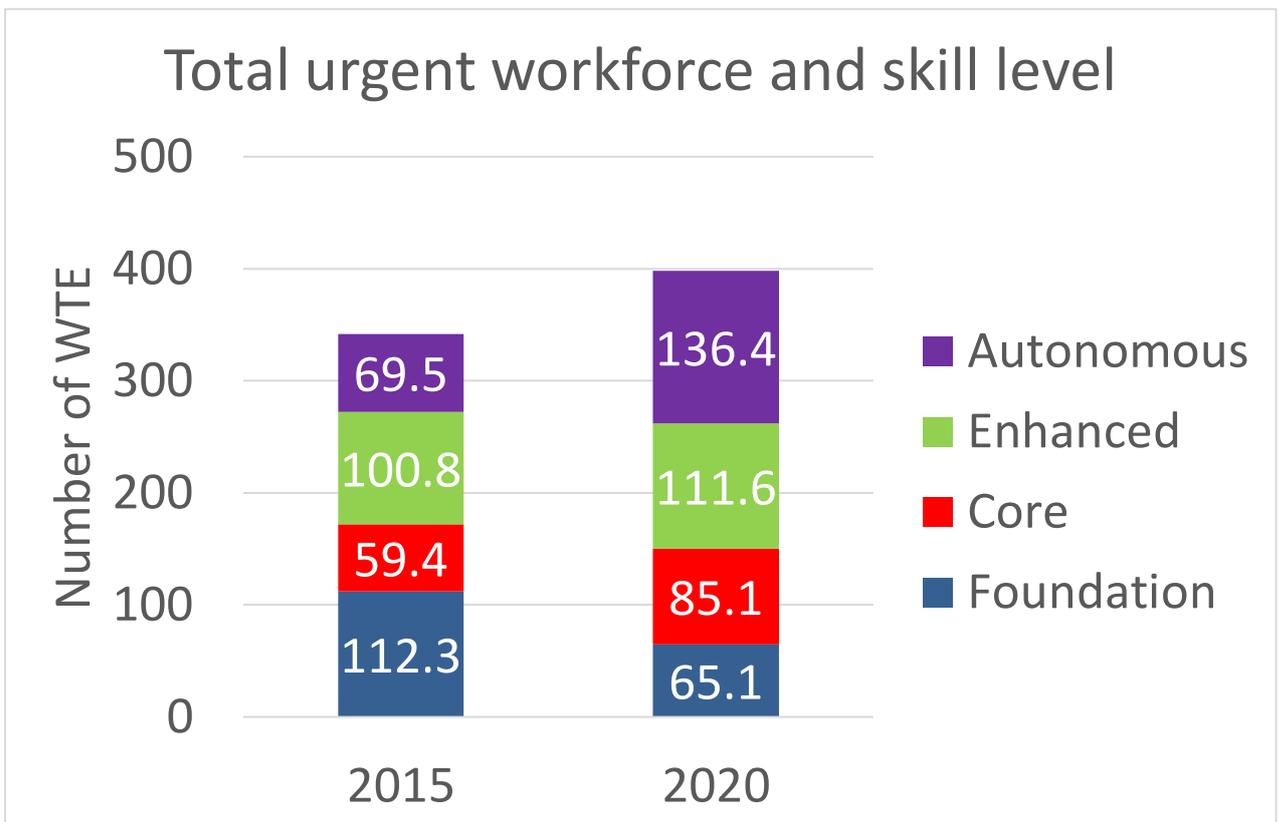
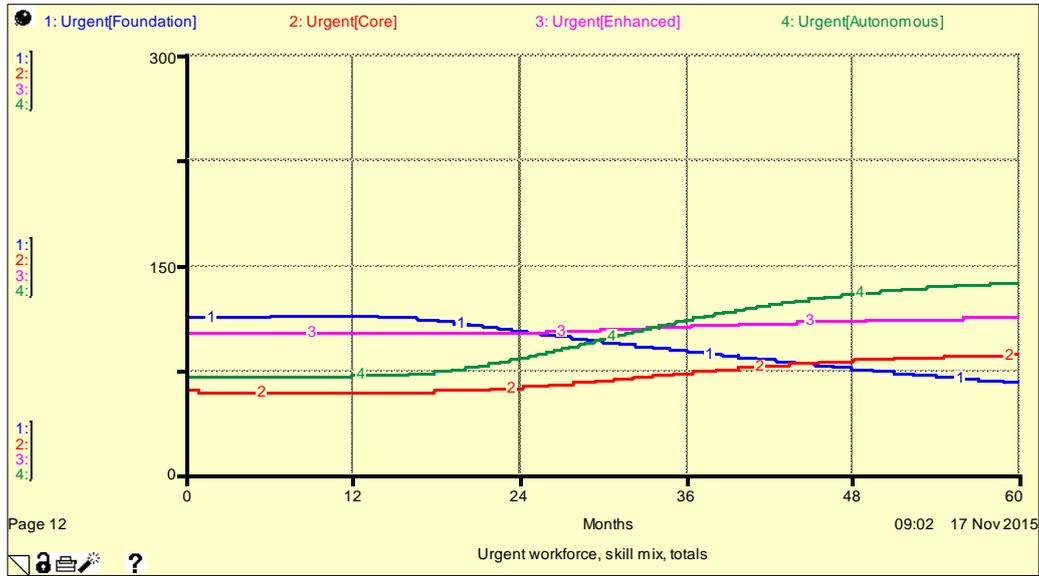


Figure 4: Workforce change required

This does not include the primary care workforce but the model allows for their inclusion if required.

The model projects a requirement for an additional c56 staff in total for the urgent care system by 2020, this represents a 16% increase. However, this total masks significant change in the individual competency groupings. The requirement for autonomous staff is projected to increase by 96%, core by 43% and enhanced by 11%. The foundation staff requirement is projected to reduce by 40%. This reflects the 'ideal' skill mix identified locally for the future urgent care workforce. The change over time in the staffing requirement by competency grouping is illustrated in the figure below.



Blue: Foundation, Red: Core, Mauve: Enhanced, Green: Autonomous

Figure 5: Change in skill mix requirement.

6 Getting from here to there

6.1 Making it happen

At the first workshop the stakeholders were asked to identify the possible ways of achieving the workforce required and to RAG rate its' potential use for each of the competency levels. **The following table indicates the outputs:**

Workforce Change	Foundation	Core	Enhanced	Autonomous
Utilise from ULHT ED	A,G,A	G,G,A	G,A	G,A,A
Redeployment from non-urgent care	G,R	G,R	A,R	A,A,R
Recruitment locally	A,G,G	R,G,A	R,G,R	R,R,R
Recruitment Out of Area (OOA)	R,G,R	A,G,A	G,G,R	A,R,R
Upskilling	G,G,R	G,G,R	G,G,R	G,A,R
Retention	G,G,A	G,G,A	G,A,A	G,R,A

Table 6: RAG ratings for potential methods to achieve the future workforce requirement

The methods fed into the model were:

- Increasing retention by reducing turnover;
- Transferring staff from other parts of the system;
- Upskilling staff from one competency level to the next;
- Recruiting staff both locally and from further afield.

6.2 Base Run Scenario

A base run of the model can be done with the following assumptions:

	Foundation	Core	Enhanced	Autonomous
Turnover	15%	10%	8%	8%
Transfers	No	No	No	No
Upskilling	No	Yes	Yes	Yes
Recruitment once upskilling complete	Yes	Yes	Yes	Yes

Table 7: Baseline run assumptions re methods to achieve future workforce

The annualised plan would then look as follows:

Years	0	One	Two	Three	Four	Five	Six	Seven	Eight	Nine	Final
Turnover Foundation[Urgent]	16.9	16.3	14.2	12.2	10.5	9.1	7.8	6.7	6.1	6.1	
Turnover Core[Urgent]	5.8	5.9	6.7	7.7	8.3	8.6	8.8	8.9	9	9.1	
Turnover Enhanced[Urgent]	8	8.1	8.2	8.6	8.8	9	9.1	9.2	9.2	9.3	
Turnover Autonomous[Urgent]	5.6	5.9	7.7	9.6	10.6	11.1	11.3	11.4	11.6	11.7	
Workforce annual[Transfer, Foundation, Urgent]	0	0	0	0	0	0	0	0	0	0	
Workforce annual[Transfer, Core, Urgent]	0	0	0	0	0	0	0	0	0	0	
Workforce annual[Transfer, Enhanced, Urgent]	0	0	0	0	0	0	0	0	0	0	
Workforce annual[Transfer, Autonomous, Urgent]	0	0	0	0	0	0	0	0	0	0	
Workforce annual[Upskill, Core, Urgent]	0	0	0	0	0	0	0	0	0	0	
Workforce annual[Upskill, Enhanced, Urgent]	0	14.2	26.8	47.5	40.5	30	25	23.5	23.3	23.4	
Workforce annual[Upskill, Autonomous, Urgent]	0	6.1	18.5	34.9	27.9	18.9	14.7	13.3	13	13	
Workforce annual[New, Foundation, Urgent]	0	17.4	5.6	0	0	0	0	0	0	5.5	
Workforce annual[New, Core, Urgent]	0	19.2	35.8	64.7	56.8	42.6	35.6	33.4	33.2	33.3	
Workforce annual[New, Enhanced, Urgent]	0	0	0	0	0	0	0	0	0	0	
Workforce annual[New, Autonomous, Urgent]	0	0	0	0	0	0	0	0	0	0	
Foundation[Urgent]	112.3	112.8	102.1	87.9	75.6	65.1	56	48.2	41.5	40.9	41
Core[Urgent]	59.4	58.5	61.6	72.2	80.8	85.1	87.1	88.3	89.3	90.3	91.1
Enhanced[Urgent]	100.8	100.8	101.1	105.4	109.4	111.6	112.9	113.9	115	116.1	117
Autonomous[Urgent]	69.5	70.1	82.6	109.8	128.1	136.4	140.1	142.1	143.7	145.1	146.2

Table 8: Annualised Plan

For example: During Year 5 (2019/20) the model using the baseline assumptions suggests the following:

- The need for an additional 8.3wte Autonomous level staff as the total requirement goes from 128.1wte to 136.4wte. There is also a need for 10.6wte to replace those leaving through turnover. This could be achieved by upskilling 18.9wte people previously working at Enhanced level.
- The need for an additional 2.2wte Enhanced level staff as the total requirement goes from 109.4wte to 111.6wte. There is also a need for 8.8wte to replace those who are leaving through turnover and 18.9wte to replace those who will have been upskilled. A total of 29.9wte. This could be achieved by upskilling 30wte (rounded from 29.9wte) people previously working at Core level.
- The need for an additional 4.3wte Core level staff as the total requirement goes from 80.8wte to 85.1wte. There is also a need for 8.3wte to replace those who are leaving through turnover and 30wte to replace those who will have been upskilled. A total of 42.6wte All of these 42.6wte would need to be achieved

through recruitment at this level because in the baseline assumptions there are no routes to achieve this by upskilling.

- The number of staff needed at Foundation level drops by 10.5wte from 75.6wte to 65.1wte and this can be achieved by natural wastage from turnover

6.3 Testing other scenarios

There are a variety of scenarios that can be tested in the model as follows:

- Altering the turnover rate for each of the four competency;
- Allowing for staff transfers at any rate between 0 – 100%;
- Allowing for staff transfers connected to ward closures;
- Upskilling from Core to Foundation;
- Allowing for some recruitment as well as up skilling
- Adding in the primary care workforce.

Ultimately the local health community needs to debate these various scenarios and decide which is potentially achievable.

7 Next steps and recommendations

Through a process of engagement a systems dynamic model has been developed for proactive and urgent care in Lincolnshire that projects future workforce requirements resulting from demographic change and service transformation. Workforce requirements over a five year period have been projected drawing on a set of baseline assumptions relating to service change, service functions and their frequency and intensity, and future 'ideal' skill mix . They suggest a requirement for urgent care of c56 additional staff overall in the staff teams covered by the model, an increase of c16%. The biggest change projected by the model however is in the skill mix requirement with changes of: - autonomous +96%, core +43%, enhanced +11% and foundation -40%. The model also provides a potential route map for achieving the changes required based on a set of identified assumptions.

The model represents an overall direction of travel and provides a broad indication of future staffing requirements. This high level assessment should provide a 'broadly right' set of outputs that can be used for more detailed operational planning. The outcomes from this work should now be used to inform:

- Operational recruitment and retention strategies for each organisation;
- Local Education and Training plans for the commissioning of training and development to ensure the right capability and capacity are available in the future to match the 2020 vision of the urgent care workforce.

It is recommended that further work is undertaken locally to understand and develop further the model outputs through:

- Testing the sensitivity of the model outputs to alternative assumptions;
- Reviewing the robustness of the model assumptions and identifying where there is either further local data already available that could be used to provide a more accurate estimate or where local data capture needs to be refined;

- In light of the above reaching agreement on the assumptions and therefore outputs to be used within LHAC to form the basis upon which any business cases and plans are developed.

Meeting the workforce requirement can be achieved in a number of ways. The modelling has identified a potential route map. This assumes that the requirement is met through upskilling, recruitment and retention. There are however other means by which the requirement could be addressed. It is further recommended that:

- Local work is undertaken to assess the extent to which any of the requirement can be met through alternative means such as efficiencies.

In a complex situation the modelling tool provides a structured means of testing out alternative 'What if' questions and allows alternative approaches to be explored. The model will deliver best value if it is applied in a regular cycle as part of the ongoing LHAC transformation programme. This will require staff locally to come together to utilise the model. Management of the underlying assumptions and data will require joint governance and ongoing development.

APPENDIX 1: WORKSHOP PROGRAMMES

Lincolnshire Health and Care

Strategic workforce planning and evaluation modelling (SWIPE)

Urgent Care

First engagement workshop

6th July 2015 1.30 – 4.30 pm

Venue: Wyvern House, Kesteven Street, Lincoln LN5 7LH



Objectives:

- For participants to gain an understanding of the SWIPE approach that is to be used to support the local programme for the transformation of Urgent Care and how it can help to answer some of the critical questions relating to strategic workforce planning;
- To explore and agree the boundaries of the urgent care system that are within scope, the key service functions that are delivered as part of the urgent care system and the population cohort served;
- To explore and confirm the workforce competency groupings (e.g. specialist, foundation) to be used as the basis for classifying the current workforce, analysis and forward projections and consider, in particular, the concept of the senior clinical decision maker;
- To discuss the data requirements to populate the modelling tool and identify potential sources;
- To outline and agree next steps.

Outline programme:

Welcome and introductions – context and background to the work (Anne Symon)	1.30
Overview of the SWIPE approach and its use in supporting service transformation and workforce planning	1.40
Developing clarity and consensus on the boundaries of urgent care, the functions within it and population cohort served (group work and feedback)	2.10
Coffee / tea break	2.45
Exploration of skill levels to be applied to the workforce (group work and feedback)	3.00
Discussion on data requirements and sources	3.45
Outline and agreement on next steps	4.00
Close	4.10

Lincolnshire Health and Care
Strategic workforce planning and evaluation modelling (SWIPE)
Urgent Care
Second engagement workshop
31th July 2015 10.30 – 3.30 pm
Venue: The Showroom, Tritton Rd, Lincoln LN6 7QY



Objectives:

- To recap on the SWIPE approach that is being used to support the local programme for the transformation of Urgent Care, confirm the outputs from the first workshop and update on progress;
- To explore the skills of the workforce that will be needed to deliver urgent care in the future, and identify potential steps to reshaping the workforce;
- To progress the collection and categorisation of the existing workforce;
- To test out initial assumptions to be used to populate the model;
- Outline and agree next steps.

Outline programme:

Tea and Coffee will be available from 10.15

Welcome and introductions – context and background to the work Sarah Furley and Helen Smith	10.30
Summary of the SWIPE approach, and explanation of how the demographic, activity and target data will be used	10.45
Review of first workshop agreements and progress made to date	11.05
Confirmation of agreements (group work)	11.25
Coffee break	11.55
Exploration of tasks to be undertaken within each function and skill level required (group work)	12.10
Lunch break	12.55
Exploration of tasks to be undertaken within each function and skill level required (group work) - continued	1.25
Explanation of the workforce modelling	2.10
Identification of potential steps to reshaping the workforce	2.35
Overview and agreement on next steps	3.15
Close	

Lincolnshire Health and Care
Strategic workforce planning and evaluation modelling
(SWIPE)

Urgent and Proactive Care

‘Deep Dive’ Workshop

3rd September 2015 1.30 am – 4.30 pm

Venue: The Showroom, Tritton Rd, Lincoln LN6 7QY



Objectives:

- To discuss and agree the underpinning assumptions to be used for the ‘first cut’ LHAC proactive and urgent care workforce modelling;
- To confirm interpretation and usage within the model of data supplied to date and identify any remaining gaps in the data required;
- To consider, confirm and challenge outputs from earlier workshops to be included in the modelling.
- Agree next steps

Outline programme:

Tea and Coffee will be available from 1.15

Welcome and introductions	1.30
Outline and approach for the session	
Understanding definitions of Levels of Need 1-3	1.40
Discussion, confirmation and agreement on ‘first cut’ service transformation assumptions	1.50
Discussion, confirmation & agreement for service functions on: <ul style="list-style-type: none"> • Current workforce • Frequency 	2.30
Coffee break	3.10
Discussion, confirmation & agreement for service functions on: <ul style="list-style-type: none"> • Intensity • Future skill mix • Method for making the workforce change required 	3.20
Next Steps	4.20
Close	4.30

Lincolnshire Health and Care
Strategic workforce planning and evaluation modelling (SWIPE)
Urgent and Proactive Care
Workshop

24th September 2015 10.00 am – 1.00 pm
Venue: The Showroom, Tritton Rd, Lincoln LN6 7QY



Objectives:

- To recap on the application of the SWIPE approach to proactive and urgent care in Lincolnshire to provide a foundation for understanding the ‘first cut’ model;
- To describe the model parameters, underlying framework and intelligence used to populate the model;
- To demonstrate the ‘first cut’ model and potential ‘what if’ scenarios;
- Confirmation of assumptions and clarification of outstanding queries;
- Agree next steps

Outline programme:

Tea and Coffee will be available from 9.45

Welcome and introductions Outline and approach for the session	10.00
Recap on the SWIPE approach and its application to proactive and urgent care in Lincolnshire	10.10
Demonstration of the ‘first cut’ model and potential ‘what if’ scenarios	10.30
Coffee break	11.10
Assumptions and outstanding queries – service transformation	11.25
Assumptions and outstanding queries - workforce	11.55
Next Steps	12.25
Close	12.40

Lincolnshire Health and Care
Strategic workforce planning and evaluation modelling
(SWIPE)
Urgent Care
Workshop
11th November 2015 1.00 – 3.00 pm
Venue: New Life Centre, Mareham Lane, Sleaford NG34 7JP



Objectives:

- To recap on the application of the SWIPE approach to urgent care in Lincolnshire to provide a foundation for understanding the systems model developed;
- To describe the model parameters, underlying framework and intelligence used to populate the model;
- To demonstrate the model and potential ‘what if’ scenarios;
- To review the outputs from the model using the default assumptions;
- Agree next steps

Outline programme:

Tea and Coffee will be available from 12:45

Welcome and introductions Outline and approach for the session	1.00
Recap on the SWIPE approach and its application to urgent care in Lincolnshire	1.10
Demonstration of the model and potential ‘what if’ scenarios	1.20
Coffee break	2.00
What do the outputs look like based on the ‘default’ assumptions?	2.15
Plenary discussion on outputs	2.35
Any outstanding issues / queries to resolve?	2.50
Next Steps	2.55
Close	3.00

APPENDIX 2: How the model works

1. In this model, the time steps are monthly and the model runs for 10 years but reports upon the first 5 years (2015 to 2020). The main data inputs and outputs are stored in Microsoft Excel spreadsheets, while model parameters are set directly within the model.

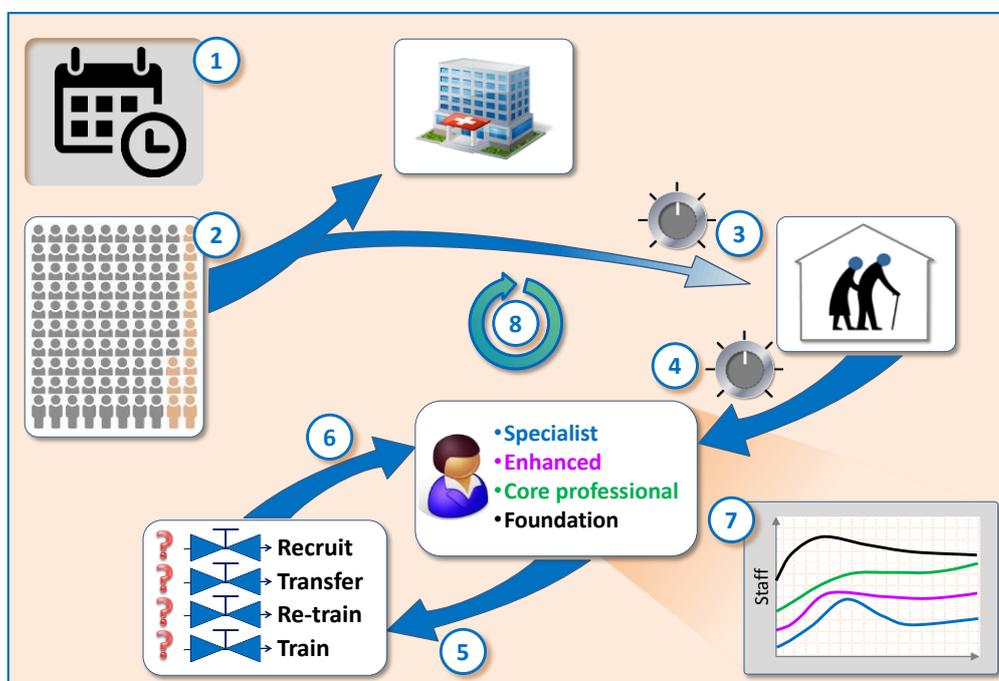


Figure 6 How the systems model works

2. The model starts at April 2015 and uses ONS population projection to 2025. At the start of each monthly time step, the population in each is aged and calibrated against expected incidence and prevalence of health needs. It is these numbers that drive demand for health and care services in the model.
3. The model includes several variable parameters that affect how much demand is delivered in different settings. Health care for the Lincolnshire population is divided into four different service functions for the urgent care pathways (Table 2). The urgent care modelling approach relies upon the service data to determine current and future demand. The aging cohorts by health need or grouping created by the model are used to determine the demand for health care service functions at each age interval. So for example the number of A&E attendances by age group is calculated using the rate of A&E attendance from local baseline data. Validation of these figures against nationally published statistics is also considered.
4. Additional parameters affect the staff mix per service, based on three high-level skill levels – Foundation, Core; Enhanced; Autonomous.
5. Developing an understanding of the future skill mix required to meet health needs through the framework of service functions, at each time step, the model has the potential to calculate the supply of additional community staff at each skill level via three different routes – recruit; transfer (e.g. from Acute to Community); or 'up-skill' through training.

6. Because of the different delays associated with each supply route, the model would then balance supply against rising demand over several years.
7. The model is then able to be run to reflect different future scenarios, such as the extent to which staff can be transferred from acute to community.
8. The model includes a “dashboard” which allows key parameters to be varied per run. Model output data is exported to Microsoft Excel for further analysis. Using multiple runs, the sensitivity of the model to changes in the various parameters can be explored. This information can be used to decide whether to invest in improved data in key areas.

APPENDIX 3: The current Workforce (WTE) delivering Urgent Care

	EMAS Staff	ULHT ED	LCHS Community Services	LPFT	Lives	GP OOH	EMAS Calls	111	Social Care EDT	Primary Care	Grand Total
Foundation	31.70	1.40	58.97	20.20	0.00	0.00	0.00	0.00	0.00	0.00	112.27
Core	28.50	4.10	12.37	14.44	0.00	0.00	0.00	0.00	0.00	0.00	59.41
Enhanced	5.50	0.70	38.45	27.72	8.82	0.00	7.60	4.12	8.00	0.00	100.91
Autonomou s	0.00	1.20	52.84	4.80	0.00	10.70	0.00	0.00	0.00	63.91	133.45
Grand Total	65.70	7.40	162.63	67.16	8.82	10.70	7.60	4.12	8.00	63.91	406.04

This was derived as follows:

EMAS

Team Leader: 32wte ENHANCED

Paramedic and Emergency Care Practitioner (ECP): 11.64wte ENHANCED 227.36wte CORE (*Proportioned* in accordance with EMAS overall totals of 52 ECPs/1067 Paramedics and ECPs)

Technician: 104wte FOUNDATION

ECA: 14wte FOUNDATION

Total is: ENHANCED – 43.64wte, CORE – 227.36wte, FOUNDATION – 253.00wte

Then proportioned in accordance with calls to EMAS: Greens 3 & 4/Total calls

ULHT

HCA's: 41.03wte FOUNDATION

Nurses, AHPs, FY Doctors: 120.82wte CORE

Specialist Nurses, Specialist AHPs, Specialty Doctors: 19.69wte ENHANCED

Sister/Charge Nurses, Nurse Consultants, Specialist Registers, Associate Specialists, Consultants: 35.75wte AUTONOMOUS

Then proportioned in accordance with Ambulatory Care/All attendances

LCHS

Band 2: 39.73wte FOUNDATION

Band 3: 18.23wte FOUNDATION

Band 4: 1.00wte FOUNDATION

Band 5: 12.37wte CORE

Band 6: 38.45wte ENHANCED

Band 7 & Medical: 52.84wte AUTONOMOUS

LPFT

Band 3: 19.40wte FOUNDATION

Band 4: 0.80wte FOUNDATION
Band 5: 14.44wte CORE
Band 6: 27.72wte ENHANCED
Band 7: 3.80wte AUTONOMOUS
Band 8: 1.00wte AUTONOMOUS

LIVES

10741 attendances per annum of 1.5hours duration = 8.82wte ENHANCED

GP OOH

2.4wte per 100,000 population (national estimate) Lincolnshire population=733,000
Therefore $2.4 \times 7.33 = 17.59$ wte
Adjusted to 10.7wte as hours used was 20,864

EMAS Calls

38wte clinical advisers at Horizon Place covering five counties
Therefore Lincolnshire's share is 7.6wte ENHANCED

111

Clinical Advisors provide 1854hours per week for 12 contracts
Therefore Lincolnshire's share is 4.12wte ENHANCED

Lincolnshire County Council

Emergency Team: 8.00wte ENHANCED

Primary Care (83.4% Response Rate)

Lincolnshire GPs: 272.34wte AUTONOMOUS

ANP: 47.22wte AUTONOMOUS

Practice Nurse: 155.55wte ENHANCED

Nurse Specialist: 9.87wte ENHANCED

HCA: 75.17wte - 75% CORE – 56.37wte

25% FOUNDATION – 18.8wte

Other: 73.49wte - 50% CORE – 36.74wte

50% FOUNDATION – 36.74wte

Phlebotomist: 9.51wte FOUNDATION

Dispenser: 69.34wte NOT INCLUDED

Total is AUTONOMOUS - 319.56wte, ENHANCED - 165.42wte, CORE - 93.11wte,
FOUNDATION - 65.05wte

Then proportioned as follows:

20% of Autonomous only in Urgent Care