

# CAPITA

End-to-end care assessment



NHS Halton, Knowsley, St Helens  
& Warrington CCGs



## Executive summary



This project has provided a retrospective, current, and future view of health and social care activity, spend and patient flows across the Mid Mersey area.

Looking back over the past three years the four CCGs have been relatively consistent in their activity trends. Activity has generally grown in line with underlying population growth, with recent signs of this being offset by schemes put in place to manage demand. The spend over time illustrates a disproportionate increase in spend compared to activity, which may be explained by increasingly more complex case mix or coding changes. Overall the largest growth has been seen in the 65+ age group, which is also the highest spend area, suggesting that continued focus on the frail / elderly will be of particular benefit to the health and social care economy moving forwards.

At present there is a large degree of variation between practices in terms of admission rates, attendance rates and outpatient performance, even after adjusting for population characteristics and weighting for healthcare need. The degree of variation increases the smaller the practice is, which suggests that federated general practice at scale is a factor in reducing variation and spend, which may also result in improved outcomes. Working up analysis alongside local knowledge suggests that practices that have a focus on health and wellbeing and integrated care benefit from a reduced demand for acute services. Lower admission rates were highlighted for particular practices where there has been a recognised long term focus on health improvement and prevention.

Looking forward, a large proportion of commissioning intentions are interventions for the elderly and those with long term conditions – this is consistent with the areas seen to be growing in the retrospective analysis and provides confidence that the right areas are in focus. There appears to be an opportunity to reduce variation by standardising referral thresholds, admission criteria, and pathways for high volume conditions – this would improve the quality of care while managing demand and reducing spend. There is also significant opportunity to reduce variation in length of stay and deal with this demand once in hospital.

Modelled interventions are projected to keep pace with underlying growth over the next 3 years, after which this underlying demand is projected to overtake the reductions in activity that these initiatives are expected to make. This suggests that a more radical approach to meeting the challenge will be needed – current plans could be strengthened by exploring opportunities for more upstream intervention in health and wellbeing, shifting the emphasis from diversion to prevention of demand. In addition, the CCGs could explore more radical approaches to delivery of integrated, proactive care, involving redefining the role and shape of primary, community and social care for the longer term, with the current plans being used to generate headroom to put the necessary investment into non-acute services to enable long-term change.



## Local Context

NHS Halton, Knowsley, St Helens and Warrington CCGs were formed on 1 April 2013 and are responsible, together with NHS England and their corresponding Councils for the commissioning of NHS services for a registered population of almost 700,000 people. Together, the CCGs have budgets of just over £910m per annum.

The CCGs operate in a complex health environment – Community and Mental Health services are provided for the four organisations by two main Trusts (Bridgewater Community Healthcare and 5 Boroughs Partnership) – however, while the provision of acute secondary care is dominated by St Helens and Knowsley NHS Trust and Warrington and Halton NHSFT, there is a significant amount of competition from specialist NHS providers on Merseyside as well as local private hospitals.

Sandwiched between the two major conurbations of Merseyside and Greater Manchester, access to specialist care is relatively easy and the two local acute Trusts provide mostly District General Services from three main sites and one community hospital (with some teaching specialties and a specialist burns unit at Whiston Hospital in St Helens).

The health economy has experienced significant financial challenges in recent years, driven by

- demographic growth,
- the health needs of the population in a post-industrial environment, including the need to address health inequalities
- historic funding patterns (notably relative level of underfunding for Warrington, recognised in the latest allocations)

- additional costs associated with acute infrastructure (notably the PFI build at Whiston Hospital and the transfer of the Treatment Centre at Halton Hospital to NHS ownership)
- Increasing spend on high tech and specialised services (now commissioned by NHS England)

These will continue to impact on the health economy, along with new pressures such as the drive towards 7 day working, improving urgent care, extended integration of commissioning and provision with Local Authorities, changes to the NHS funding formula & tariff structure and changes to primary care contracts.

This has contributed to a significant combined financial challenge across the patch, which the CCGs recognise can only be addressed by a fundamental shift in the shape of service delivery, with care delivered in the most appropriate setting to secure the best outcomes for patients and citizens.

The CCGs, together with commissioning partners in NHS England and councils, have accepted the challenges these factors pose and are seeking to address fundamental questions about patient flows and care delivery, which could have far reaching impacts on the balance of care between health and social care, acute and community care and specialist and local care. One illustration of this is the commitment by CCG and LAs to pooling of budgets thus prioritising prevention and early intervention and delivery of care closer to home. The implications of future commissioning decisions on service viability and quality are of critical importance and the CCGs wish to ensure that they are able to base their decisions on the best available evidence.



## Purpose of Report



The scope of the project incorporates analysis and modelling of activity and financial flows of patients from NHS Halton, Knowsley, St Helens and Warrington CCGs into all providers, with additional granularity in regard to flows particularly to St Helens and Knowsley NHS Trust, Warrington and Halton NHSFT, Bridgewater Community Healthcare Trust, and 5 Boroughs Partnership NHSFT.

The objectives of this project are to provide:

- Retrospective analysis of healthcare activity, spend and patient flows
- Profile of current activity, spend and patient flows
- Forecast profile of activity, spend and patient flows over 3, 5 and 10 years

This modelling and analysis aims to provide an evidence base help to answer questions such as:

- The potential impact of strategies and plans,
- Constraints and barriers to change,
- Current and potential future resources and care settings,
- The impact on commissioners in terms of affordability and on providers in terms of sustainability



# Structure of Report



There are three main parts to this report, after a **Methodology** to describe the approach and the process that we have followed, the report is split into the following areas:

## Retrospective analysis

We have created a view of the historic data to allow a like-for-like comparison over the three-year period. This section analyses key trends and drivers of historic change.

## Current baseline

We have applied similar principles as to the historic analysis to profile current activity, spend and patient flows in order to present a picture of current activity. We provide a statement of the baseline position as well as comparisons of current activity levels between practices and between CCGs to understand variation in the baseline.

## Future Projections

This section provides a projection of future activity, spend and patient flows.

It is made up of the following elements

- The collation and understanding of commissioning intentions and strategic plans.
- The mapping of intentions to specific patient cohorts impacted by the change.
- The modelling of the impacts on future activity, spend and patient flows.

Following these three sections, a final section explores the **Implications for Commissioners**, where we offer a commentary on some of the key points arising from the review, which help address some of the questions CCGs are seeking to answer, and signpost the CCGs to what they might consider next to address remaining gaps in their knowledge.

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## Additional material

In addition to this report we have provided data analysis files – for further filtering of outputs (or for a CCG specific view of more general tables) the tableau files hold all tables produced in this document with relevant filters for further drill down of results. The reader application has also been included. Tab names in the file will match the titles on graphs and tables in this document.

- 1.** If an alert window appears, click **"Run"**. Depending on connection speed, the download may take a few minutes.


- 2.** View the License Agreement, check the acceptance box and click the **"Install"** button. Follow the on-screen installation instructions.


- 3.** To activate and begin using Tableau Reader click **"Register"**.





# Glossary



Phrase	Definition
NURHA	Emergency admissions for acute conditions that should not usually require hospital admission (NHS Outcomes Framework indicator)
ACS	Ambulatory care-sensitive conditions
DC	Daycase activity
EL	Elective activity
NE	Non-Elective activity
TFC	Treatment Function Code
MSC	Main Specialty Code



# CAPITA

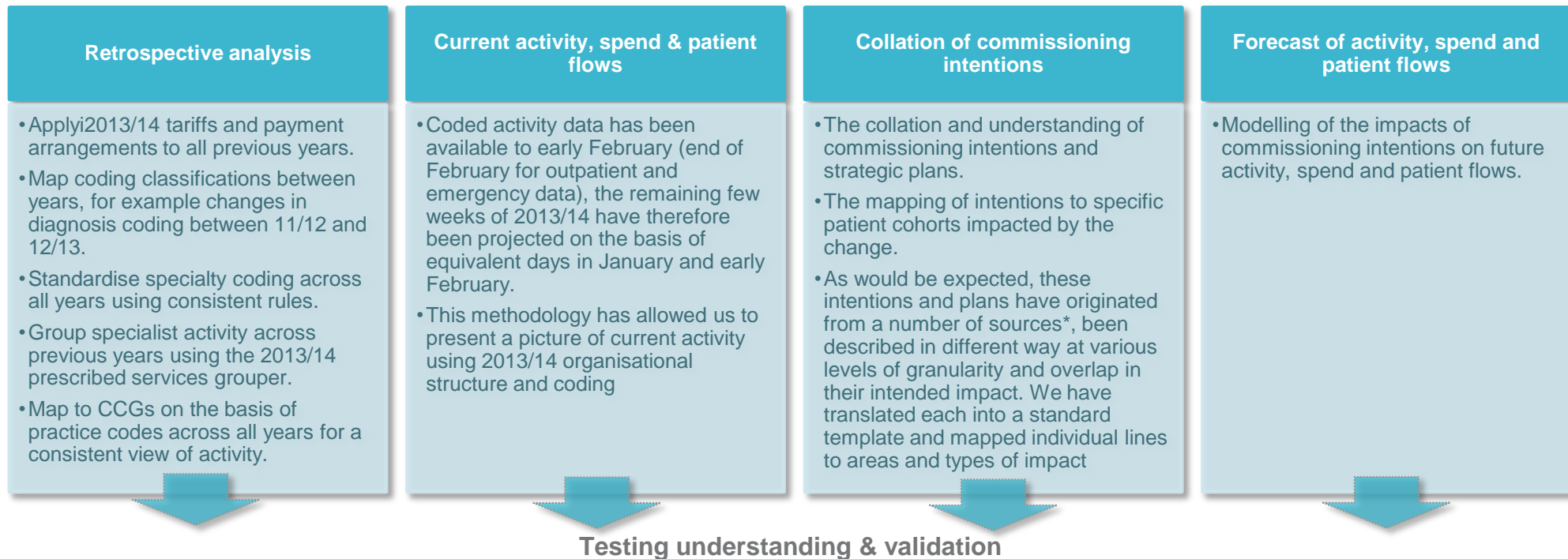
## Methodology



# Methodology

The key purpose of the initial high-level analysis is to differentiate between underlying growth and acuity, shifts between providers, re-provision of activity in alternative settings, changes to tariffs, local prices, payment mechanisms, technical coding and counting, contract penalties and incentives, recurrent and non-recurrent changes.

Data has been assembled and validated for financial years 2010/11, 2011/12, 2012/13 and 2013/14 to January 2014. We have created a 'standardised' view of the historic data to allow a like-for-like comparison over the three-year period.



Our approach to this assignment has been based on full engagement to ensure that the data and modelling outputs are validated at key points in the process, and that assumptions are verified and scenarios co-designed. The majority of engagement has been conducted through regular steering group meetings with key stakeholders, with additional sessions with NHS England as well as the wider area to understand specialist activity as well as potential impacts resulting from the Healthier Together programme.



## Methodology – Key assumptions and caveats

It is important to recognise some key caveats and assumptions that have been made as part of the analysis and this document in regard to data availability or methodological considerations.

Data provided for community services and mental health has only been available as an overall spend figure for each CCG, either based on forecast outturn or current budgets. Historic data or more detailed data of the current baseline has not been available, so representation of historic activity or future impact on commissioning intentions on community services should be seen as illustrative.

Acute spend figures are based on national tariff prices only, and will not include local pricing or costs for PbR excluded activity.

Assumptions on streaming of patients to other settings have been based on high level assumptions about the impact of avoiding acute admissions and reducing length of stay on non-acute services. The model does not make any assumptions about the efficacy of current non-acute bed use and makes no assumptions about community service productivity and capacity. Further work would be necessary to map current flows and understand current patterns of community provision to validate the findings.

Social Care data has also only been available as a high level spend per year, sourced from national data returns (PSS expenditure and unit costs, England) . The exact nature of the impact of changing social care funding and provision on health status and demand for health services cannot be inferred from the modelling at this point, further work would be required to understand the full impact.

In the modelling of future impacts of commissioning intentions, we have not assumed a reduction in daycase and elective admissions. This is to ensure that there is enough activity commissioned to deliver 18 weeks. It is also worth noting that baseline activity has been included ‘as-is’. This has not been adjusted for the impact of any over performance or explicit waiting list initiatives within the baseline period.

Assumptions relating to specialised commissioning have been based on high level shifts at specialty level only as the national “derogation list” was not available.

No specific assumptions have been made about the impact of public health interventions / prevention as it was not possible to derive clear assumptions from the information provided by Public Health England.

# CAPITA

## Retrospective analysis



Healthcare activity, spend and patient flows

# Key Findings - retrospective analysis

## Purpose of this section

The key purpose of the initial high-level analysis is to differentiate between underlying growth and acuity, shifts between providers, re-provision of activity in alternative settings, changes to tariffs, local prices, payment mechanisms, technical coding and counting, contract penalties and incentives, recurrent and non-recurrent changes. Data has been assembled and validated for financial years 2010/11, 2011/12, 2012/13 and 2013/14 to January 2014. We have created a 'standardised' view of the historic data to allow a like-for-like comparison over the three-year period.

## Main Findings

- The four CCGs have been relatively consistent in their activity trends seen over the past three years.
- With exception of a peak in winter 2012/13, non-elective activity has grown in line with underlying population growth, and has been relatively flat or decelerating in recent months, it appears that population pressure has been offset by schemes put in place to manage demand.
- Elective demand is growing overall but more of this is being carried out in the day case setting.
- The majority outpatient growth over the last year has been in non-GP referred activity
- All CCGs have seen a reduction or slowing of the upward trend in A&E attendances over the past year.
- The largest overall non-elective cost increases in individual specialties has been seen in Respiratory Medicine and General Medicine.
- The spend over time illustrates a disproportionate increase in spend compared to activity, which may be explained by increasingly more complex case mix, coding changes over time may have impacted on this.
- Overall the largest growth has been seen in the 65+ age group, which is also the highest spend area, suggesting that this is a particular area of opportunity, and that continued focus on frail/elderly patients will be of particular benefit to the health economy.

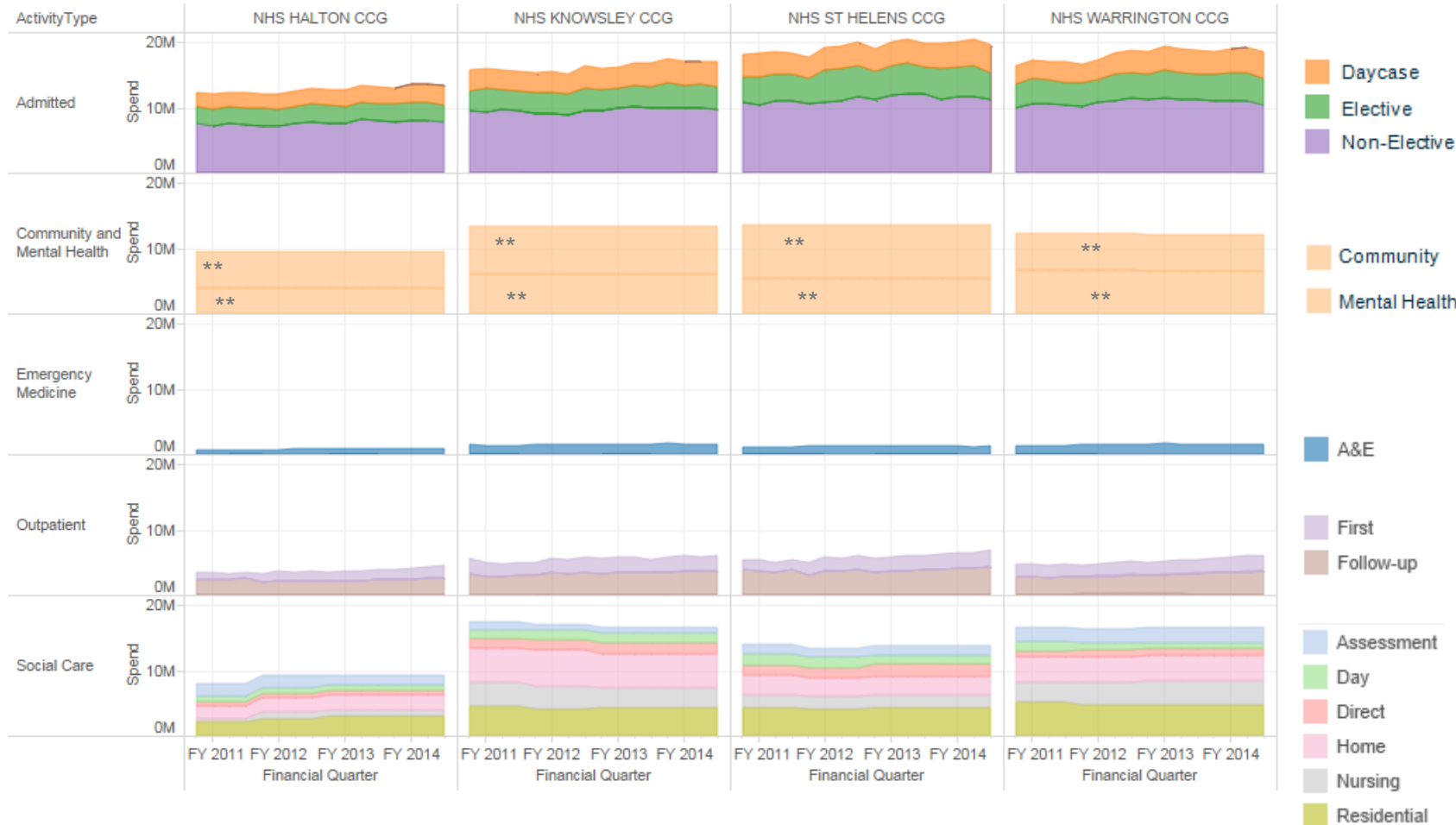
# Overview - Spend by setting

Overall acute spend has increased across all care settings and CCGs over the last three years. The overall increase has been 9% between 2010/11 and 2013/14, with the largest increases at NHS Warrington CCG (12%).

Social care spend has been flat at an aggregate level with variations between CCGs, highlighted in more detail in following slides.

Data provided for community services and mental health is an overall spend figure for each CCG. Historic data has not been available so trends are not shown graphically.

## All Care Settings



# Change over time in admitted activity

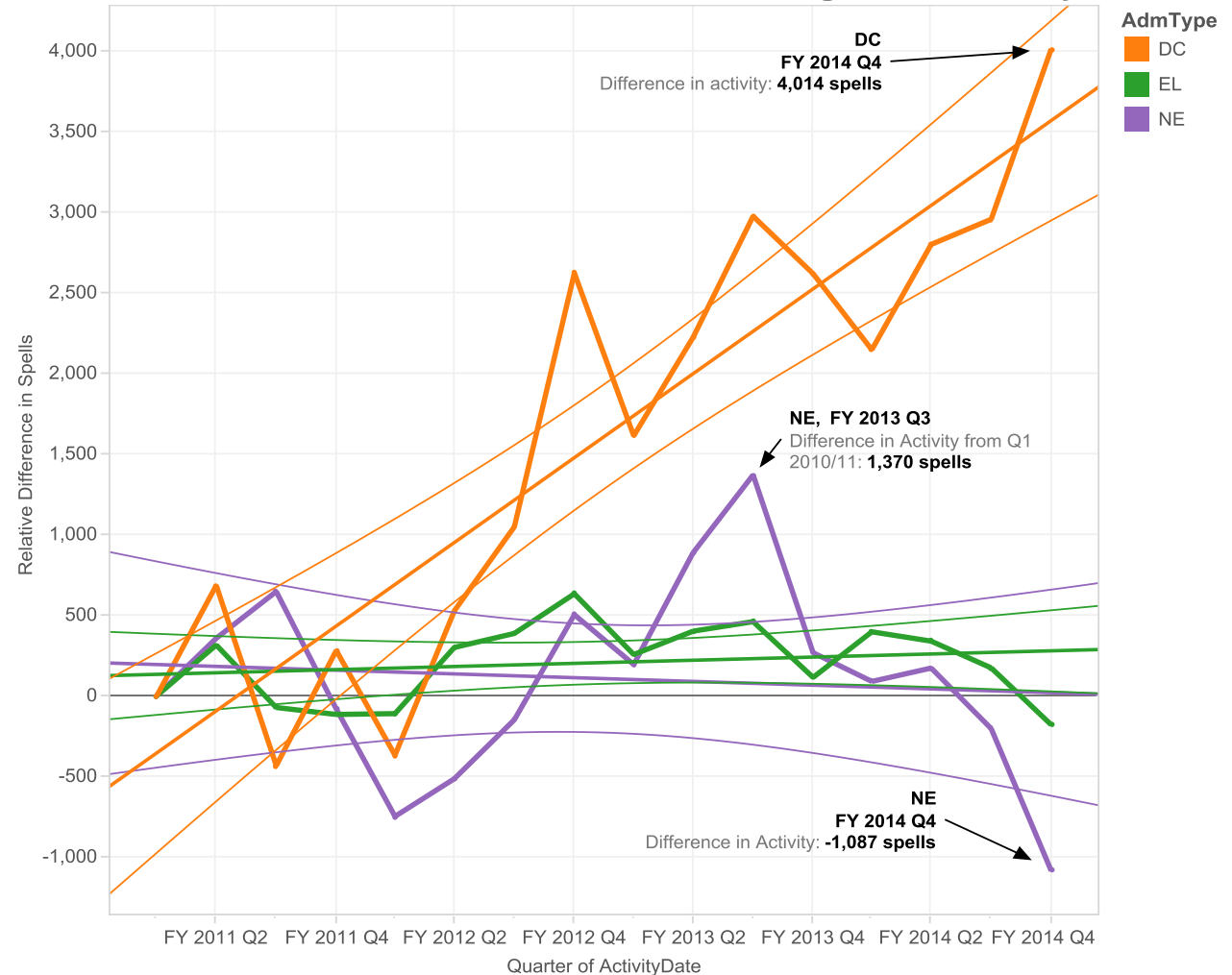
Retrospective analysis of the relative change (to the start of 2010/11) in admitted patient activity over time shows that there is:

- Overall a relatively flat to reducing trend in Non-Elective activity, with a peak in quarter 3 2012/13, likely due to the impact of winter in that period.
- A relatively flat rate in terms of inpatient elective activity, and a significant upward trend in day case activity, showing that elective demand is growing overall but more of this is being carried out in the day case setting.

This pattern is consistent across all CCGs within Mid Mersey, with smaller increases in day case activity for St Helens CCG.

Overall Trends - Relative change

Relative change in total activity



# Change over time in admitted spend

The same analysis of spend over time (standardised to 2013/14 tariff rules), illustrates an upward trend across all admitted patient settings.

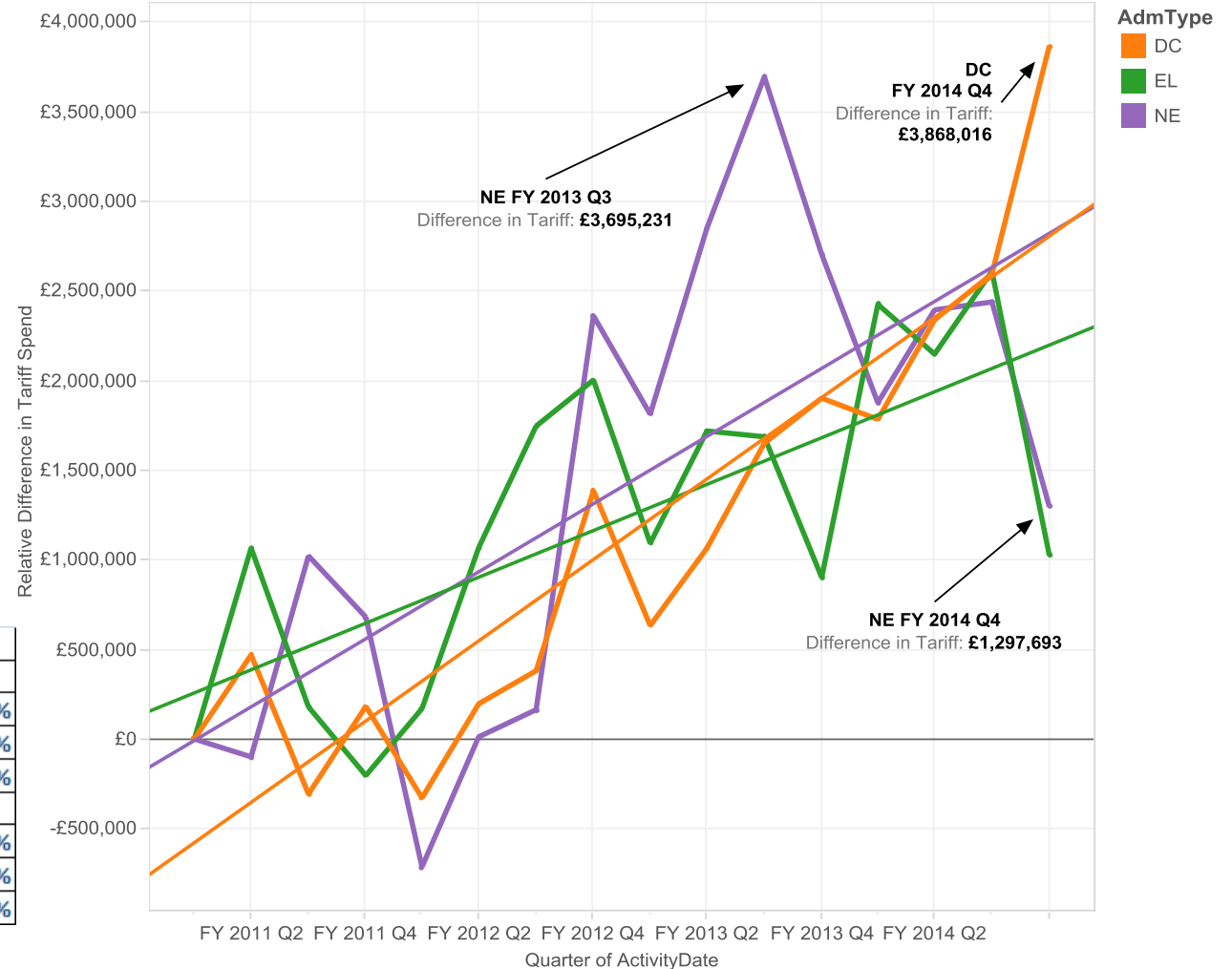
A possible explanation for an overall increasing inpatient tariff spend against the relatively flat rate of inpatient activity is increasingly more complex case mix, this could also be due to coding changes over time though it is difficult to distinguish between the two.

The table below shows the disproportionate impact of inpatient admitted patient activity on spend.

Rolling 4 months to	FY 2011 Q4	FY 2012 Q4	FY 2013 Q4
<b>% Change in activity</b>			
Daycase	0.6%	4.5%	11.2%
Elective	0.6%	5.6%	5.7%
Non-Elective	0.8%	-0.8%	2.4%
<b>% Change in spend</b>			
Daycase	0.6%	2.8%	9.1%
Elective	1.7%	8.1%	8.8%
Non-Elective	1.0%	1.1%	6.7%

Overall Trends - Relative change in tariff

Relative change in total tariff





# Change over time in outpatient activity

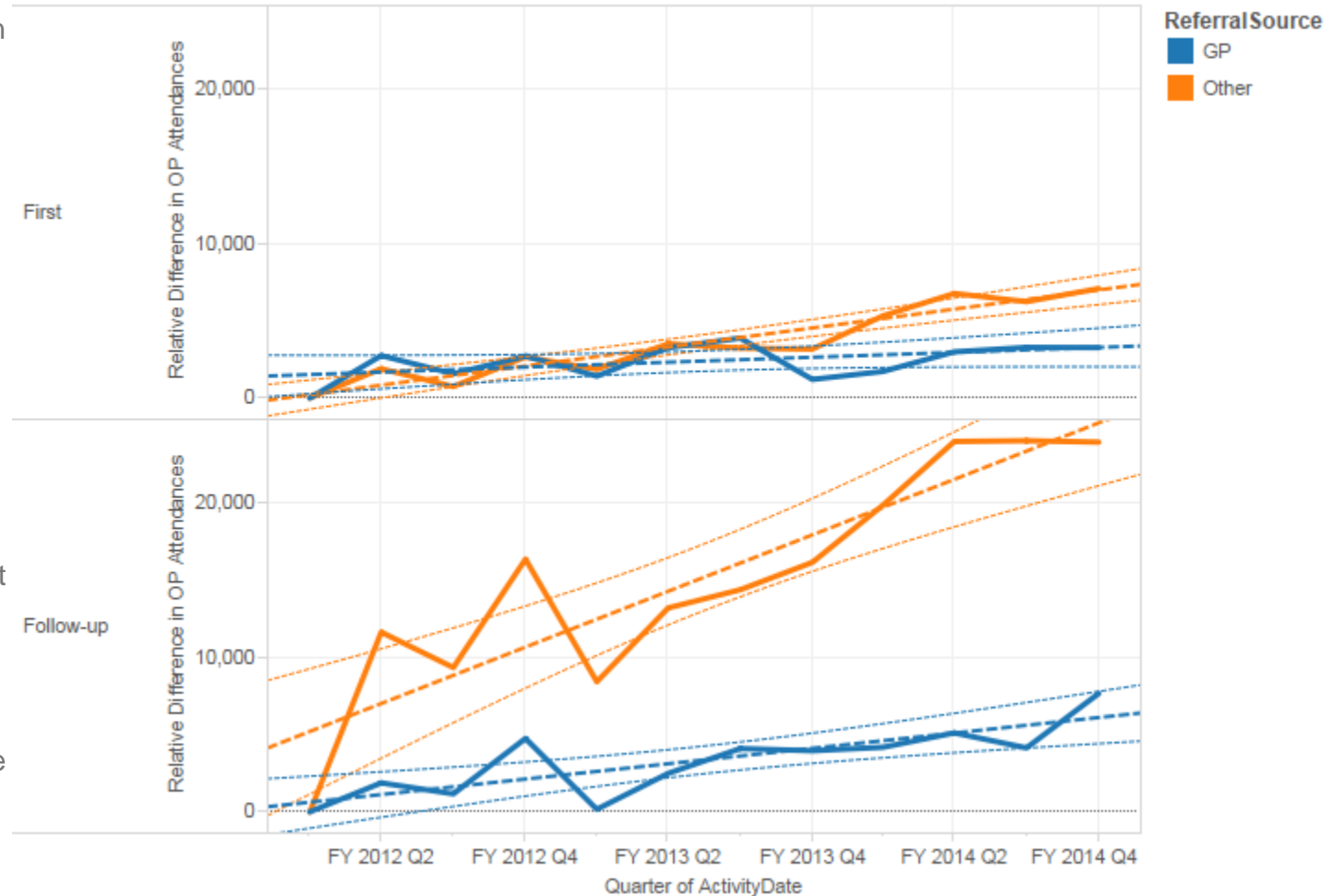
Outpatient activity has also shown an overall upward trend, with a growth of approximately 5% per year. First to Follow up ratios have remained consistent.

The majority of this growth over the last year has been in non-GP referred activity, and of that the major driver of growth has been in consultant referred activity, showing a 22% increase between 2012 and 2013.

These are areas where historic contract provisions may be expected to reduce activity, though this has not been the case. High volume areas where activity has increased include Urology, Orthopaedics, and Respiratory Medicine, although an element of the trend may also be due to increased recording of activity, with increases seen in in therapies and non-consultant led attendances.

Overall Trends - Outpatient

Relative change in total activity



# Change over time in emergency activity

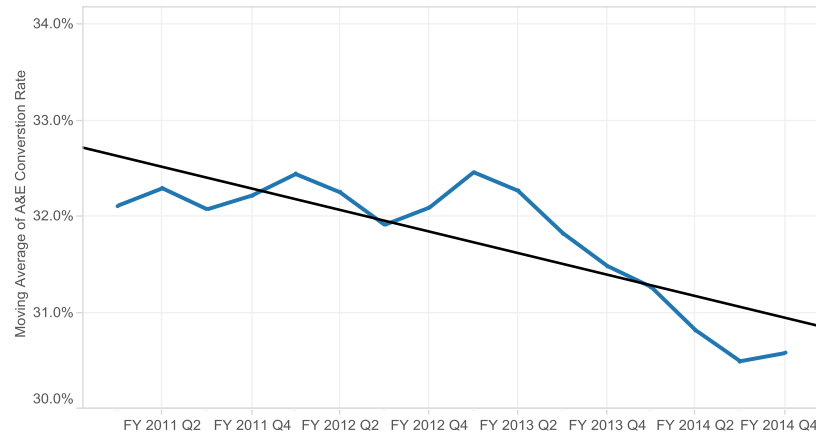
Overall A&E Activity has shown annual increases of between 2% and 4%. NHS Knowsley CCG saw a decrease between 2010/11 and 2011/12 before following a similar pattern to other CCGs.

All CCGs have seen a reduction or slowing of the upward trend in A&E attendances over the past year.

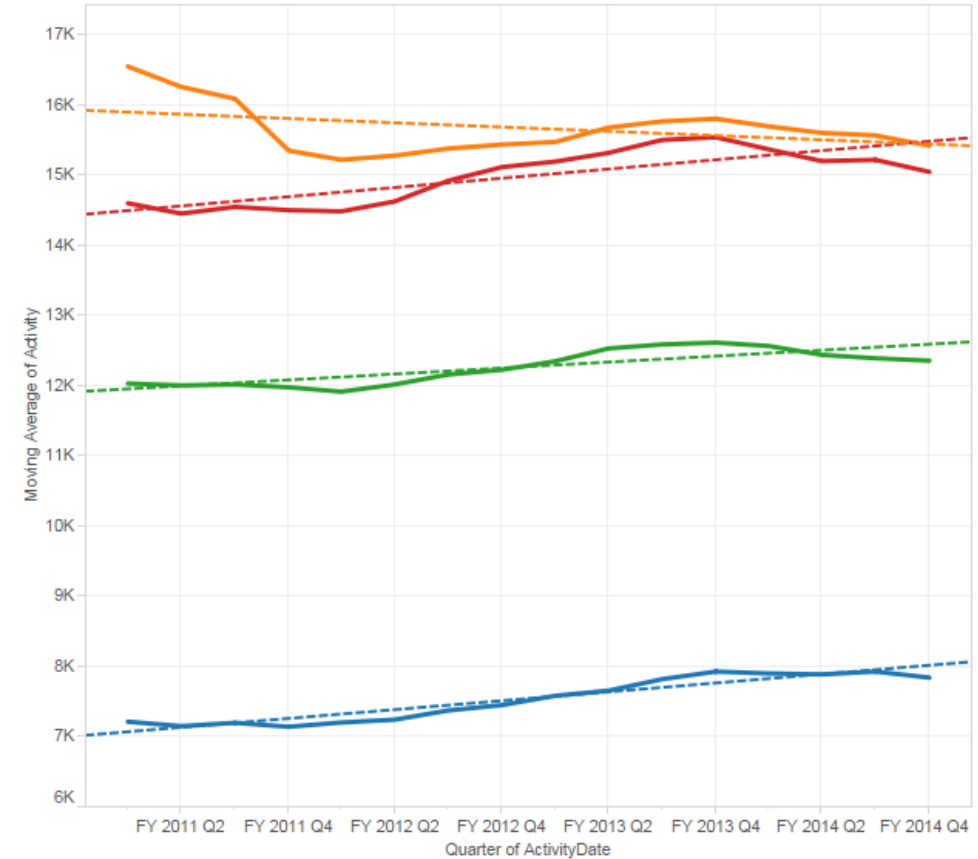
The majority of the growth in A&E attendances has been through self referrals with category 1 or 2 treatment (for example minor dressings, wound closure, tetanus course) , more of these attendances have been discharged without follow up treatment resulting in a decreasing conversion rate.

*Note - These figures exclude MIU and WIC activity which would reduce the overall conversion rate.*

A&E conversion



Activity Moving Average



- CCGName
- NHS HALTON CCG
- NHS KNOWSLEY CCG
- NHS ST HELENS CCG
- NHS WARRINGTON CCG

*(Note: the graphs here show a 4 quarter moving average to remove seasonality from the overall trend)*



## Change over time in specialties



To better understand shifts in specialty level activity and cost, specialties have been re-mapped across all years based on a set of standard rules to minimise the impact of changes in coding practice.

This standardisation includes:

- Initial mapping of treatment function codes (TFC's) to more general specialties (for example Gastroenterology initially mapped to general medicine)
- Standard mapping of children's surgery to paediatric surgical specialties (for example Paediatric ENT rather than ENT where age is under 18)
- Mapping of births to Neonatology and well babies
- Re-mapping of all treatment function codes originally mapped to general medicine based on HRGs (for example re-mapping to gastroenterology specialty for all digestive, hepatobiliary, pancreatic system HRGs)

# Change over time in non-elective specialties

The largest overall non-elective cost increases in individual specialties have been seen in Respiratory Medicine and General Medicine, with approximately £3 million growth in spend across the four CCGs between 2011/12 and 2013/14.

Breaking down activity by age, the major components of this growth in activity are seen in the older age bands, particularly amongst the over 65's.

Elective inpatient growth has been seen primarily in the Trauma and Orthopaedics specialty, also driven by older age groups.

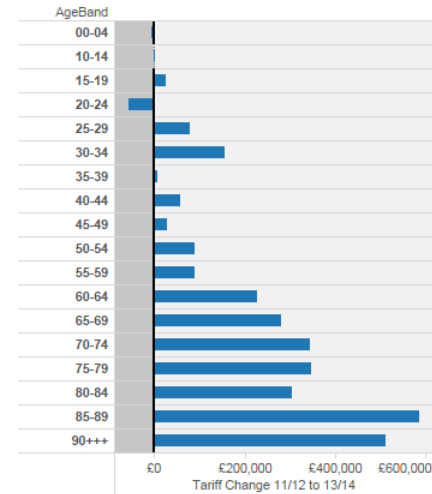
*Note: growth in Urology activity in the above may be due to re-coding not accounted for in re-mapping of specialties.*

## Tariff Change - Specialty

SpecialtyRemapped	Tariff Change 11/12 to 13/14	Percent Change
Respiratory Medicine	£3,267,859	25%
General Medicine	£3,072,840	12%
Urology	£899,347	75%
General Surgery	£703,293	4%
Paediatric Medicine	£597,011	7%
Stroke Medicine	£533,949	15%

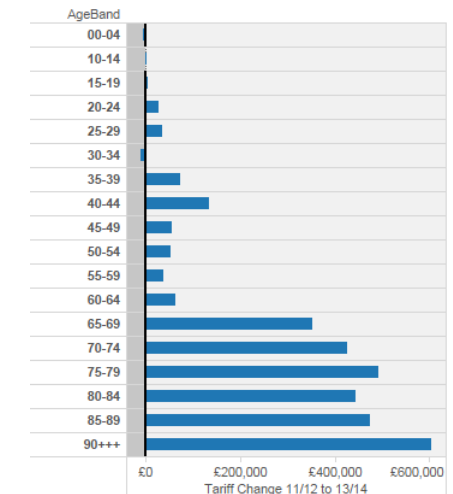
## General medicine by age

Tariff Change - Age Band



## Respiratory medicine by age

Tariff Change - Age Band



# Change over time in respiratory medicine

HRG level shifts in non-elective respiratory medicine show the largest increase in pneumonia, which has also seen the largest cost increase across all non-elective activity.

At the other end of the scale there are also corresponding decreases against lower complexity COPD HRGs, which may supports the local observation that changes in coding practice may also be having an impact on shifts between conditions, and that this may not all be natural demand. We can only infer this theory based on the activity data – a case note audit for patients would yield more information on this.

## Tariff Change - HRG

HRG2Description	Tariff Change 11/12 to 13/14	Tariff Percent Change 11/12 to 13/14
DZ11A Lobar, Atypical or Viral Pneumonia with Major CC	£1,831,362	46%
DZ24A Inhalation Lung Injury or Foreign Body with Major CC	£246,496	74%
DZ21H Chronic Obstructive Pulmonary Disease or Bronchitis without..	£185,843	12%
DZ03A Major Thoracic Procedures with CC	£168,359	65%
DZ22A Unspecified Acute Lower Respiratory Infection with Major CC	£148,181	27%
DZ09A Pulmonary Embolus with Major CC	£90,284	37%
DZ11B Lobar, Atypical or Viral Pneumonia with CC	£65,291	9%
- - - - -		
DZ07A Fibre optic Bronchoscopy 19 years and over	-£16,869	-7%
LB13A Bladder Major Endoscopic Procedure with CC	-£17,057	-100%
JC03A Major Skin Procedures category 1 with Major CC	-£17,356	-75%
DZ20Z Pulmonary Oedema	-£22,793	-44%
DZ27D Respiratory Failure without Intubation with Major CC	-£22,951	-12%
EB03I Heart Failure or Shock without CC	-£22,999	-49%
DZ21K Chronic Obstructive Pulmonary Disease or Bronchitis without..	-£23,651	-20%
DZ21F Chronic Obstructive Pulmonary Disease or Bronchitis with NI..	-£24,984	-51%
DZ21J Chronic Obstructive Pulmonary Disease or Bronchitis without ..	-£42,029	-4%
DZ23A Bronchopneumonia with Major CC	-£51,969	-46%
DZ16A Pleural Effusion with Major CC	-£61,824	-12%

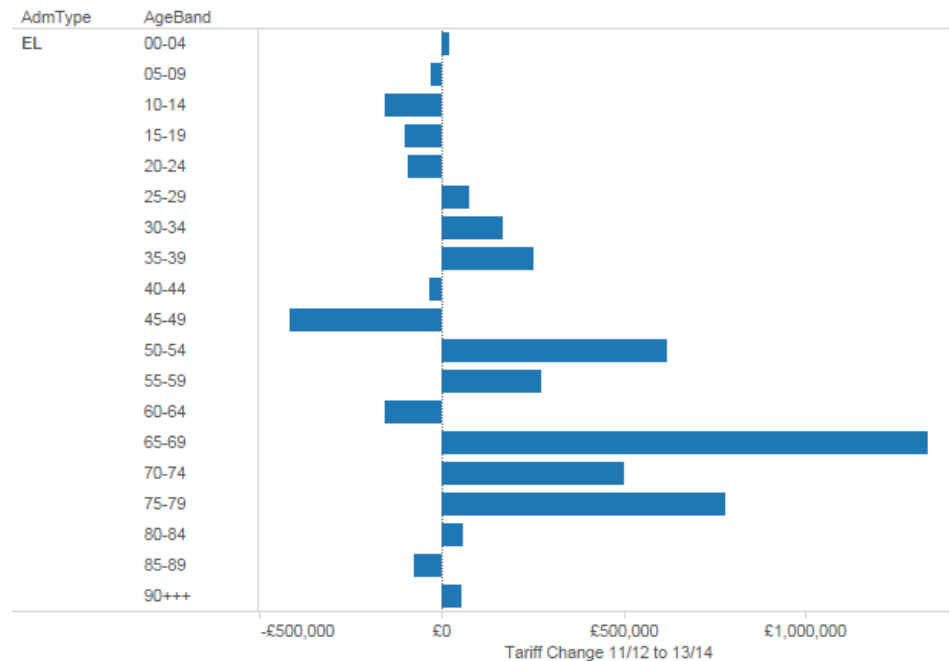
# Change over time in age groups

Overall the largest growth has been seen in the over 65 age group as seen in the general and respiratory medicine trends.

There have also been larger increases in neonatal activity, particularly provided by St Helens and Knowsley Hospitals NHS Trust and Alder Hey Children’s NHS Foundation Trust, Warrington and Halton Hospitals NHS Foundation Trust does not contribute to this growth. On further investigation the non-elective neonatal spend is not commensurate with activity for these providers, but particularly for Alder Hey where a flat rate of activity has seen a 15% increase in the standardised tariff spend – this may be a result of changes in case mix due to the specialist status of the Trust.

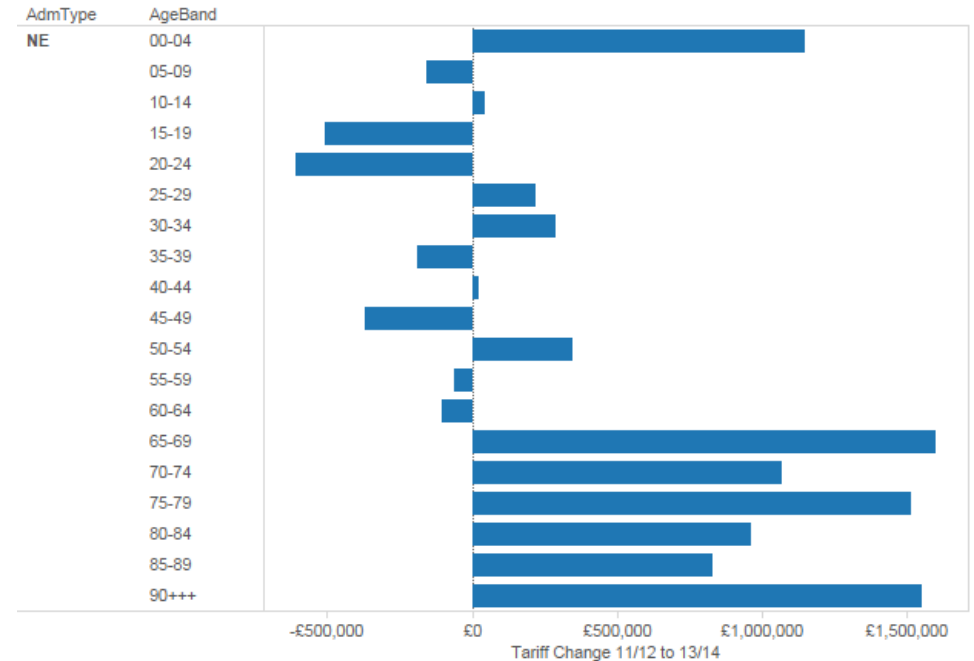
## Elective inpatient

Tarriff Change - Age by Admission Type



## Non-elective inpatient

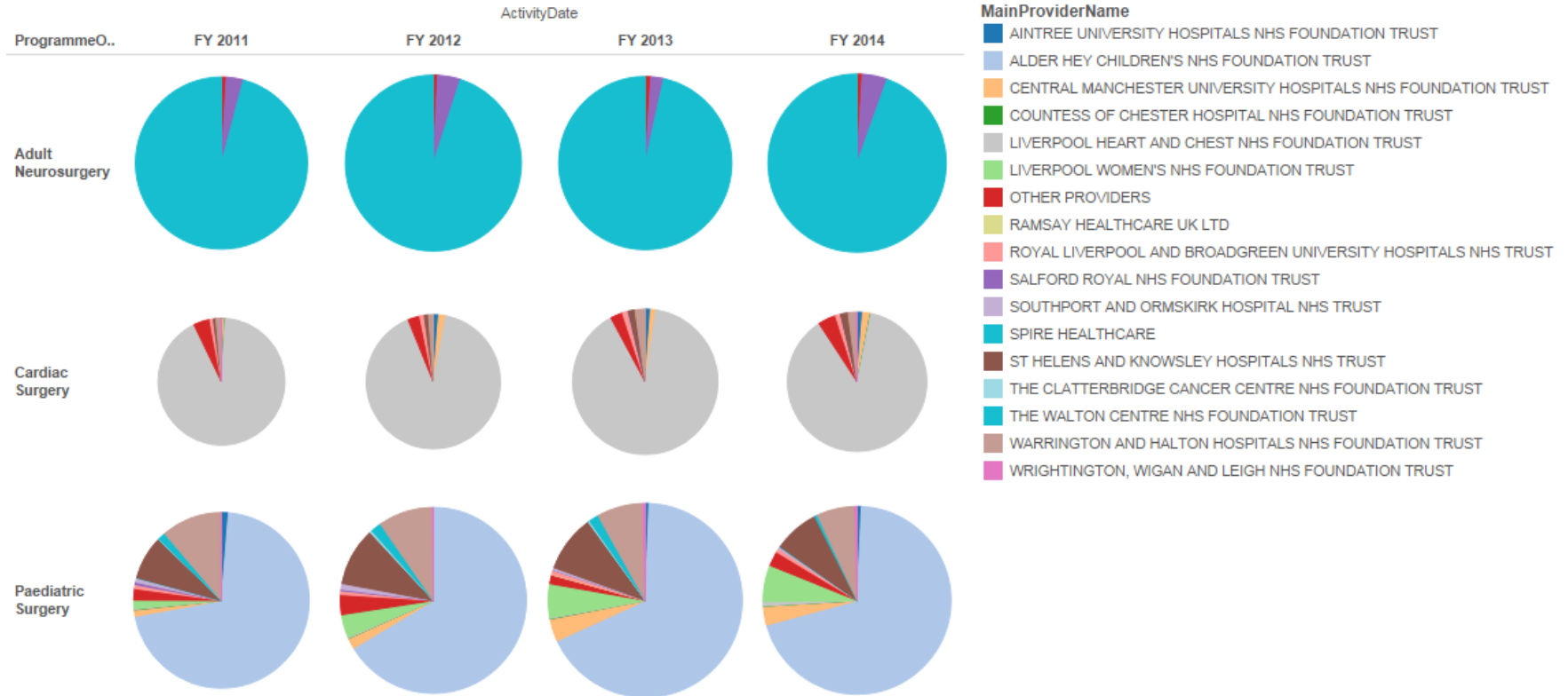
Tarriff Change - Age by Admission Type



# Change over time in specialised commissioning

Historic specialist activity has been grouped to programmes of care using the 2013/14 prescribed services grouper to give a more standardised trend over time. The higher spend areas of Adult Neurosurgery, Cardiac Surgery and Paediatric Surgery are shown below with share of activity by provider – these areas have remained broadly consistent in terms of activity and share over the historic period, demonstrating no major shifts in provider flow.

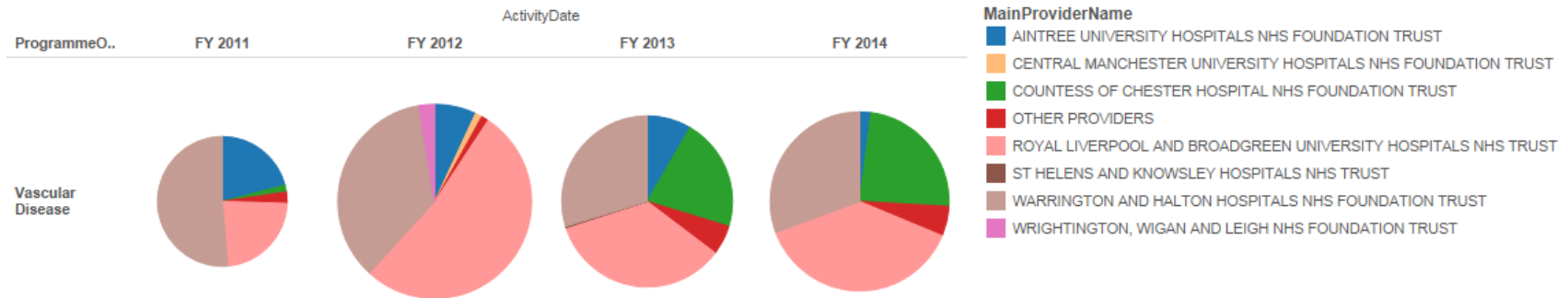
## SpecComm Share



# Change over time in specialised commissioning

The only specialty to have seen significant change in activity patterns is vascular surgery, reflecting the reconfiguration of vascular services across Cheshire and Merseyside, where service delivery had been consolidated at the Countess of Chester Hospital and Royal Liverpool and Broadgreen Hospitals.

## SpecComm Share



Taking a standardised view of specialist commissioning (pre-applying current classifications and disregarding organisational changes) the overall spend shows only small growth of approximately 4% per year over the last three years. This is not vastly out of line with other Acute growth.

## Specialist Commissioning





# Changes over time in key patient cohorts

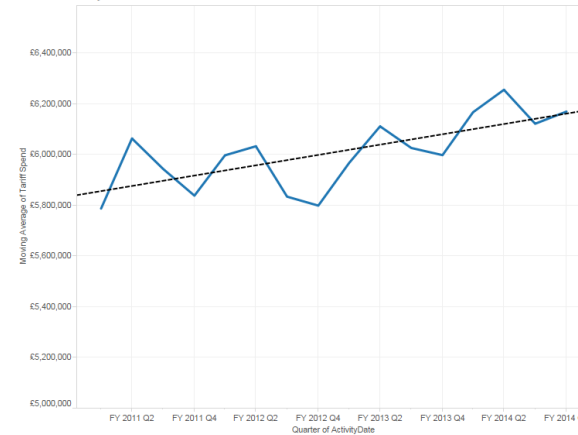
We have investigated the change in activity and bed days in key patient cohorts – these include potentially avoidable emergency admissions (based on NURHA and ACS conditions) as well as bed days for areas where length of stay may be extended, including for elderly patients and those with a secondary diagnosis of dementia.

Emergency admissions for conditions that should not usually require hospital admission have shown an overall increasing trend, essentially growing at a rate comparable with population growth, and being driven by increases in UTI and influenza and pneumonia.

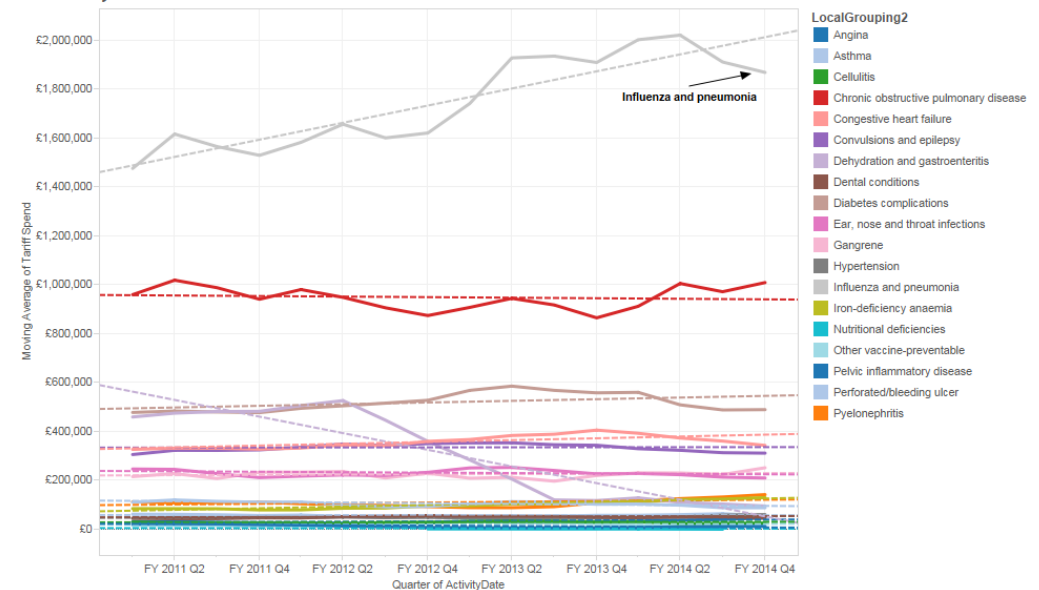
Bed days for the elderly (over 75s) have also shown an increasing trend, with some signs of a flattening trend over recent quarters. The largest increases have been seen in the 90+ age group.

Bed days for those with Dementia have slightly increasing trend overall, with the largest component of this growth driven by increases in St Helens and Warrington CCGs but with decreases in Halton CCG.

NURHA activity



ACS activity



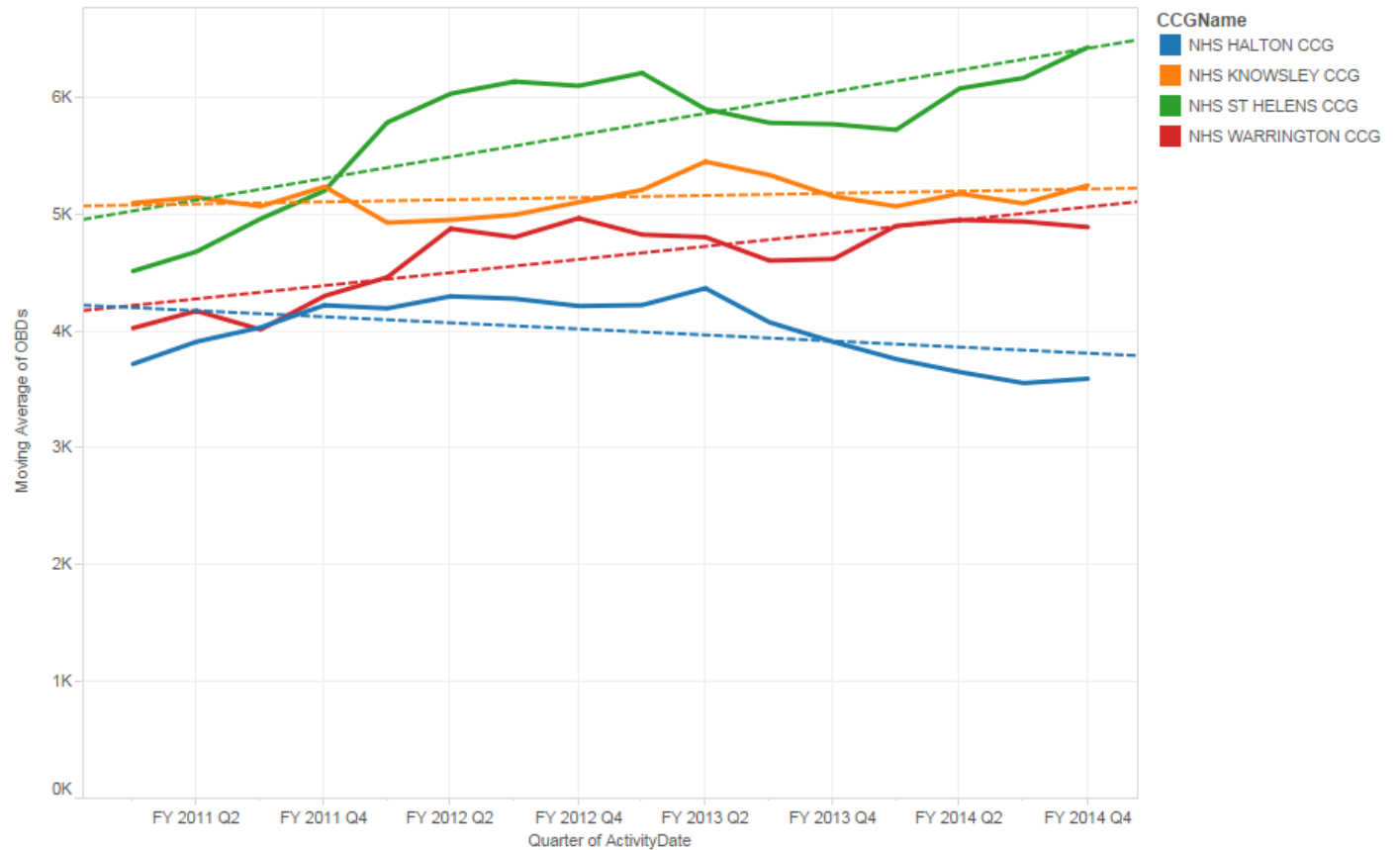
- LocalGrouping2
- Angina
  - Asthma
  - Cellulitis
  - Chronic obstructive pulmonary disease
  - Congestive heart failure
  - Convulsions and epilepsy
  - Dehydration and gastroenteritis
  - Dental conditions
  - Diabetes complications
  - Ear, nose and throat infections
  - Gangrene
  - Hypertension
  - Influenza and pneumonia
  - Iron-deficiency anaemia
  - Nutritional deficiencies
  - Other vaccine-preventable
  - Pelvic inflammatory disease
  - Perforated/bleeding ulcer
  - Pyelonephritis

# Changes over time in key patient cohorts – dementia bed days

This graph shows a moving average of bed days per quarter for patients with dementia.

Halton CCG exhibit a negative trend in contrast to the growth seen in other CCGs and it would be worth investigating whether there has been any change in approach between CCGs in this area.

Bed Days - key cohorts



# Changes over time in key patient cohorts – over 75's non elective

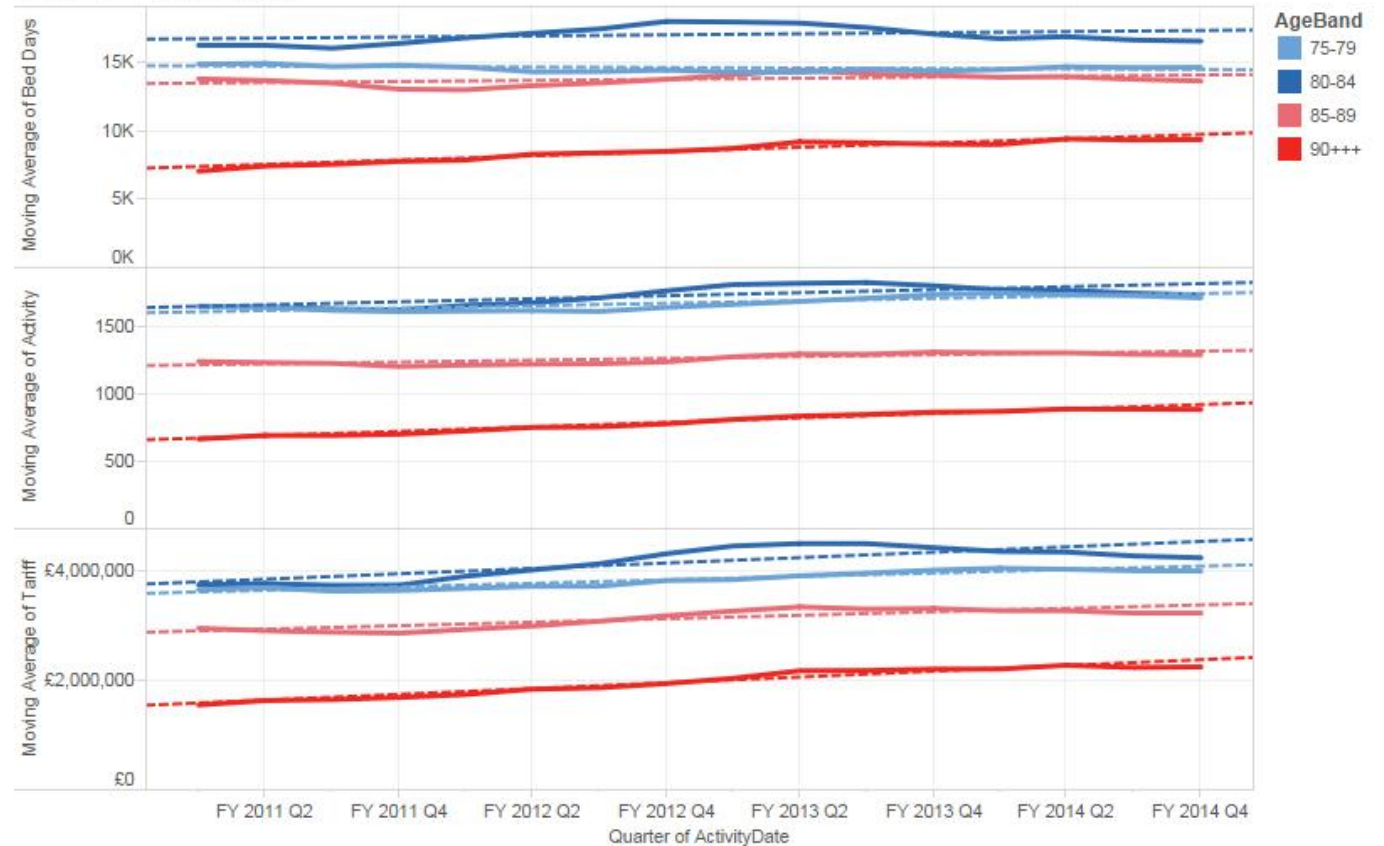
This chart shows a moving average of the different age bands over the age of 75 against emergency spells, bed days, and tariff.

All show an increasing trend, but potential a slowing over recent quarters.

The over 90 age group shows the largest increase over time with around 10% per annum growth in tariff.

There is a higher overall increase in tariff than activity, and a smaller bed day increase. This evidences the increased complexity and decreasing average length of stay for this cohort over time.

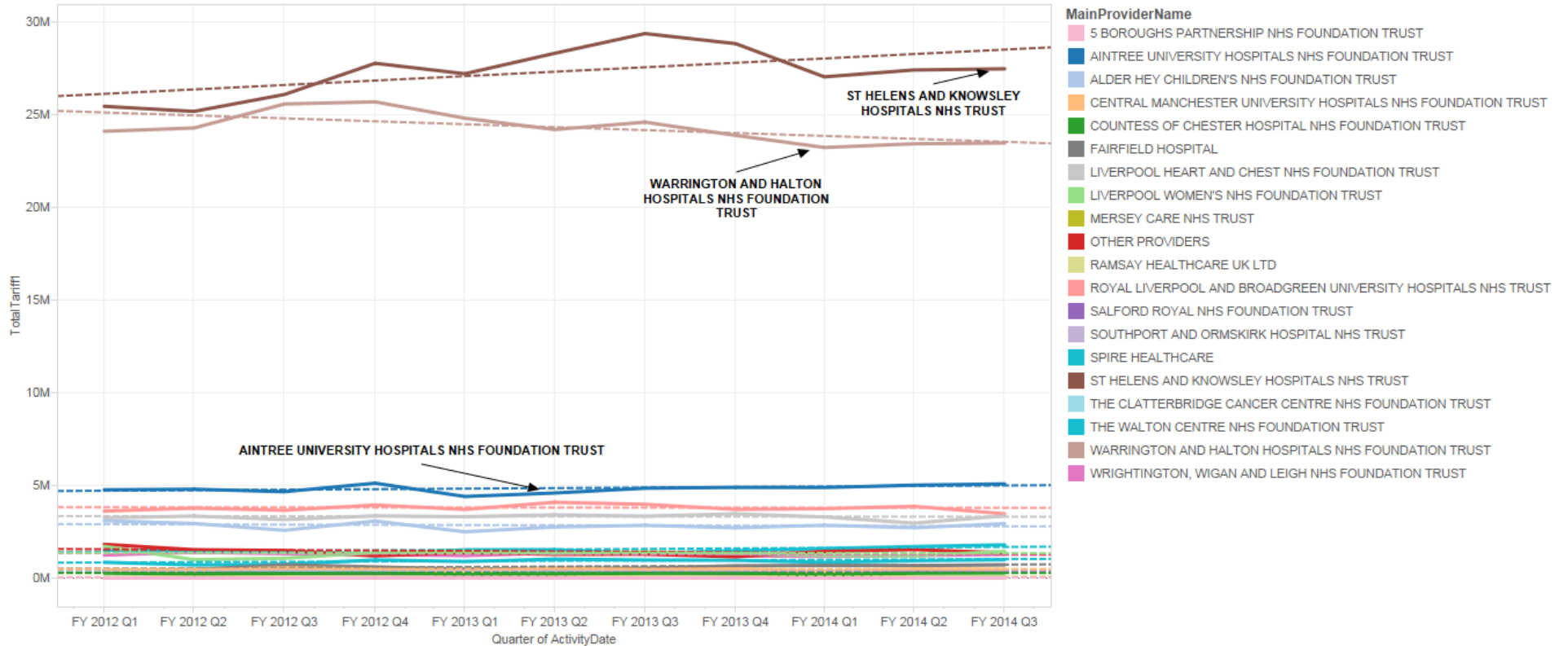
Bed Days - key cohorts



# Changes over time in provider activity and spend

Looking at a high level trend in provider spend in admitted patient activity shows a difference between St Helens and Knowsley Hospitals Trust and Warrington and Halton Hospitals Foundation Trust in terms of overall admitted patient spend. The high level trend illustrates an increase for St Helens and Knowsley, although a decreasing trend for Warrington and Halton. The increasing trend for St Helens and Knowsley is primarily driven by increases in non-elective spend, approximately 50% of this is driven by increases in activity and the remainder through changes in casemix or coding.

Spend by Provider



# Changes over time in provider activity and spend

The tables here show the change in tariff spend at St Helens and Knowsley NHS Trust and Warrington and Halton NHS Foundation Trust, split by feeding CCG.

At St Helens and Knowsley, both elective and non-elective spend has risen across all CCGs.

Warrington and Halton NHS Foundation Trust has generally shown reductions in non elective spend, with a small increase for Warrington CCG. Elective spend at this provider has increased for both Halton and Warrington CCGs, with a small reduction in spend for Knowsley and St Helens.

## Non elective Spend - St Helens and Knowsley NHS Trust

CCG	2010/11	2011/12	2012/13	2013/14	Change 2010/11 to 2013/14	
					Additional Annual Spend	Percent Change
NHS HALTON CCG	£ 10,599,447	£ 11,232,789	£ 13,096,303	£ 13,096,479	£ 2,497,032	24%
NHS KNOWSLEY CCG	£ 18,326,237	£ 17,988,987	£ 20,909,650	£ 21,814,252	£ 3,488,015	19%
NHS ST HELENS CCG	£ 30,527,251	£ 31,439,711	£ 34,666,642	£ 33,642,406	£ 3,115,155	10%
NHS WARRINGTON CCG	£ 508,970	£ 574,121	£ 829,230	£ 864,555	£ 355,585	70%

## Elective Spend - St Helens and Knowsley NHS Trust

CCG	2010/11	2011/12	2012/13	2013/14	Change 2010/11 to 2013/14	
					Additional Annual Spend	Percent Change
NHS HALTON CCG	£ 3,623,008	£ 4,174,196	£ 4,469,964	£ 4,767,883	£ 1,144,875	32%
NHS KNOWSLEY CCG	£ 6,748,261	£ 7,356,146	£ 7,691,397	£ 8,257,903	£ 1,509,642	22%
NHS ST HELENS CCG	£ 15,409,357	£ 16,986,001	£ 17,679,406	£ 19,166,807	£ 3,757,449	24%
NHS WARRINGTON CCG	£ 868,437	£ 794,095	£ 987,812	£ 1,050,724	£ 182,287	21%

## Non elective Spend - Warrington and Halton Hospitals NHS Foundation Trust

CCG	2010/11	2011/12	2012/13	2013/14	Change 2010/11 to 2013/14	
					Additional Annual Spend	Percent Change
NHS HALTON CCG	£ 14,737,124	£ 14,401,451	£ 13,923,709	£ 13,639,336	-£ 1,097,788	-7%
NHS KNOWSLEY CCG	£ 199,739	£ 278,162	£ 309,541	£ 151,960	-£ 47,779	-24%
NHS ST HELENS CCG	£ 5,407,645	£ 5,461,510	£ 5,214,667	£ 4,799,294	-£ 608,351	-11%
NHS WARRINGTON CCG	£ 36,313,972	£ 37,551,694	£ 39,054,756	£ 37,250,990	£ 937,018	3%

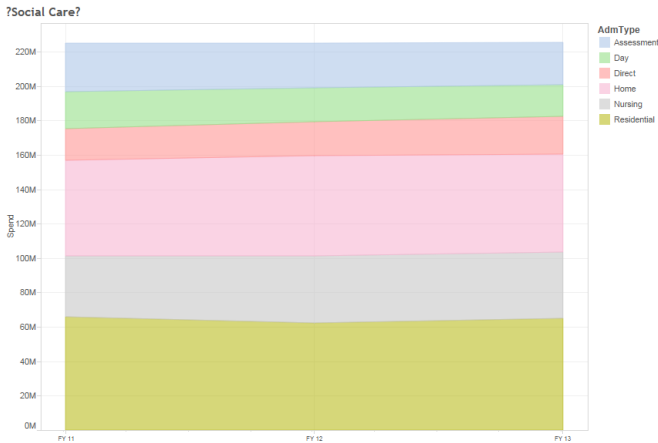
## Elective Spend - Warrington and Halton Hospitals NHS Foundation Trust

CCG	2010/11	2011/12	2012/13	2013/14	Change 2010/11 to 2013/14	
					Additional Annual Spend	Percent Change
NHS HALTON CCG	£ 8,157,385	£ 8,866,713	£ 8,934,208	£ 10,356,601	£ 2,199,216	27%
NHS KNOWSLEY CCG	£ 230,720	£ 230,317	£ 173,739	£ 204,558	-£ 26,162	-11%
NHS ST HELENS CCG	£ 1,895,056	£ 2,115,517	£ 1,798,438	£ 1,591,910	-£ 303,146	-16%
NHS WARRINGTON CCG	£ 15,173,276	£ 17,775,089	£ 19,139,970	£ 19,473,749	£ 4,300,473	28%

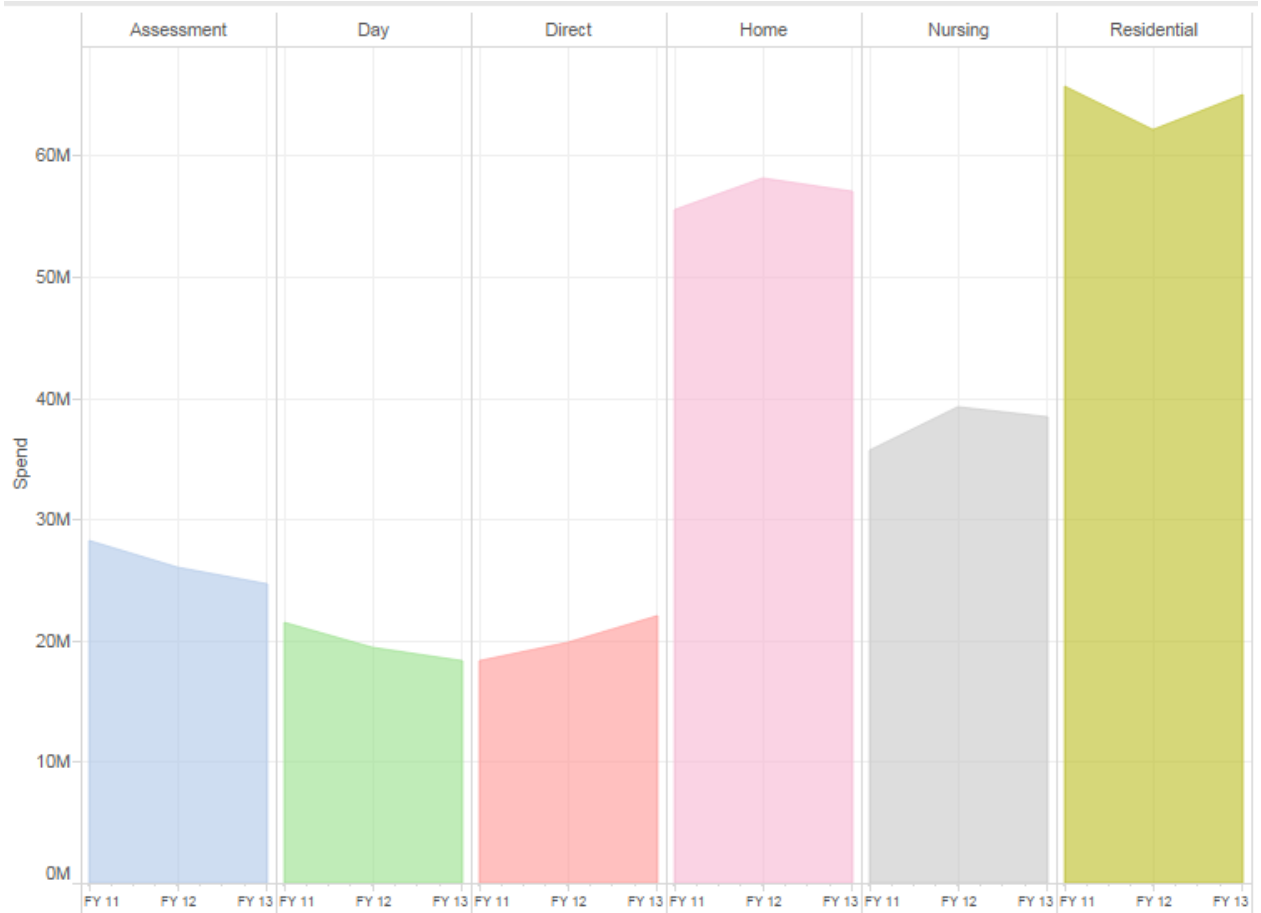
# Changes over time in social care spend

Overall total spend on assessments, direct payments, day, home, nursing and residential care has remained consistent between 2010/11 and 2012/13, though there are significant variations between modes of care and within each area. Spend on assessments and day care have reduced overall, with increases in direct payments, home and nursing care. The downward trend in assessments is interesting and warrants further investigation into the cause in order to understand whether this impacts elsewhere in the system.

## Social Care Spend by setting



## Social Care Spend by setting



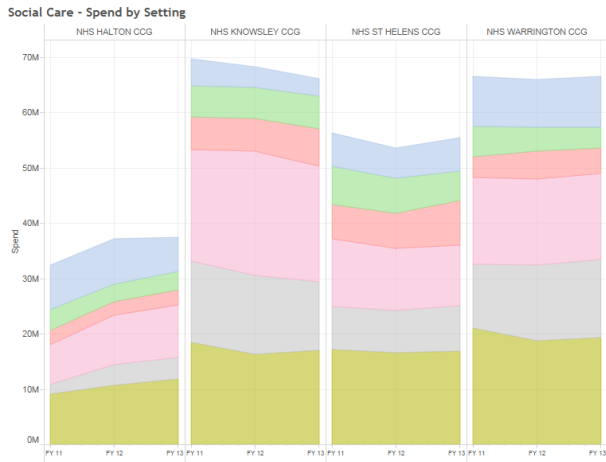
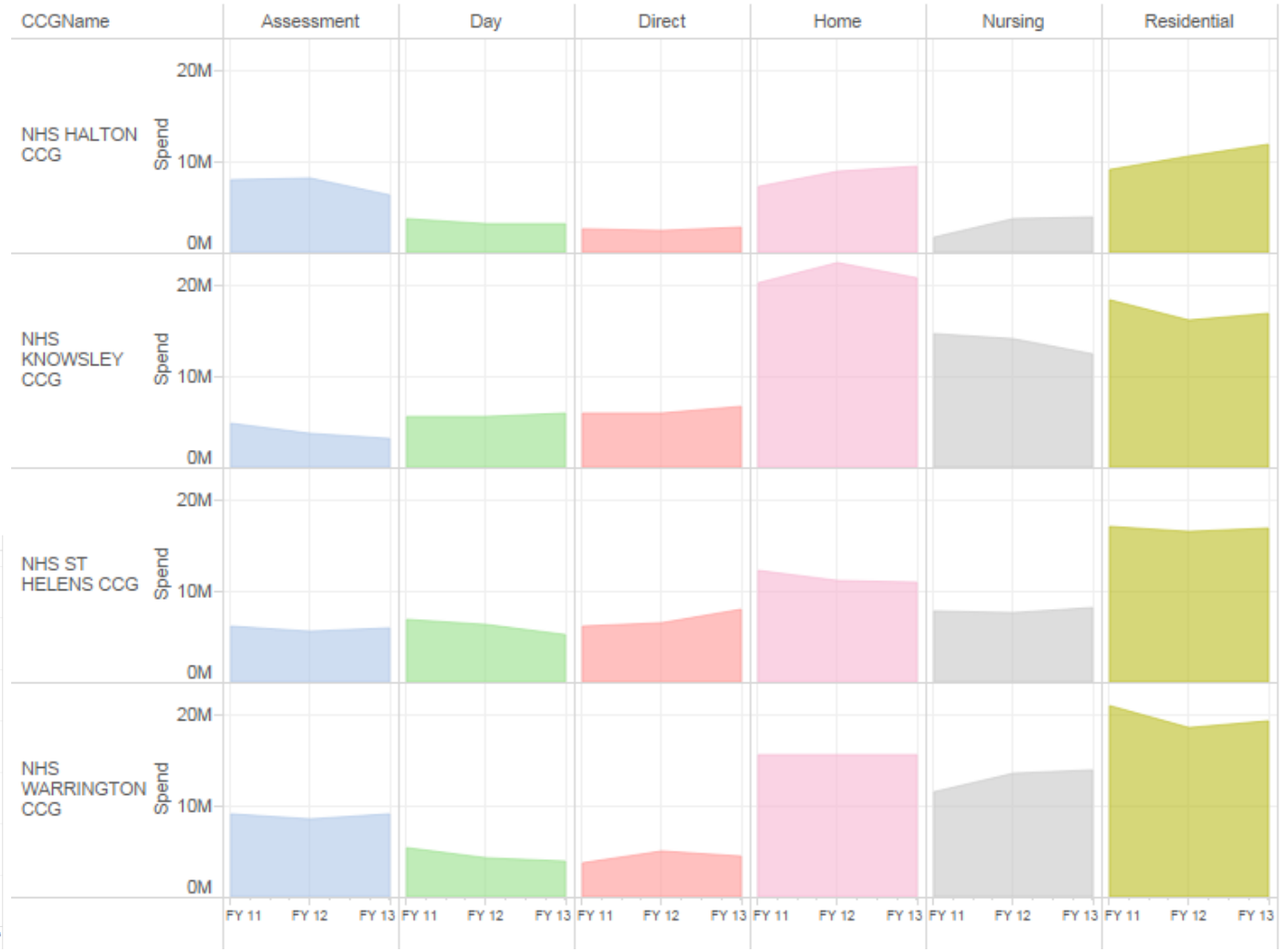
# Changes over time in social care spend

Looking at social care spend by area generally shows a decreasing or flat spend, with trends in line with the general policy towards increases in home based and reductions in institutional care.

Conversely, Halton shows an increase in home, residential care, as well as nursing care, although spends a proportionally lower amount on nursing care than the other boroughs.

Knowsley spends a relatively high proportion on home care, but still has higher numbers of permanent admissions to permanent residential care than peer, region and national average (source: Adult Social Care Outcome Framework 2012/13).

## Social Care - Spend by Setting





# CAPITA

## Current baseline



Profile of current activity, spend and patient flows



# Key Findings - current activity, spend and patient flows

## Purpose of this section

We have applied similar principles as to the historic analysis to 2013/14 activity to date to profile current activity, spend and patient flows in order to present a picture of current activity using 2013/14 organisational structure and coding. We provide a statement of the baseline position as well as comparisons of current activity levels between practices and between CCGs to understand variation in the baseline.

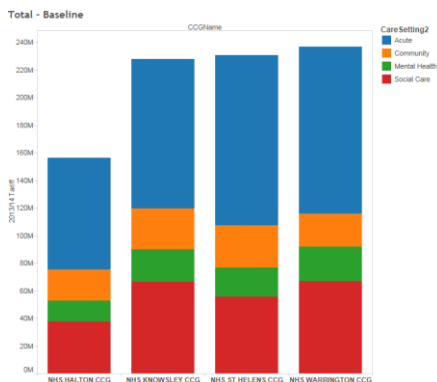
## Main Findings

- There is a large scale of variation between practices in terms of admission rates, attendance rates and outpatient performance, even after adjusting for populations and weighting for healthcare need.
- The degree of variation increases the smaller the practice is, which suggests that federated general practice at scale is a factor in reducing variation and spend, which may also result in improved outcomes.
- There is a similar level of overall acute spend per head between the CCGs, combined with larger variation in non-acute spend per head, this may indicate that the level of acute activity is either true patient demand (i.e. there is a level of acute activity that goes into hospital regardless of what is commissioned elsewhere) or that this is led by the providers capacity to accommodate demand (supply led demand).
- With some exceptions the patient flow from practice to provider follows a natural pattern, with limited opportunity for repatriation from Liverpool or Manchester.
- Working up analysis alongside local knowledge suggests that practices that have a focus on health and wellbeing and integrated care benefit from a reduced demand for acute services. Lower admission rates were highlighted for particular practices where there has been a recognised long term focus on health improvement and prevention.

# Statement of Baseline position

The baseline position within the scope of this analysis is based on 2013/14 activity (projected – see methodology) and is made up of £404M acute tariff, 193M spend between community and mental health, and £225M spend in key social care areas.

This baseline forms the basis of the forward projections.



NHS HALTON CCG NHS KNOWSLEY CCG NHS ST HELENS CCG NHS WARRINGTON CCG Grand Total

## A&E

Attendances		87,530		117,467		115,990		64,998		385,985
Tariff	£	4,325,324	£	6,224,125	£	5,422,793	£	6,251,392	£	22,223,634

## Outpatient

Attendances		264,755		289,577		319,655		362,077		1,236,064
Tariff	£	17,253,810	£	24,388,683	£	27,683,107	£	23,695,318	£	93,020,918

## APC

Spells		44,800		57,579		62,304		60,523		225,206
Bed Days		117,154		149,538		172,196		161,376		600,264
Tariff	£	56,013,713	£	71,075,293	£	83,453,031	£	79,002,541	£	289,544,577

## Community

Spend	£	22,084,256	£	29,128,129	£	32,790,430	£	22,628,124	£	106,630,939
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## Mental Health

Spend	£	15,609,625	£	24,299,852	£	21,529,878	£	25,609,434	£	87,048,789
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## Social Care

Assessment and care management	£	6,250,000	£	3,210,000	£	6,031,000	£	9,094,000	£	24,585,000
Day Care / Day Services	£	3,254,000	£	5,963,000	£	5,262,000	£	3,828,000	£	18,307,000
Direct Payments	£	2,725,000	£	6,677,000	£	8,069,000	£	4,537,000	£	22,008,000
Home care	£	9,500,000	£	20,887,000	£	10,962,000	£	15,636,000	£	56,985,000
Nursing care placements	£	3,879,000	£	12,397,000	£	8,152,000	£	13,996,000	£	38,424,000
Residential care placements	£	11,832,000	£	16,996,000	£	16,887,000	£	19,340,000	£	65,055,000

<b>£ Total</b>	£	<b>152,726,727</b>	£	<b>221,246,082</b>	£	<b>226,242,239</b>	£	<b>223,617,808</b>	£	<b>823,832,857</b>
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# Baseline position – Provider share

This chart shows an aggregated view of the share of activity for each provider with each CCG, between day case, elective, non-elective, A&E, outpatient first and follow up. The pattern of provision is as expected given the geographical distribution of practices and illustrates the availability of a range of providers, particularly for Knowsley residents.

Baseline - Provider share by setting and CCG

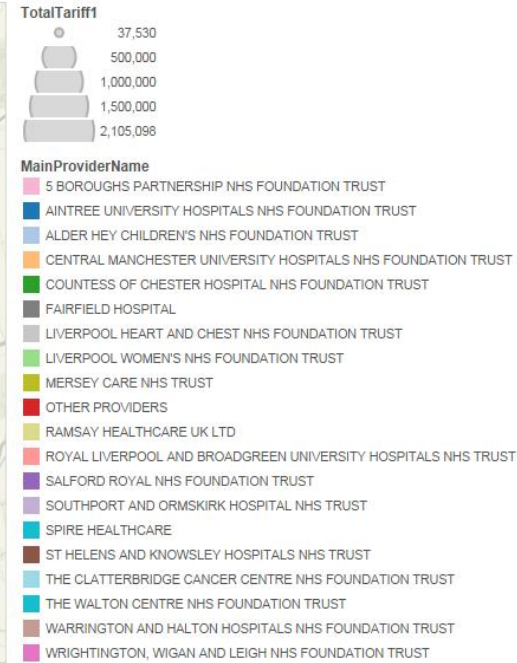
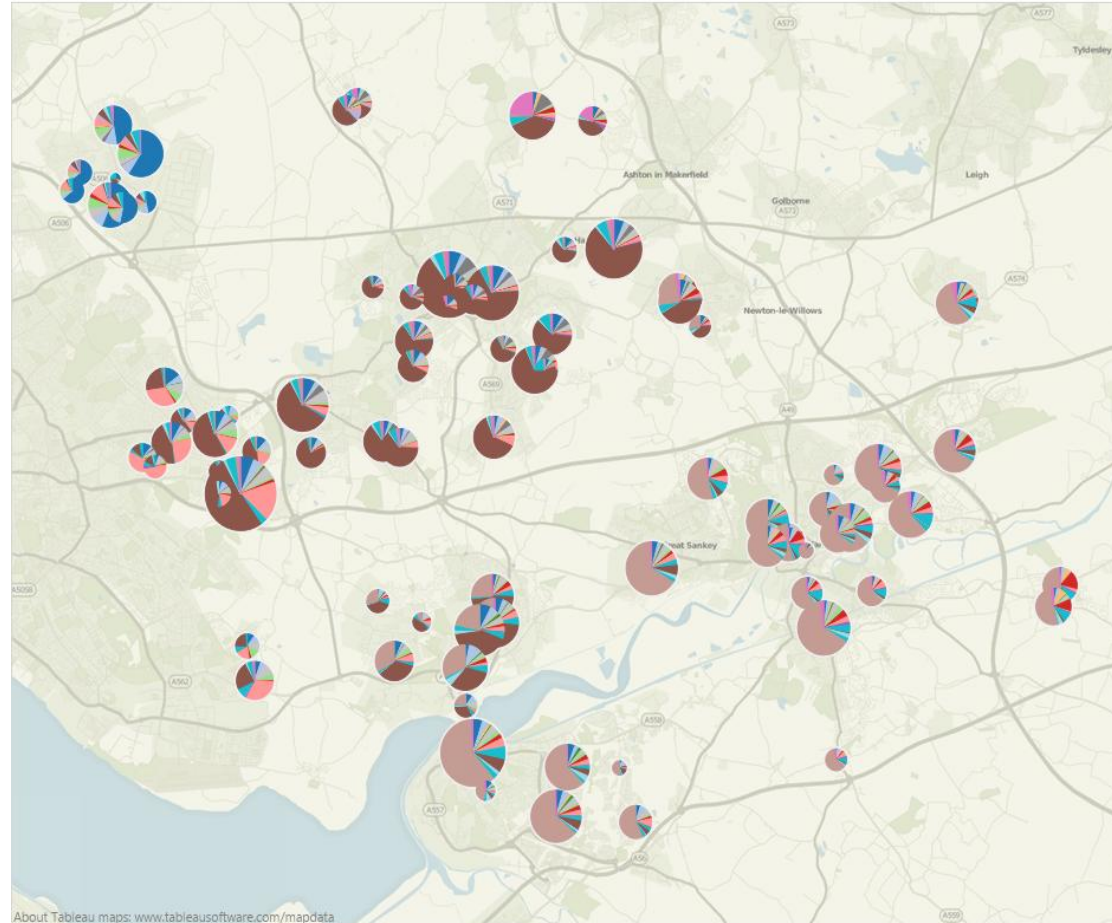


# Current provider landscape

This map illustrates at a high level the flow from each practice to providers in Mid Mersey and the surrounding areas. At a high level the patient flow from practice to provider follows a natural pattern, with limited opportunity for repatriation from the surrounding areas.

It is worth noting that Halton practices north of the Mersey refer 40 / 45% of Elective / Daycase activity to St Helens & Knowsley NHST. An aggressive strategy by either of the two acute trusts to attract this activity for these practices would have a significant impact on the other – for example, if all the activity were to go to Whiston, the impact would be approximately 4000 spells, worth £4m.

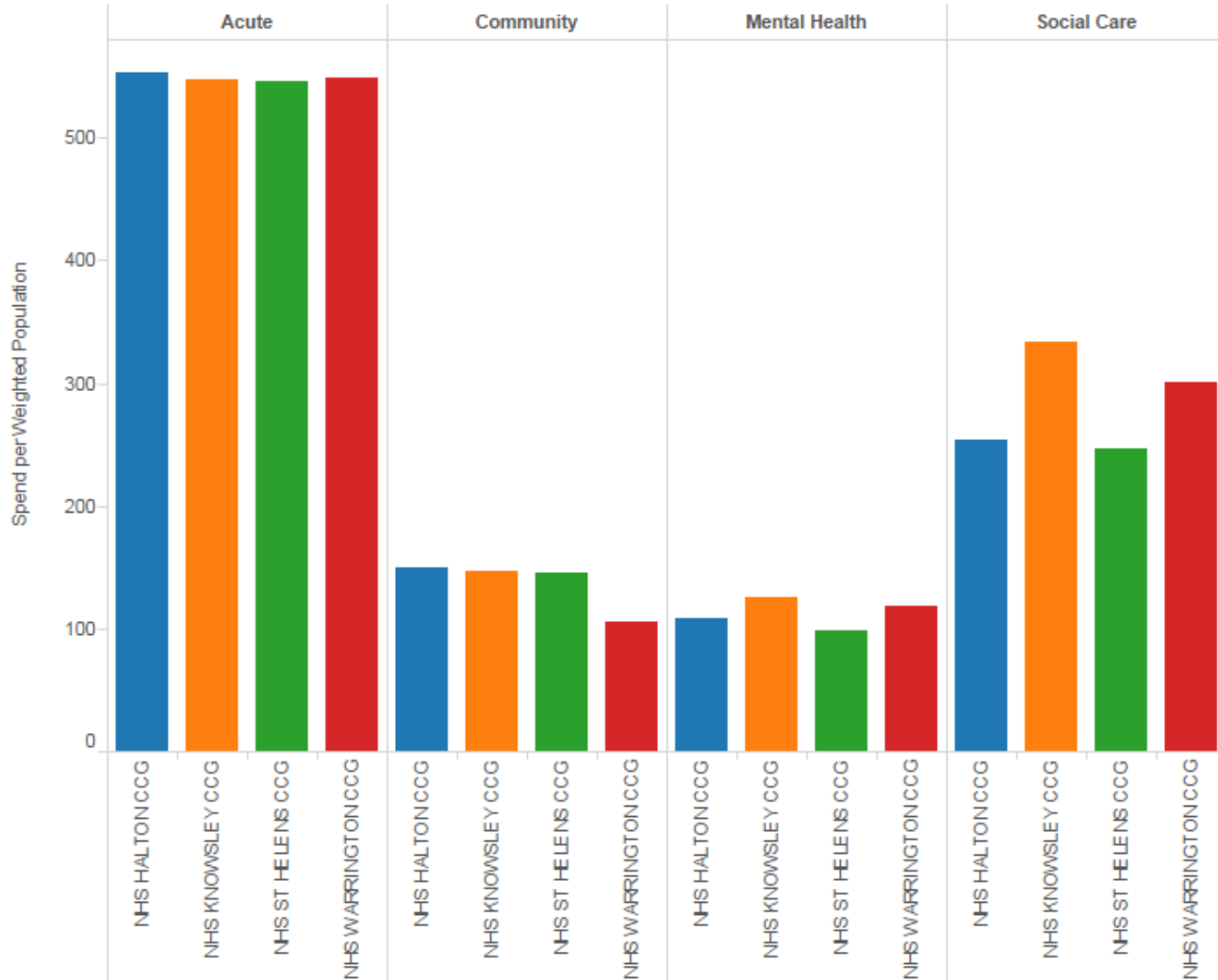
Provider Flow



About Tableau maps: [www.tableausoftware.com/mapdata](http://www.tableausoftware.com/mapdata)

# Current cost per head comparisons between CCGs

Spend per population all



At an aggregate level the acute spend per population (weighted for age and additional need) is very similar between the four CCGs. There is more variability between the areas in non-acute spend, with a seemingly smaller spend on community health for Warrington CCG, and smaller social care spend for Halton and St Helens boroughs. For Halton this may reflect the priority placed on prevention, with the aim of resulting in lower demand for social care. It would be worth testing this in comparison with the other boroughs.

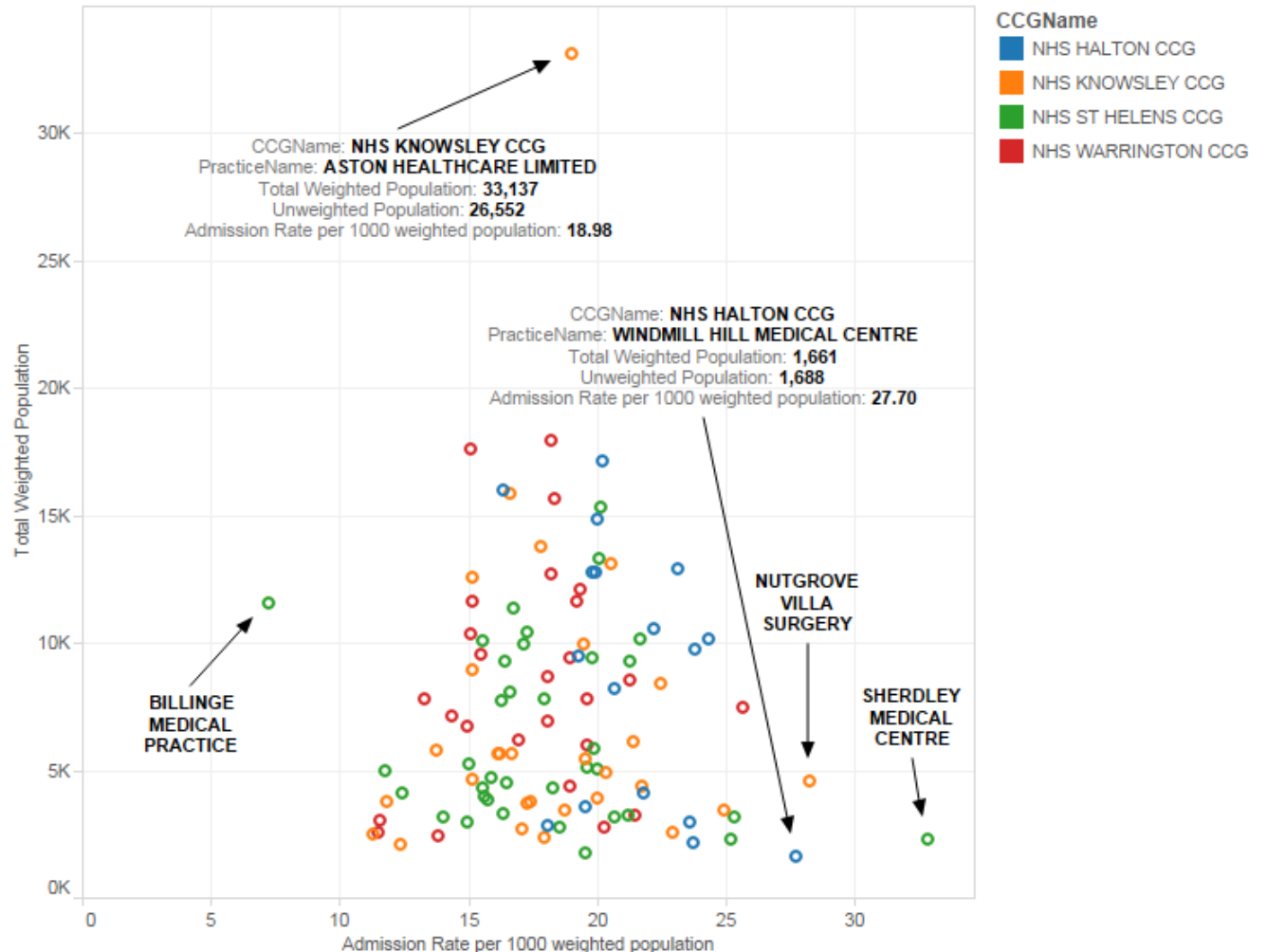
This may indicate that the level of acute activity is either true patient demand (i.e. there is a level of acute activity that goes into hospital regardless of what is commissioned elsewhere) or that this is led by the providers capacity to accommodate demand (supply led demand).

# Practice admission rates – avoidable emergency admissions

There is more variance between practices and within specific cohorts. This chart shows the distribution of rates of admission for conditions not usually requiring hospital admission (ACS and NURHA). There is more variation in smaller practices, suggesting that scale is a factor in reducing variation.

Specific practice outliers are highlighted, and the next two slides show individual rates for each practice. By CCG.

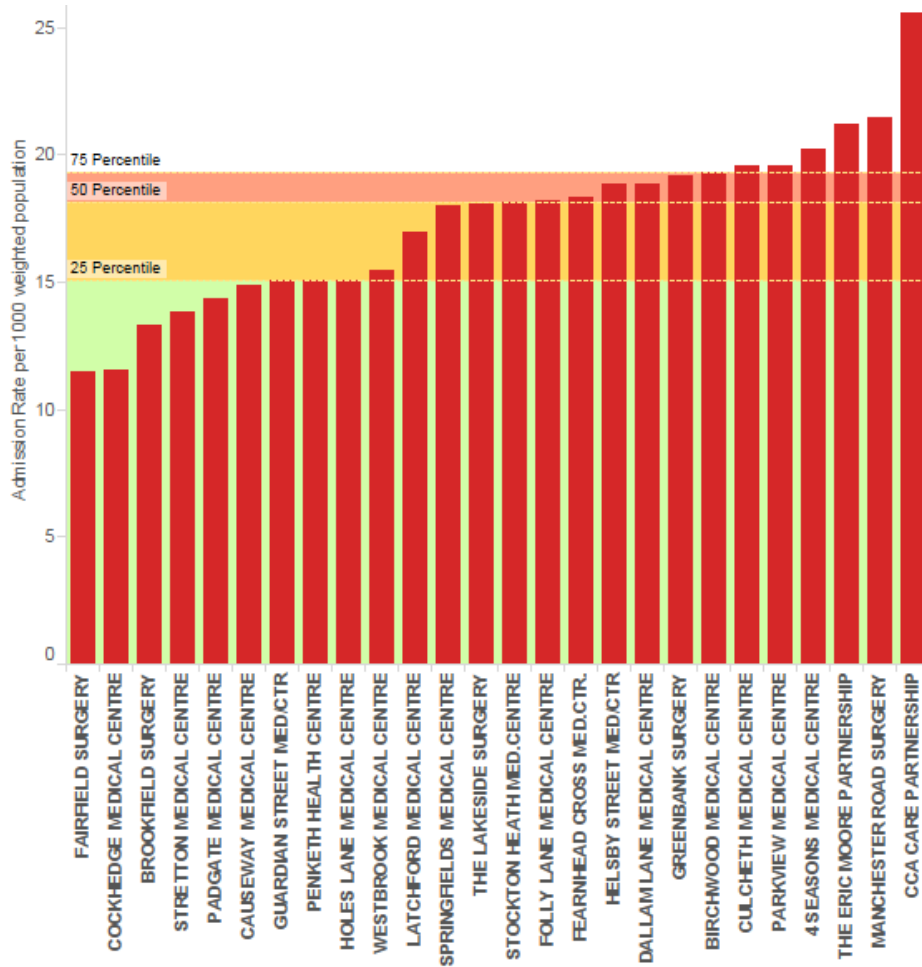
Distribution



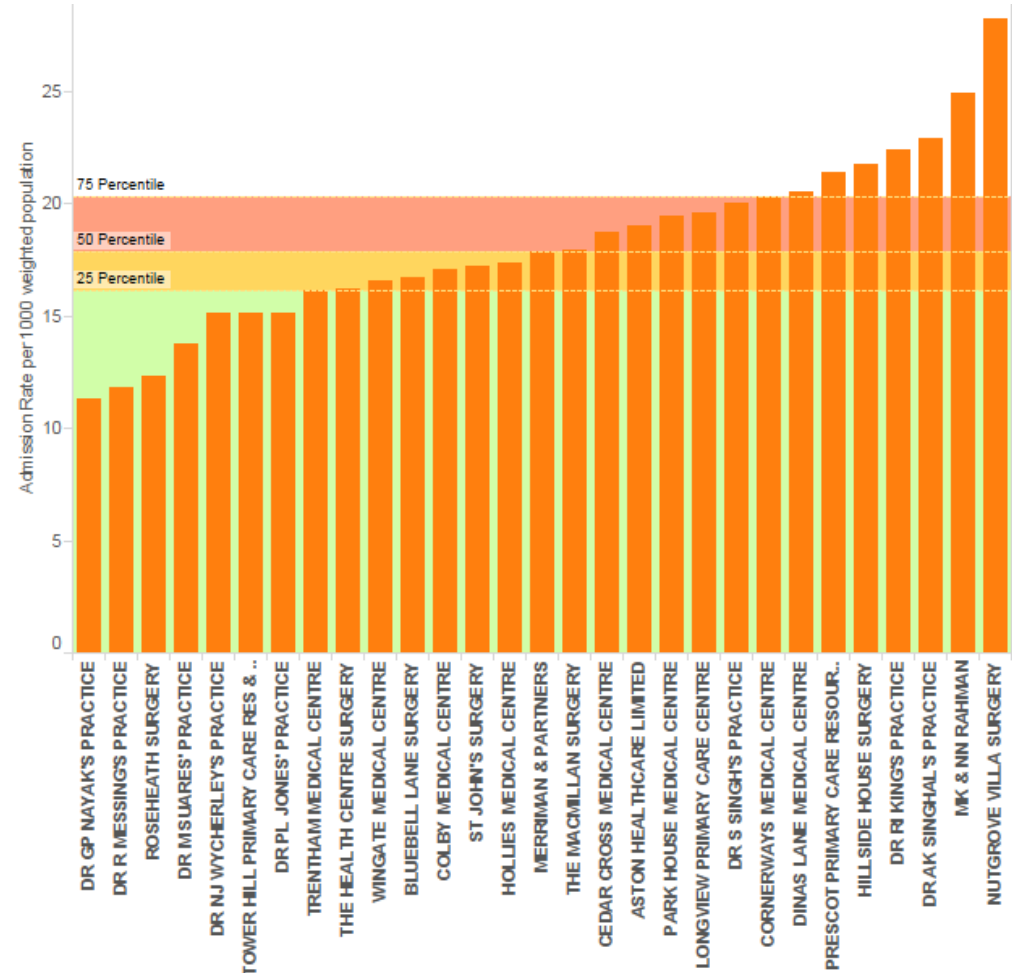


# Practice admission rates – avoidable emergency admissions

## Warrington CCG

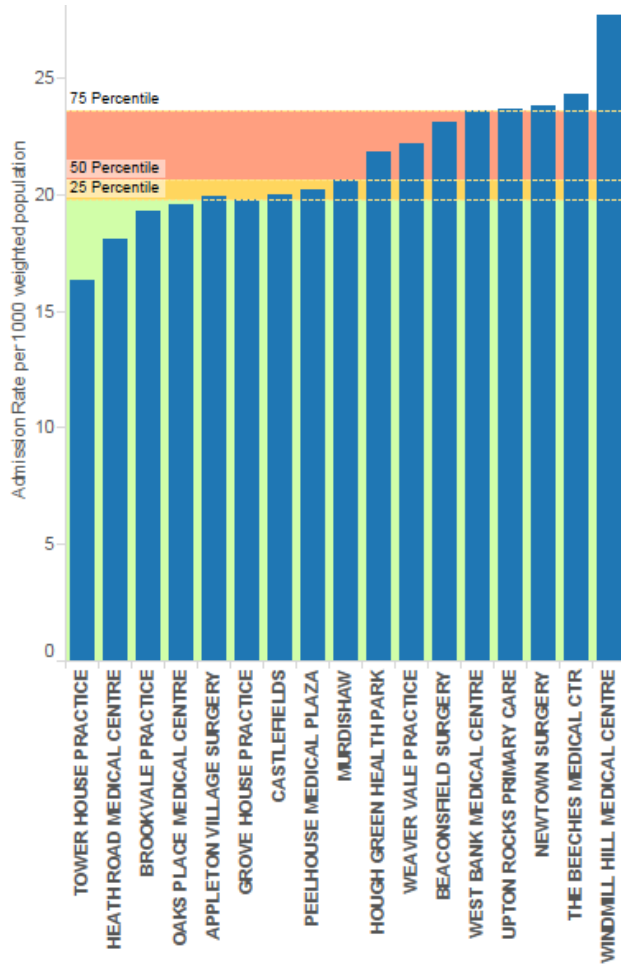


## Knowsley CCG

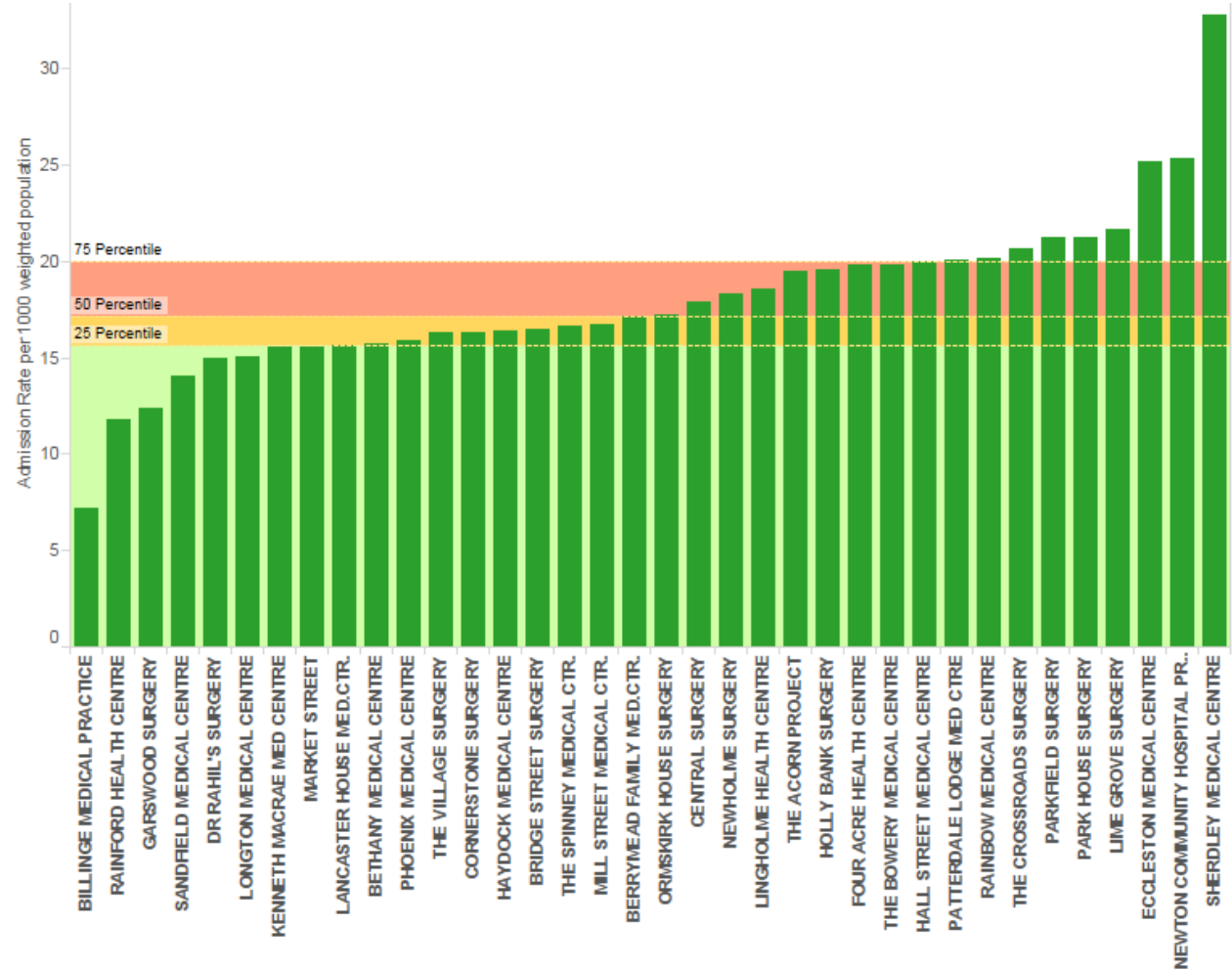


# Practice admission rates – avoidable emergency admissions

## Halton CCG



## St Helens CCG

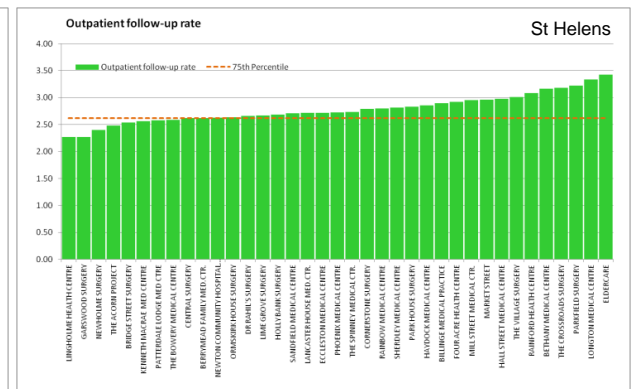
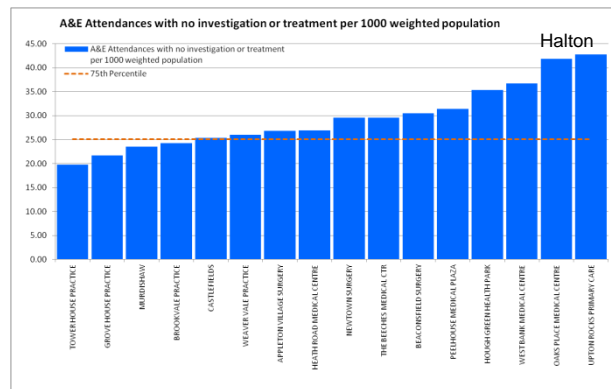
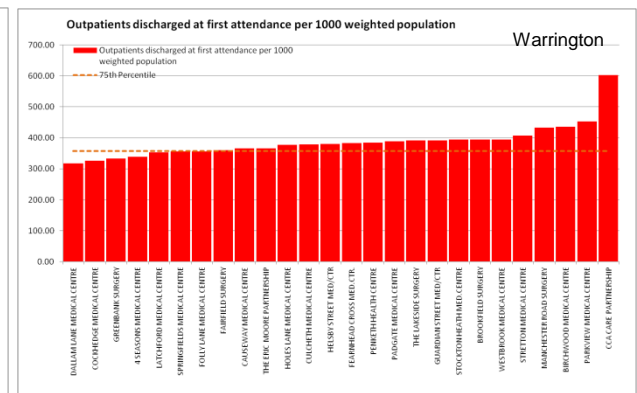
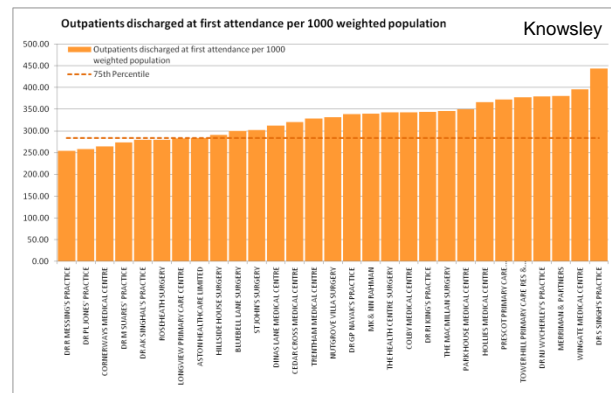




# Baseline – Practice variation

Variation is also apparent in other performance and activity levels across Mid Mersey - understanding this at a practice level has helped to recognise outliers. The challenge is in reducing the bad variation, while preserving the good variation that makes care patient centred. Some specific activity measures we have highlighted where variation between the CCGs may contribute to increased spend and worse outcomes for patients include:

- 50% variance in the average outpatient follow-up rate within a CCG (St Helens Practices)
- Over 90% difference in the rate of outpatients discharged at first attendance (Warrington Practices) - age and additional need weighted.
- 115% difference between the lowest and highest rate of A&E Attendances with no investigation or treatment within a CCG (Halton Practices).



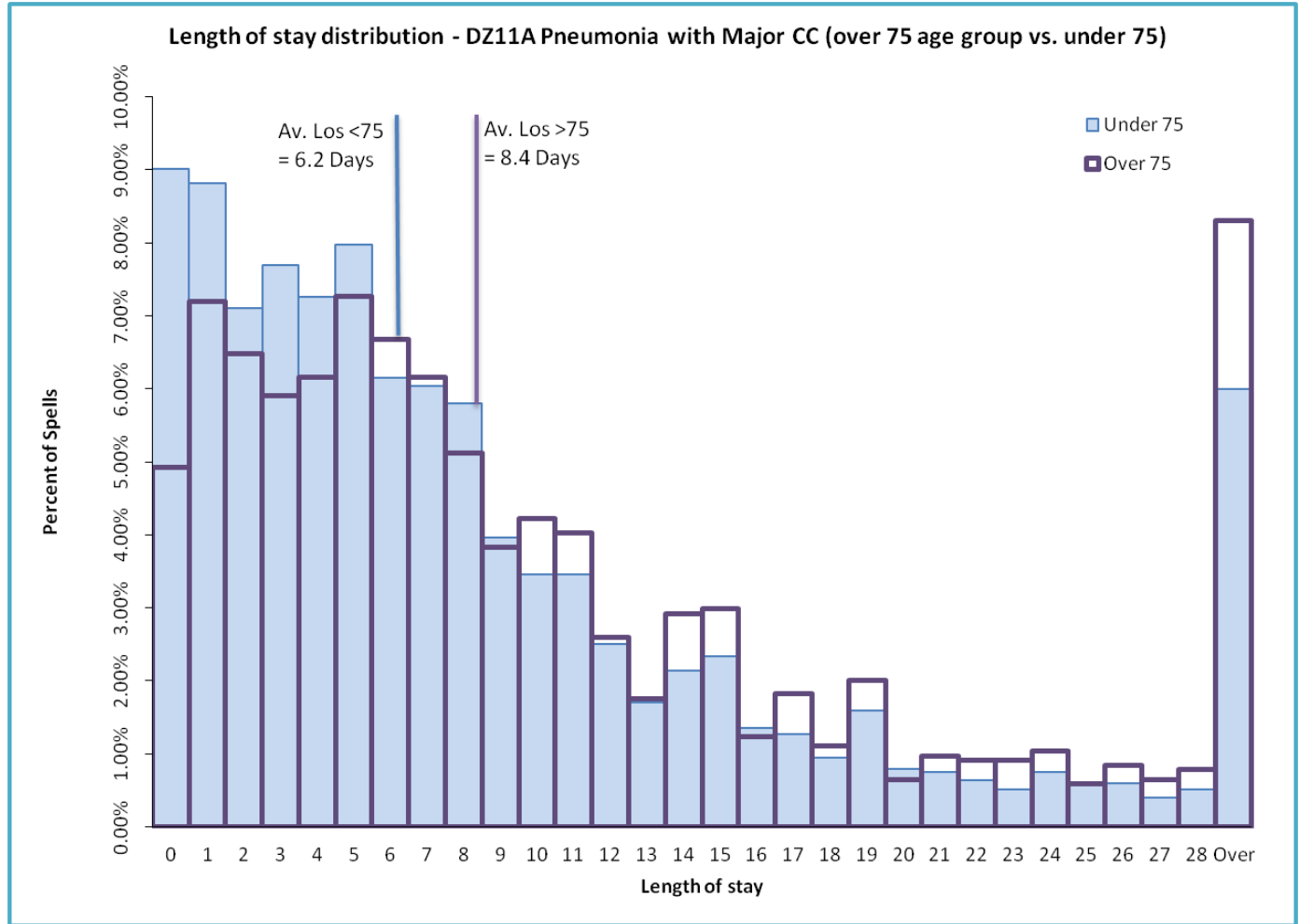
# Variation in Length of stay

We have identified variations between the length of stay in acute care for patients with the same medical conditions but with non-medical reasons for an extended length of stay.

This is particularly the case for the elderly. As an example the average length of stay for HRG 'DZ11A Pneumonia with major complications' is 7.4 days. For the over 75's this is 8.4 days compared with 6.2 days for patients under the age of 75.

Similarly, for patients with a secondary diagnosis of dementia the average length of stay is extended. For this HRG, the average length of stay is extended to 8.5 days, compared with 7.3 days for those with no Dementia in any age group.

This variance is also seen when outliers are excluded – a median length of stay shows 6.8 vs. 4.5 days for over and under 75's, and 7.6 vs. 5.7 days when looking at the impact of dementia co morbidities.



# CAPITA

## Future activity



Forecast profile of activity, spend and patient flows

# Key Findings – forecast of activity, spend and patient flows

## Purpose of this section

This section provides a projection of future activity, spend and patient flows.

It is made up of the following elements

- The collation and understanding of commissioning intentions and strategic plans.
- The mapping of intentions to specific patient cohorts impacted by the change.
- The modelling of the impacts on future activity, spend and patient flows.

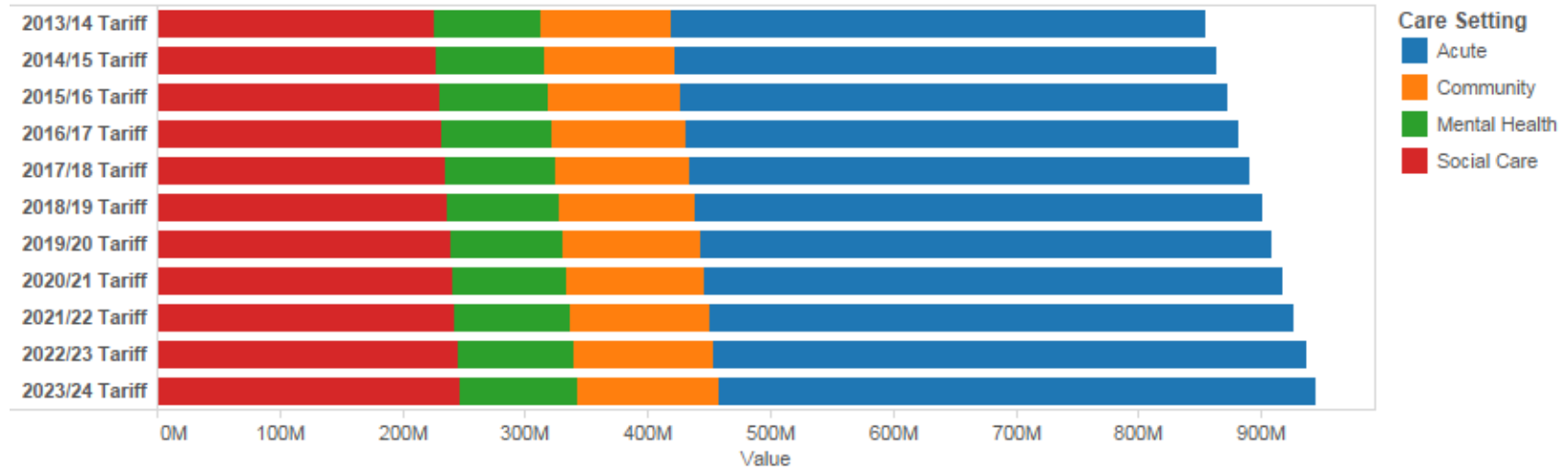
## Main Findings

- Grouping of commissioning intentions has shown that by far the biggest area of focus for interventions is for the elderly and those with long term conditions – this is consistent with the areas seen to be growing in the retrospective analysis and provides confidence that the right areas are in focus.
- There appears to be an opportunity to reduce variation by standardising referral thresholds, admission criteria, and pathways for high volume conditions – this would improve the quality of care while managing demand and reducing spend. There is also significant opportunity to reduce variation in length of stay and deal with this demand once in hospital.
- Modelled interventions are projected to keep pace with underlying growth over the next 3 years, after which this underlying demand is projected to overtake the reductions in activity that these initiatives are expected to make.
- Working up analysis alongside local knowledge suggests that practices that have a focus on health and wellbeing and integrated care benefit from a reduced demand for acute services. Public health initiatives and preventative schemes may have an impact over the longer term but would need investment now for longer term benefits to be realised.

# 'Do nothing' scenario – overview

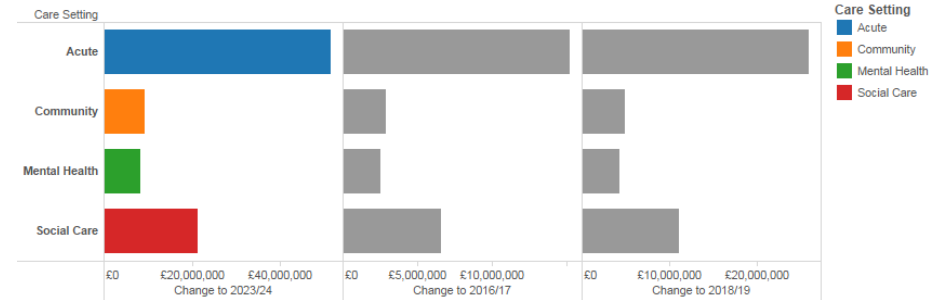
Before understanding the impact of interventions it is important to understand the impact of 'do nothing'. The projections below illustrates the overall impact on each care setting based on population growth only.

## Projected Spend - 10 years



Over 10 years the greatest anticipated increase in spend is seen in the acute care setting, approximately £50M across Mid Mersey CCGs (£15M over three years).

## Projected Change Graph



## 'Do nothing' scenario – by CCG and setting

The projected future impact of population growth on Warrington CCG is higher than the other areas, this is seen as the 'new town' impact with increases in activity driven by large demographic growth in the older population.

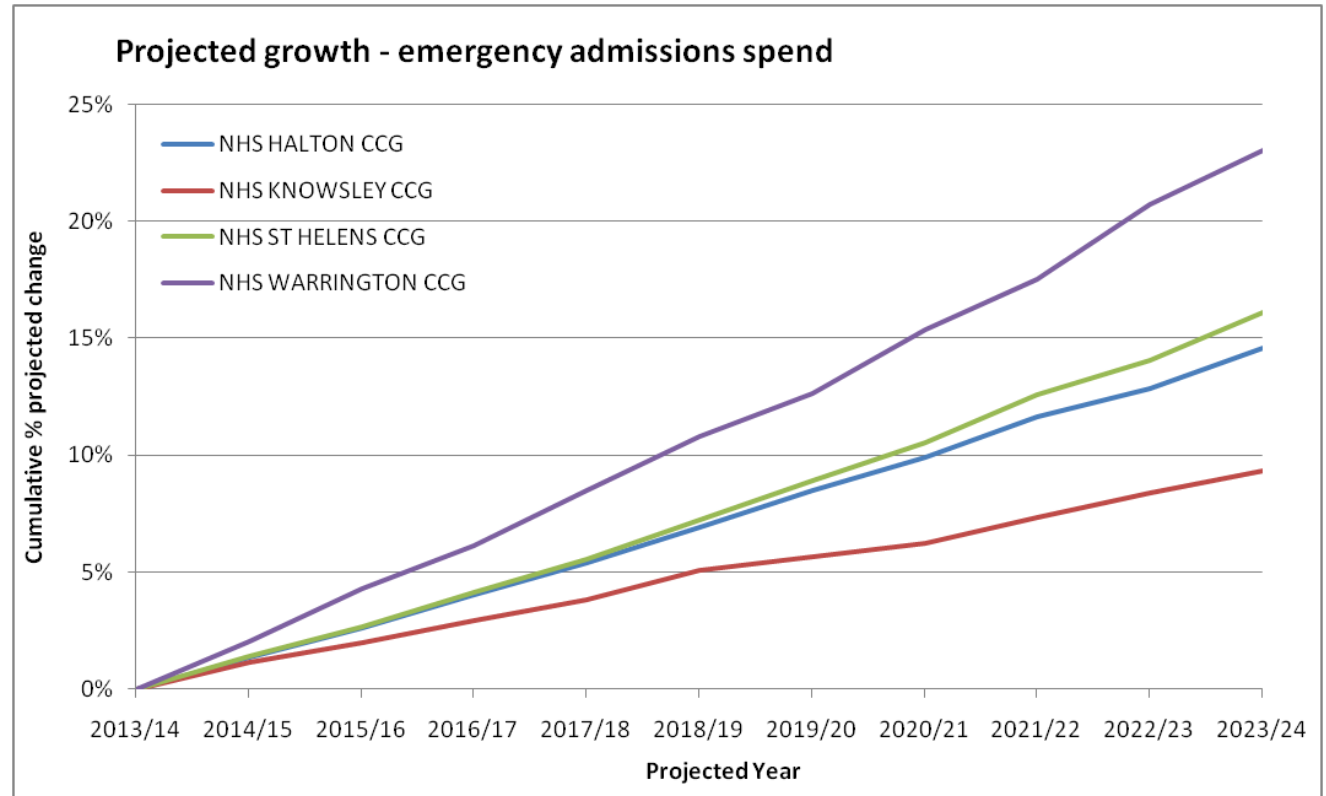
### Projected Change

CCGName	Care Setting	Change to 2016/17	Change to 2018/19	Change to 2023/24	Percent Change to 2016/17	Percent Change to 2018/19	Percent change to 2023/24
NHS HALTON CCG	Acute	£2,599,874	£4,234,313	£8,390,681	3.2%	5.2%	10.2%
	Community	£552,733	£885,720	£1,698,086	2.5%	4.0%	7.7%
	Mental Health	£390,670	£625,999	£1,199,833	2.5%	4.0%	7.7%
	Social Care	£937,029	£1,501,472	£2,877,825	2.5%	4.0%	7.7%
NHS KNOWSLEY CCG	Acute	£2,250,291	£4,067,080	£7,297,085	2.1%	3.7%	6.7%
	Community	£432,928	£789,537	£1,379,668	1.5%	2.7%	4.7%
	Mental Health	£361,199	£658,716	£1,151,053	1.5%	2.7%	4.7%
	Social Care	£982,974	£1,792,640	£3,132,494	1.5%	2.7%	4.7%
NHS ST HELENS CCG	Acute	£4,059,763	£6,839,723	£14,128,676	3.3%	5.5%	11.4%
	Community	£815,341	£1,329,879	£2,631,975	2.7%	4.3%	8.6%
	Mental Health	£574,306	£936,721	£1,853,822	2.7%	4.4%	8.6%
	Social Care	£1,479,676	£2,413,425	£4,776,300	2.7%	4.4%	8.6%
NHS WARRINGTON CCG	Acute	£6,354,043	£10,889,935	£21,803,575	5.2%	9.0%	17.9%
	Community	£1,115,576	£1,892,089	£3,727,667	4.8%	8.1%	15.9%
	Mental Health	£1,231,489	£2,087,101	£4,108,997	4.8%	8.1%	15.9%
	Social Care	£3,183,016	£5,394,488	£10,620,848	4.8%	8.1%	15.9%
<b>Grand Total</b>		<b>£27,320,906</b>	<b>£46,338,837</b>	<b>£90,778,585</b>	<b>3.2%</b>	<b>5.4%</b>	<b>10.6%</b>

# 'Do nothing' scenario – projected impact on emergency admissions

The projected future impact of population growth on emergency admissions is shown in the graph below. The highest projected growth is seen at Warrington CCG with a projected increase of 23% over 10 years.

	HALTON	KNOWSLEY	ST HELENS	WARRINGTON
2013/14	0%	0%	0%	0%
2014/15	1%	1%	1%	2%
2015/16	3%	2%	3%	4%
2016/17	4%	3%	4%	6%
2017/18	5%	4%	6%	8%
2018/19	7%	5%	7%	11%
2019/20	9%	6%	9%	13%
2020/21	10%	6%	11%	15%
2021/22	12%	7%	13%	18%
2022/23	13%	8%	14%	21%
2023/24	15%	9%	16%	23%







# Grouping of interventions

As would be expected, these intentions and plans have originated from a number of sources (see appendix), been described in different way at various levels of granularity and overlap in their intended impact. We have translated each into a standard template and mapped individual lines to areas and types of impact

The 220 collated interventions have been filtered based on their likely impact on activity and spend. Interventions have also been grouped to common cohorts, intervention type, and their core impact type. Full details can also be seen in supporting analysis.

## CCG

- Halton CCG
- Knowsley CCG
- St Helens CCG
- Warrington CCG
- NHS England



# Grouping of interventions

A key patient cohort is the elderly and those with long term conditions, this is where the highest number of documented interventions have been mapped to. 'Case management and coordinated care' is the most common category of intervention approach.

## Interventions by Cohort

Cohort Type	Cohort?	
Disease Group	LTC/Elderly	<p>Integrated services for people with complex needs</p> <p>CVD - reductions in activity, community service impact</p> <p>COPD - reductions in activity, community service impact</p> <p>Safe Supported Discharge and support to remain at home Integrated Intermediate Care Service</p> <p>Risk stratification and strengthen GP role in out of hospital care Community outcome based services</p> <p>Physical Neighbourhub - GP leadership for effective case management approach</p> <p>Continued Support and Development of IDT at Whiston and Warrington Hospitals Long Term Conditions (Proactive Care)</p> <p>Physical Neighbourhub - Implementation of fully comprehensive locality based Multi-Disciplinary Team</p> <p>Integrated services for frail older people - co-ordinated hospital discharge, continuity of care, Integrated Neighbourhood Teams, and Care Homes Support initiative</p> <p>Integrated Assessment Point - Integrating health &amp; Social care teams to provide care closer to home</p> <p>Identifying people with long term conditions and supporting them to manage their condition</p> <p>The Primary Care Home – Whole System Transformation in Warrington</p> <p>Integrated Hospital Discharge Team Community &amp; Acute Therapy Reablement Rapid Response &amp; Review</p> <p>Maintenance of Housing and Occupational Therapy support Community Frailty Service</p> <p>Maintenance of care packages for Long Term conditions</p> <p>Programme of care for Familial hypercholesterolemia</p> <p>Community Divert Scheme Community Nursing - Intensive Support Team MDT</p>



# Modelling of interventions

Interventions have been received from a number of sources and at different levels of detail – by incorporating these into a consistent template and mapping to key areas and impacts it is clear that the majority of the documented interventions that impact on activity are based on achieving out of hospital care in the appropriate setting for a number of cohorts, either through avoiding an attendance or admission, or through early supported discharge and a reduced length of stay in acute care. These interventions that impact on avoidable admissions and bed days follow the principle of the hospital only where the hospital is needed.

The key areas highlighted include:

Reduced unplanned admissions for long term conditions and areas that should not usually require acute care

- ACS – Emergency admissions for ambulatory care sensitive conditions
- NURHA – Emergency admissions for acute conditions that should not usually require hospital admission

Reduction in the length of hospital stay for those who do not require acute care (early supported discharge)

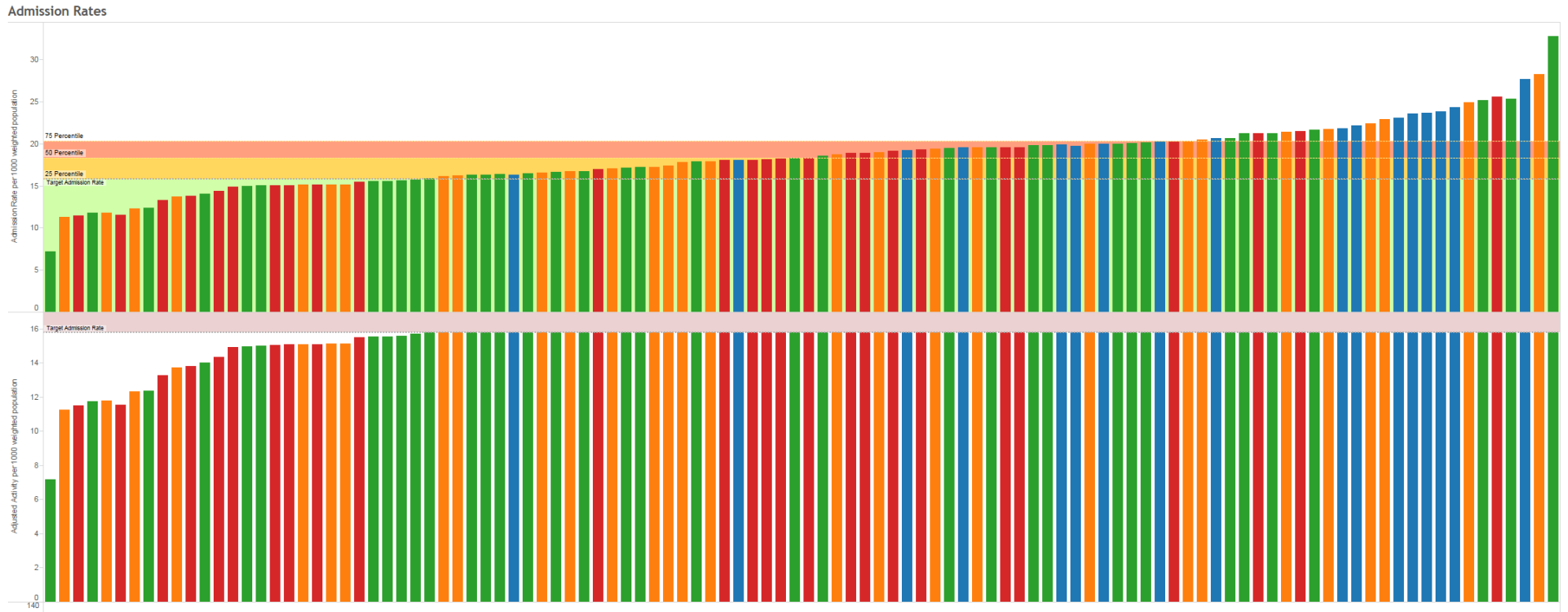
- Patients with dementia
- Elderly patients
- Patients receiving end of life care

We have not assumed a reduction in daycase and elective admissions, this is to ensure that there is enough activity commissioned to deliver 18 weeks. It is worth noting that there is a risk that the baseline is overstated due to overperformance or explicit waiting list initiatives but this has not been possible to quantify.

# Emergency admission reductions

To quantify the potential reduction in admissions, internal benchmarking has been used to make comparisons of weighted practice admission rates for the key areas for reduced emergency admissions. The intention of this analysis is to identify achievable levels of admissions based on rates already seen in practices in the region.

The planned BCF reductions in ACS and NURHA areas actually go further than 75<sup>th</sup> percentile, the reductions are the equivalent of the 95<sup>th</sup> percentile of current performance, which highlights the level of ambition and change in approach envisaged by the CCGs.



# Emergency admission reductions

Activity reductions in these scenarios assume all GP practices reach current 75<sup>th</sup> percentile activity rates.

		NHS HALTON CCG	NHS KNOWSLEY CCG	NHS ST HELENS CCG	NHS WARRINGTON CCG	Overall
NURHA	<b>Activity Reduction</b>	653	398	319	275	1,645
	<b>% Activity Reduction</b>	3.80%	1.90%	1.40%	1.20%	1.90%
	<b>Percentage of Cohort Activity</b>	22.60%	11.70%	8.60%	7.80%	12.20%
	<b>Tariff Reduction</b>	£ 1,121,692	£ 720,971	£ 549,073	£ 500,346	£ 2,909,486
	<b>% Tariff Reduction</b>	4.00%	2.00%	1.40%	1.30%	2.00%
ACS		NHS HALTON CCG	NHS KNOWSLEY CCG	NHS ST HELENS CCG	NHS WARRINGTON CCG	Overall
	<b>Activity Reduction</b>	433	413	254	213	1,313
	<b>% Activity Reduction</b>	2.50%	2.00%	1.10%	0.90%	1.50%
	<b>Percentage of Cohort Activity</b>	21.10%	16.00%	9.50%	8.30%	13.30%
	<b>Tariff Reduction</b>	871,463	864,128	504,011	448,525	2,691,561
Combined ACS/NURHA Cohort		NHS HALTON CCG	NHS KNOWSLEY CCG	NHS ST HELENS CCG	NHS WARRINGTON CCG	Overall
	<b>Activity Reduction</b>	758	507	414	391	2,070
	<b>% Activity Reduction</b>	4.40%	2.40%	1.80%	1.70%	2.40%
	<b>Percentage of Cohort Activity</b>	24.00%	13.60%	10.30%	10.10%	14.00%
	<b>Tariff Reduction</b>	1,423,526	986,547	774,020	769,867	3,968,242
	<b>% Tariff Reduction</b>	5.00%	2.80%	2.00%	2.00%	2.80%

# Early Supported Discharge / reductions in length of stay

Based on the interventions received from CCGs, the key patient cohorts where a reduction in acute length of stay is intended include:

- Patients with dementia
- Elderly patients
- Patients receiving end of life care

To quantify the potential reduction in bed days, lengths of stay for patients with a secondary diagnoses of dementia have been compared against patients with the same primary medical condition but no mental health co-morbidities. Similarly, lengths of stay for patients aged 75+ have been compared against younger patients with the same primary medical condition and similar levels of complication and co-morbidity.

The intention of these analyses is to identify where acute hospital stays appear to be extended for non-medical reasons and to estimate the associated volume of bed days that could potentially be avoided.

Dementia	Ward Liaison - proof of concept pilot - Mental Health	Care Home Liaison Service	Direct Enhanced Service for Dementia
Mental Health	Psychiatric Liaison Service	IAPT procurement	A&E Mental Health Liaison service
EOL	Sharing of information at the end of life	End of Life Care Review	
LTC/Elderly	Continued Support and Development of IDT at Whiston and Warrington Hospitals	Community & Acute Therapy Reablement Rapid Response	Integrated Assessment Point - Integrating health & Social care teams to provide care closer to home



## Early Supported Discharge / reductions in length of stay

At a high level the modelling shows similar potential between both Warrington and Whiston sites, with comparable length of stay reductions for each cohort.

### **Patients with dementia**

Comparing lengths of stay for patients with a secondary diagnoses of dementia against patients with the same primary medical condition but no mental health co-morbidities shows a potential reduction of approximately 5,000 bed days (16 beds) at each of Warrington and Whiston.

### **Elderly patients (over 75's)**

Modelling shows a potential reduction of up to 24,000 bed days (circa 73 beds) at both Warrington and Whiston hospitals. This is on the assumption that non-elective length of stays for elderly patients could be reduced to the same as younger patients with the same primary medical condition and similar levels of complication and co-morbidity.

### **Patients receiving end of life care**

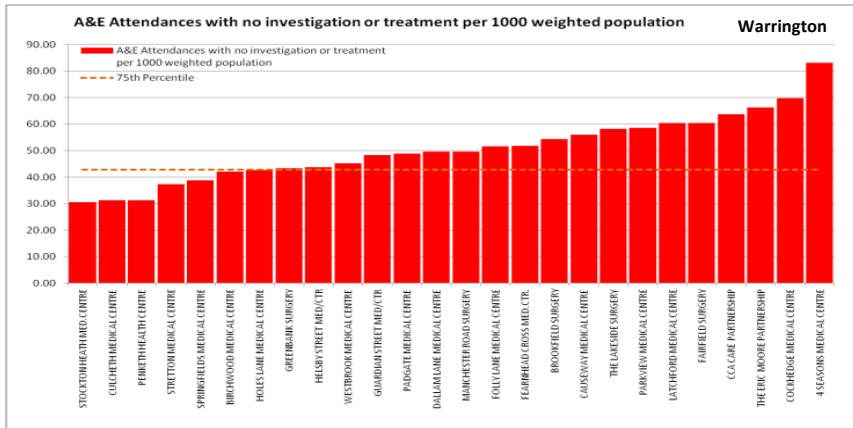
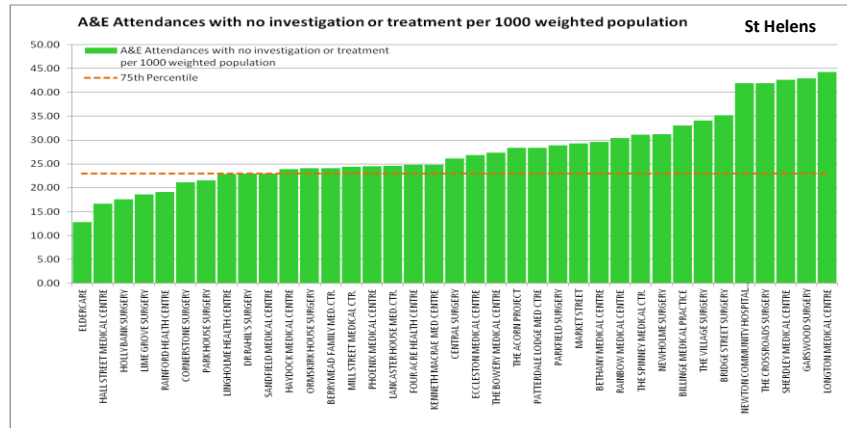
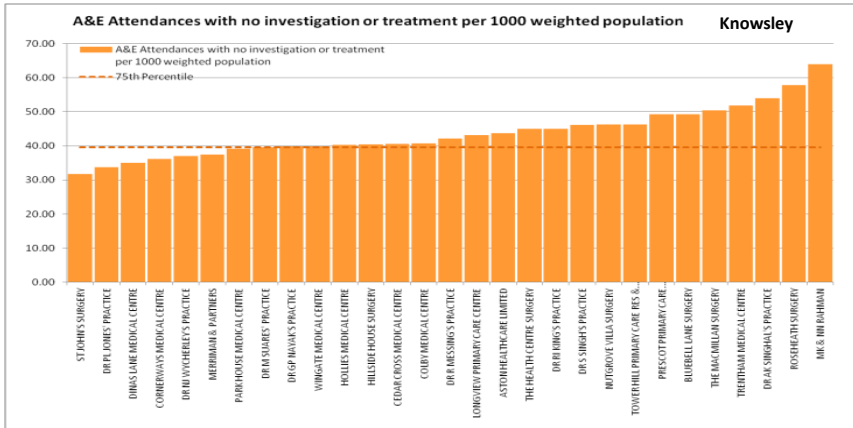
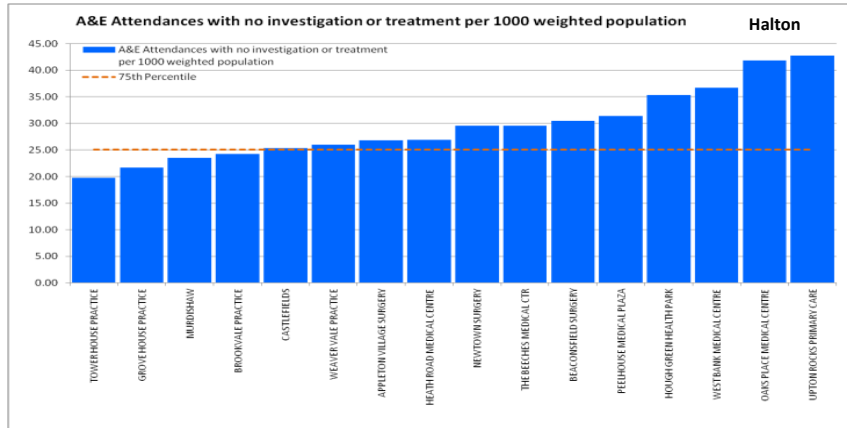
Comparing the length of stay of patients with and without palliative care for the same primary medical condition and similar complexity shows a potential shift of approximately 500 bed days (1.6 beds) at each of Warrington and Whiston.

***All of the above are mutually exclusive, and in total represent potential reductions of around 20% in non-elective bed days for St Helens and Knowsley and Warrington and Halton Trusts.***



# Reduction in A&E Attendances

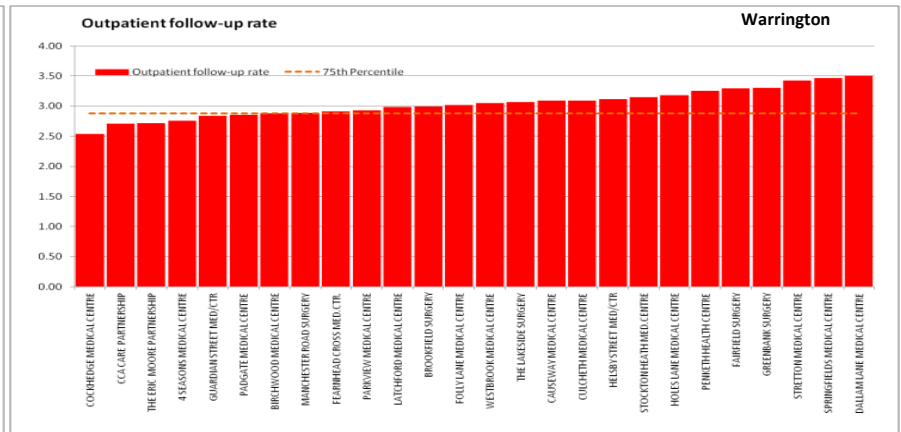
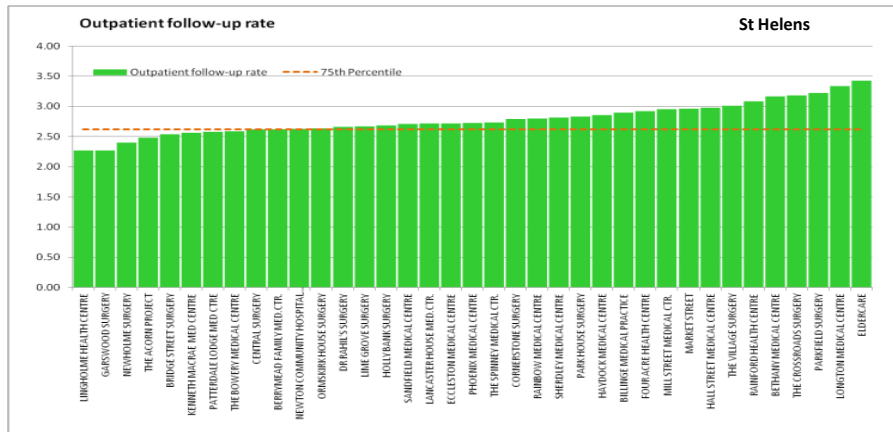
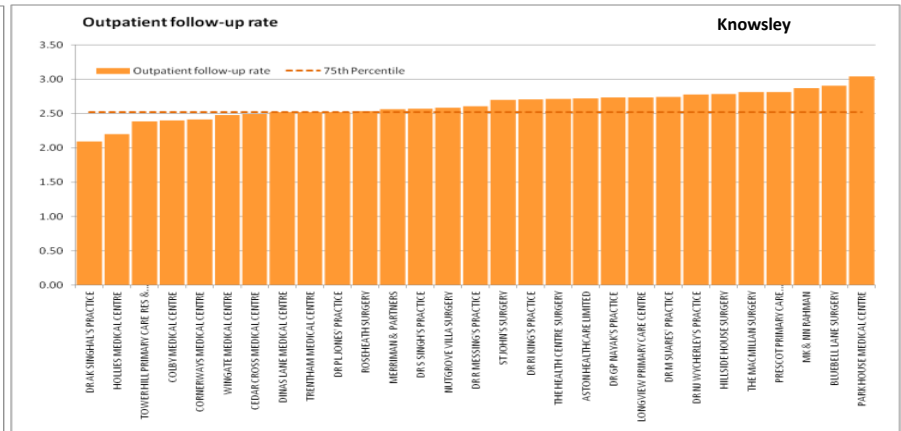
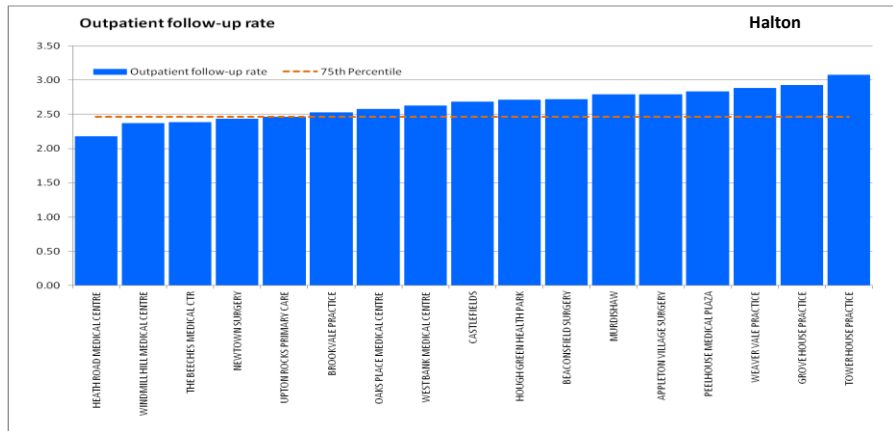
As a measure of increased standardisation, reducing the rate of simple A&E Attendances (those not requiring investigation or treatment) to the 75th percentile level would reduce the number of attendances by approximately 4,000 per year. This would equate to £229,000 of tariff spend. It is important to note that this figure only includes those A&E attendances with no investigation or treatment.





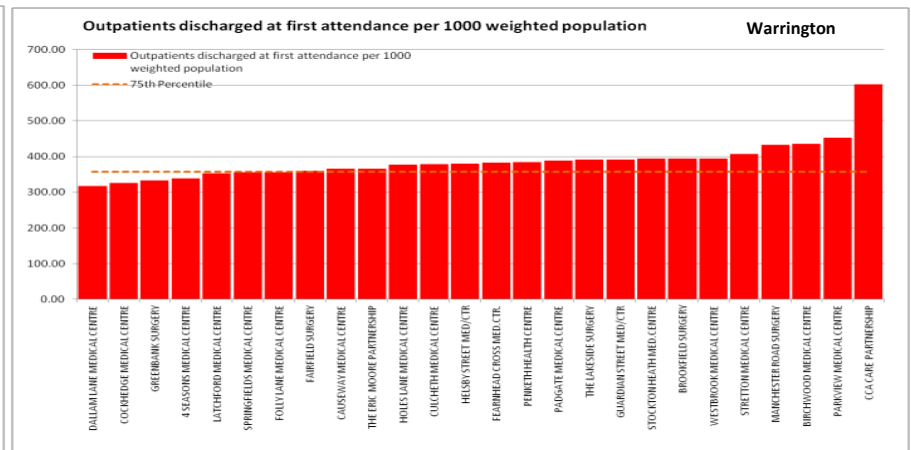
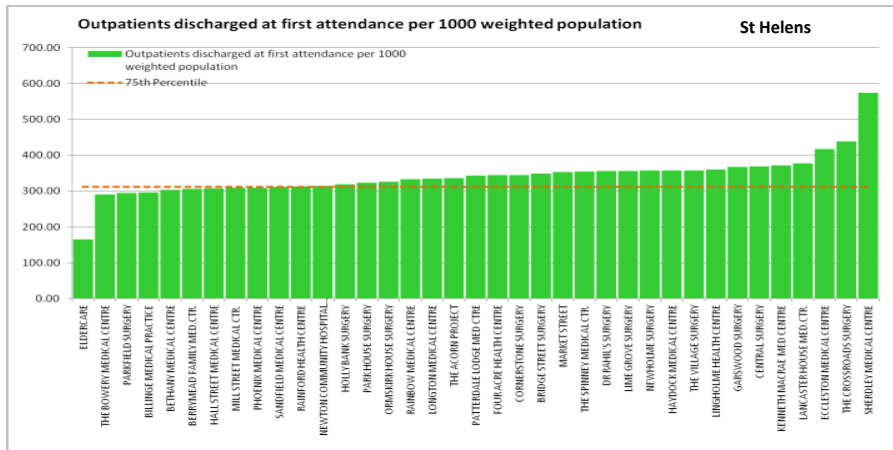
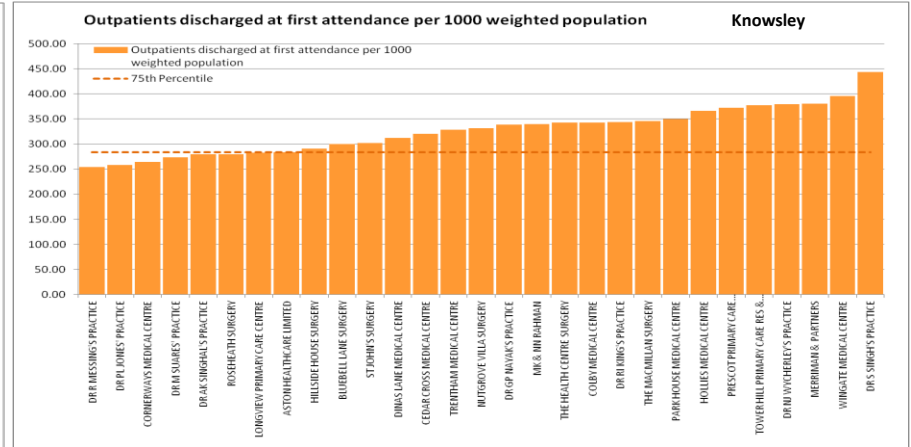
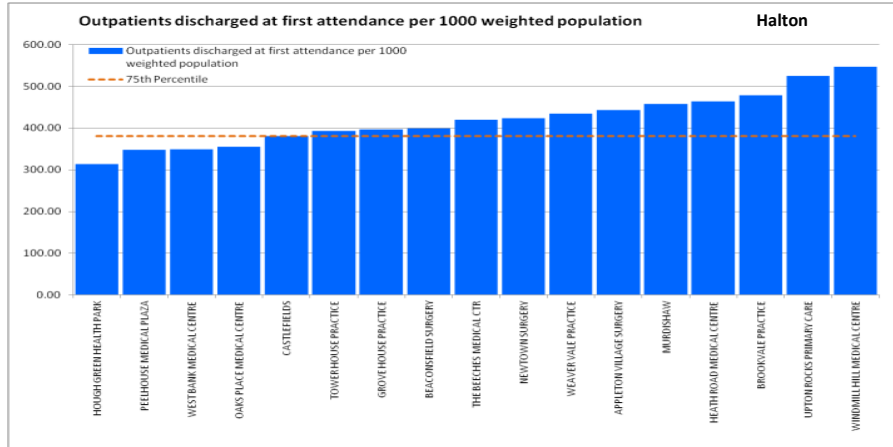
# Outpatient Follow-up Rates

Standardising outpatient follow-up rates at the 75th percentile would mean a reduction of approximately 50,000 follow up attendances across the four CCGs, and a reduction in spend of £2.5M.



# Outpatients discharged at first attendance

Outpatient first appointments that are discharged at the first appointment account for £21M of spend across the four CCGs. Standardising the rate of these attendances at the 75th percentile would equate to 28,000 attendances and £2.2M in spend across Mid Mersey.





## Scenarios for three, five and ten year projections

In addition to the 'do nothing' scenario we have also modelled two further scenarios that include the impact of interventions on acute activity and spend:

### Likely Scenario

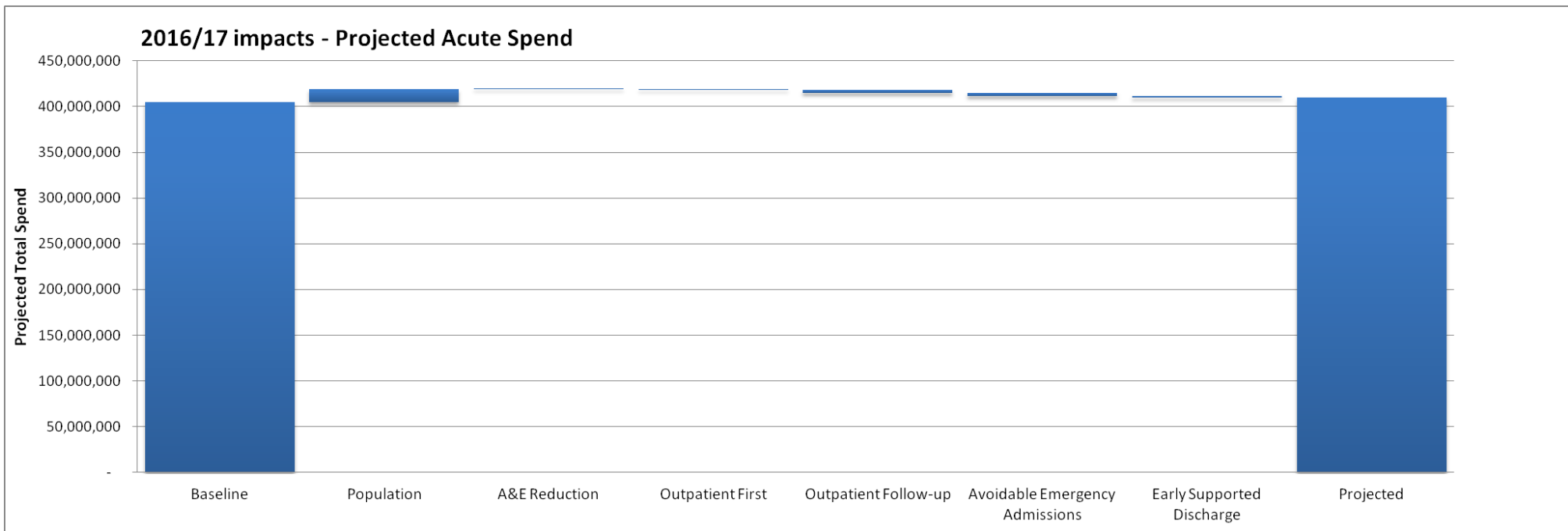
- Admission rates to the 75<sup>th</sup> percentile based on GP internal benchmarking for each CCG
- 75% of modelled early supported discharge achieved
- Outpatient Follow up and First Discharge reductions to the 75<sup>th</sup> percentile based on GP internal benchmarking for each CCG
- A&E simple attendances reductions to 75<sup>th</sup> percentile based on GP internal benchmarking for each CCG

### Maximum Scenario

- Reductions in avoidable admissions as seen in BCF plans (CCG specific rates, overall approx 20% reduction in this cohort over 5 years)
- All modelled early supported discharge achieved
- Outpatient Follow up and First Discharge reductions to the 75<sup>th</sup> percentile based on GP internal benchmarking for each CCG
- Reductions in overall A&E attendance as seen in BCF plans (CCG specific rates, overall approx 7% reduction over 5 years)

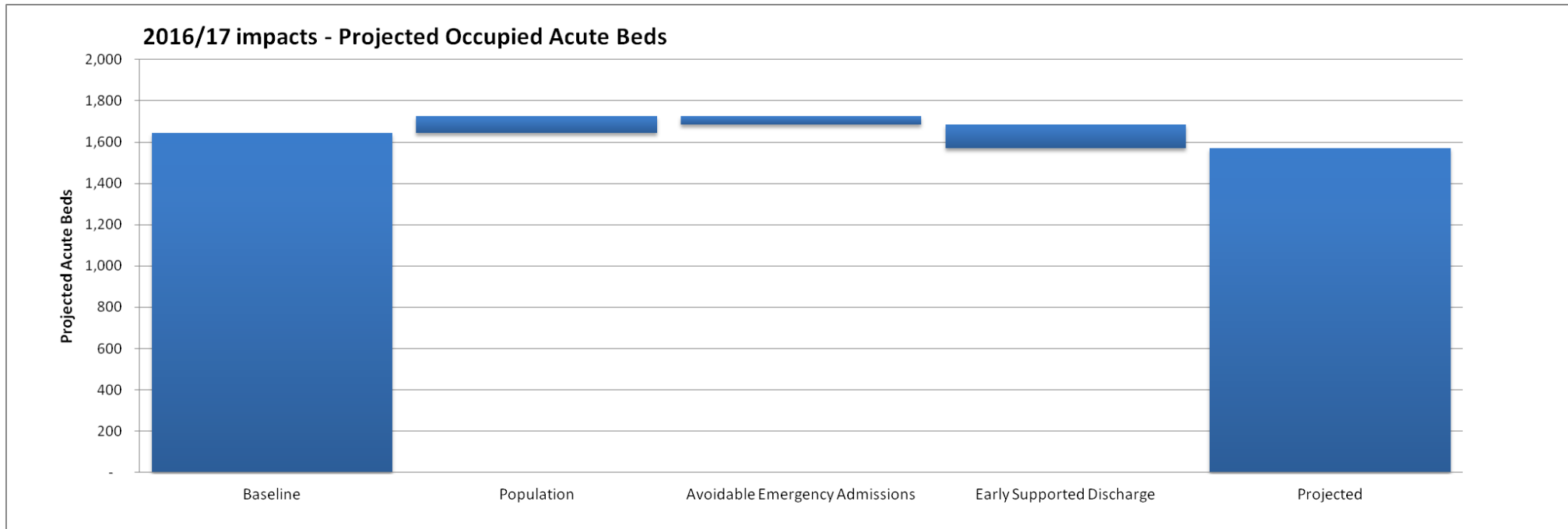
# 2016/17 Projected Acute Spend (Likely Scenario)

The chart below shows the projected impact of each area on total acute spend in three years. Population growth is projected to impact by adding an additional £14M pressure to the total acute spend across Mid Mersey in this time frame. The modelled interventions neutralise the majority of this underlying growth.



# 2016/17 Projected Acute Occupied Beds (Likely Scenario)

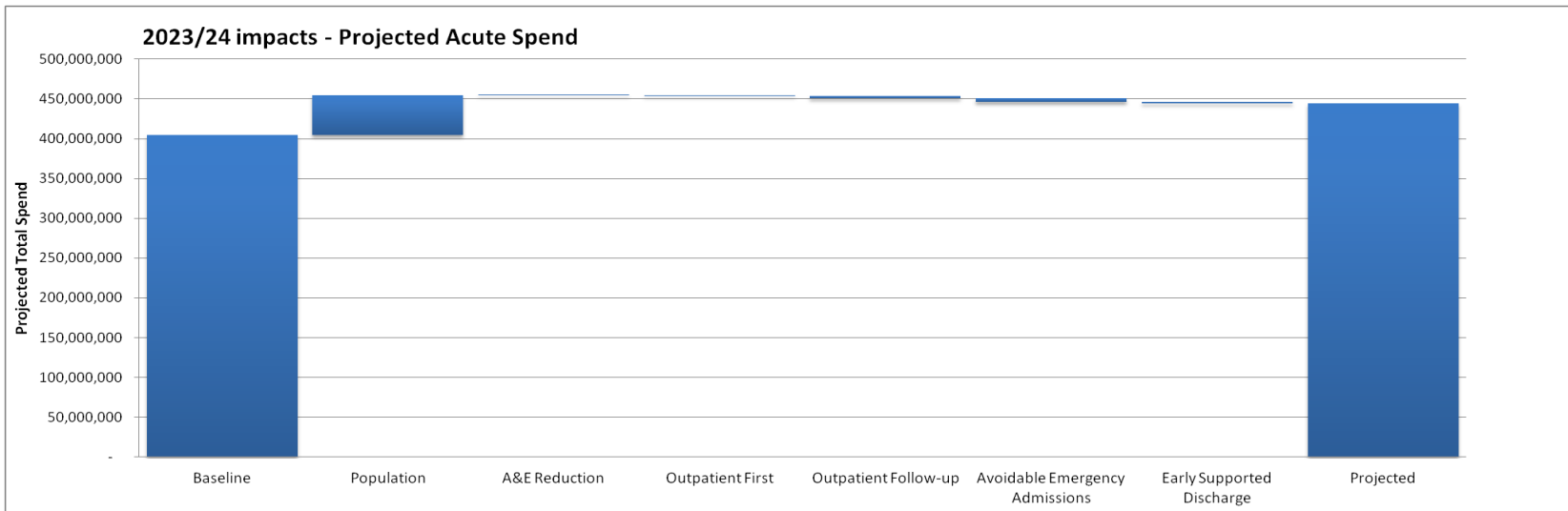
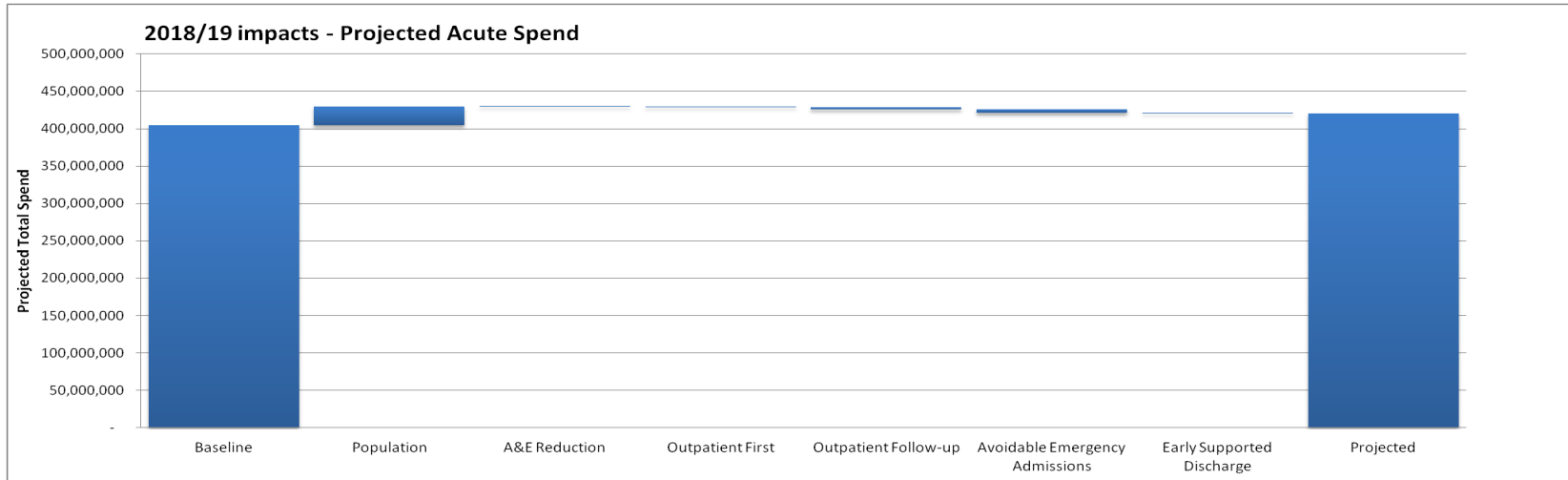
The overall impact on Acute bed days of the modelled interventions is for a reduction from the current baseline position. The reductions resulting from earlier supported discharge and reduced acute admissions more than counteract the impact of underlying growth.



# 2018/19 and 2023/24 Acute Spend (Likely Scenario)

Looking further ahead to five and ten year projections, the underlying demand is projected to overtake the reductions in activity that initiatives are expected to make.

This highlights that in the longer term, there is a need to look at more radical changes in which health services are delivered that look beyond diversion and to prevention, health and wellbeing and integrated care which may also impact on the structure of the care delivery system.



## Five year scenario output (Likely scenario)

The table below shows the modelled impact to 2018/19 on each CCG on tariff and bed days. The most obvious difference between CCGs is the difference in impact of underlying growth, with more of a challenge seen for Warrington CCG.

Tariff	NHS HALTON CCG	NHS KNOWSLEY CCG	NHS ST HELENS CCG	NHS WARRINGTON CCG	Grand Total
Baseline	£77,592,846	£101,688,101	£116,558,931	£108,949,251	£404,789,129
Population	£3,862,838	£3,632,768	£6,235,892	£9,217,817	£22,949,315
A&E Reduction	-£47,024	-£46,007	-£87,570	-£101,448	-£282,049
Outpatient First	-£202,398	-£383,859	-£225,887	-£320,661	-£1,132,805
Outpatient Follow-up	-£760,098	-£511,449	-£740,214	-£681,817	-£2,693,578
Avoidable Emergency Admissions	-£427,532	-£1,110,263	-£1,217,722	-£1,350,766	-£4,106,284
Early Supported Discharge	-£227,774	-£279,627	-£486,599	-£459,394	-£1,453,395
Projected	£79,790,858	£102,989,665	£120,036,831	£115,252,981	£418,070,334

Acute Occupied Beds	NHS HALTON CCG	NHS KNOWSLEY CCG	NHS ST HELENS CCG	NHS WARRINGTON CCG	Grand Total
Baseline	321	410	472	442	1,645
Population	24	25	38	53	140
Avoidable Emergency Admissions	-4	-12	-12	-14	-43
Early Supported Discharge	-23	-21	-37	-40	-121
Projected	318	402	461	441	1,621



## Five year scenario output (Max Scenario)

The 'maximum' scenario – including better care fund assumptions, shows reductions in activity and spend keeping pace with underlying growth for longer, with only a small projected difference across all CCGs.

Tariff	NHS HALTON CCG	NHS KNOWSLEY CCG	NHS ST HELENS CCG	NHS WARRINGTON CCG	Grand Total
Baseline	£77,592,846	£101,688,101	£116,558,931	£108,949,251	£404,789,129
Population	£3,862,838	£3,632,768	£6,235,892	£9,217,817	£22,949,315
A&E Reduction	-£680,178	-£210,822	-£413,747	-£1,189,689	-£2,494,435
Outpatient First	-£202,398	-£383,859	-£225,887	-£320,661	-£1,132,805
Outpatient Follow-up	-£760,098	-£511,449	-£740,214	-£681,817	-£2,693,578
Avoidable Emergency Admissions	-£1,441,430	-£2,300,256	-£1,957,952	-£2,144,800	-£7,844,438
Early Supported Discharge	-£308,401	-£383,111	-£658,690	-£633,205	-£1,983,407
Projected	£78,063,179	£101,531,374	£118,798,333	£113,196,896	£411,589,782

Acute Occupied Beds	NHS HALTON CCG	NHS KNOWSLEY CCG	NHS ST HELENS CCG	NHS WARRINGTON CCG	Grand Total
Baseline	321	410	472	442	1,645
Population	24	25	38	53	140
Avoidable Emergency Admissions	-17	-28	-23	-26	-94
Early Supported Discharge	-28	-27	-47	-51	-152
Projected	300	380	440	418	1,538

## Impact on the provider market

The table below shows the impact of the modelled reduction in emergency admissions and emergency length of stay on St Helens and Knowsley Hospitals NHS Trust and Warrington and Halton Hospitals NHS Foundation Trust. While recognising that the CCGs commission services and not providers, this provides reassurance that the potential impact on main providers would not have a destabilising effect.

Without accounting for population growth (which would in itself offset reduction in income), the impact in these areas would be a reduction in income for these Trusts of £2.9M and £2.25M respectively.

Assuming that costs can be recovered from the bed shift associated with early supported discharge this would offset the income reduction through a saving of 3.1M and 2.6M respectively.

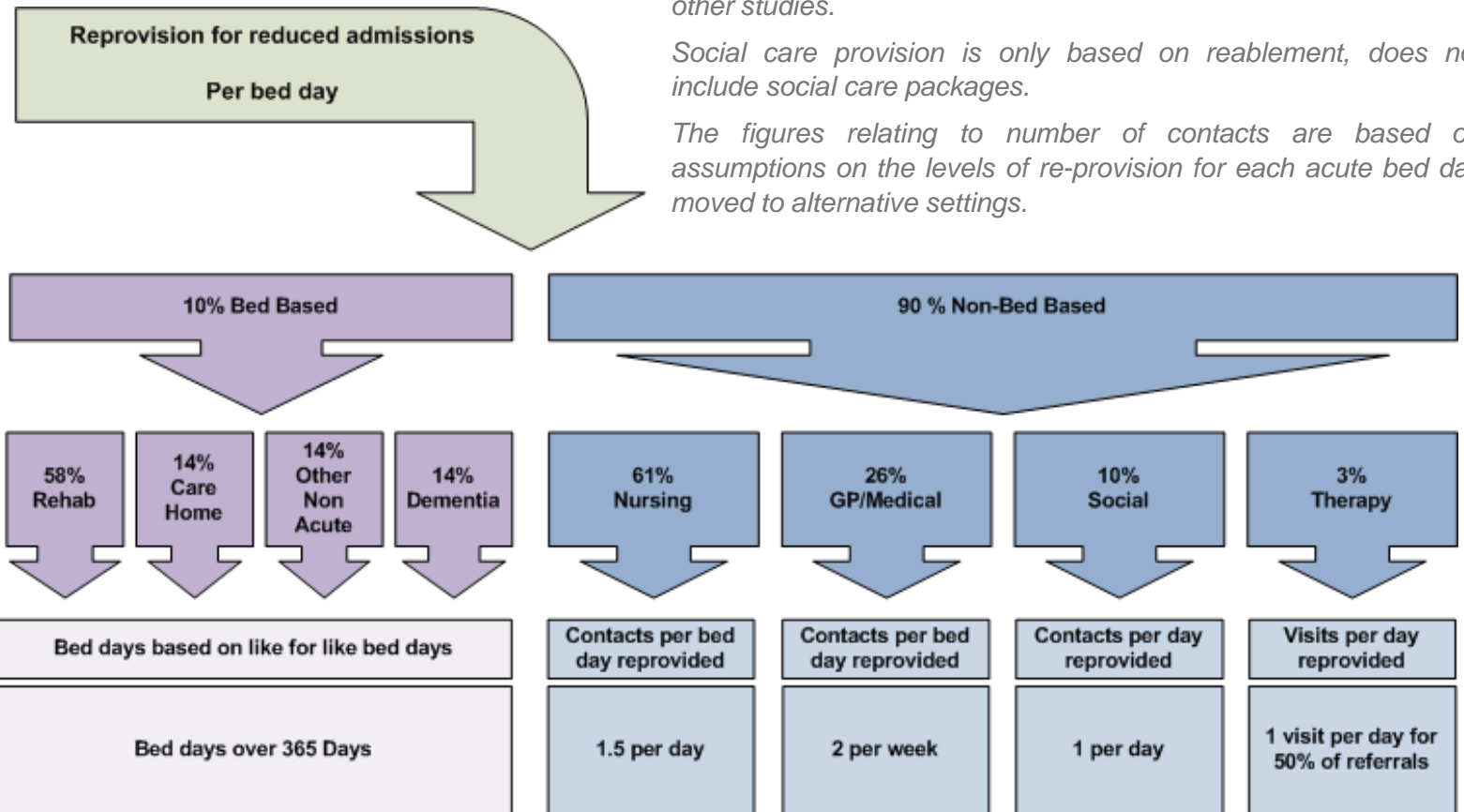
<b>ST HELENS AND KNOWSLEY HOSPITALS NHS TRUST</b>	<b>Avoidable Emergency Admissions</b>	<b>Early Supported Discharge</b>
Sum of Projected Spells	-	1,069
Sum of Projected Bed Days	-	8,069
Sum of Projected Total Tariff	-£	2,117,226
		-£
		810,118
<b>WARRINGTON AND HALTON HOSPITALS NHS FOUNDATION TRUST</b>	<b>Avoidable Emergency Admissions</b>	<b>Early Supported Discharge</b>
Sum of Projected Spells	-	783
Sum of Projected Bed Days	-	5,984
Sum of Projected Total Tariff	-£	1,612,606
		-£
		643,277

# Re-provision assumptions for avoided admissions

Using our experience in other parts of the country we have been able to develop some assumptions about the impact of avoiding acute admissions and reducing length of stay on non-acute services.

The assumptions are based on streaming of patients to alternative settings for each acute bed day avoided and are based on acuity assessments and observations of the appropriate alternative placements for patients who do not require acute admission / continued stay.

These are indicative figures only and further work would be necessary to map current flows, understand current patterns of community provision to validate these assumptions.



## Comments

Percentages relating to care location are based on CAPA, acute evidence is based on small samples but is in line with findings in other studies.

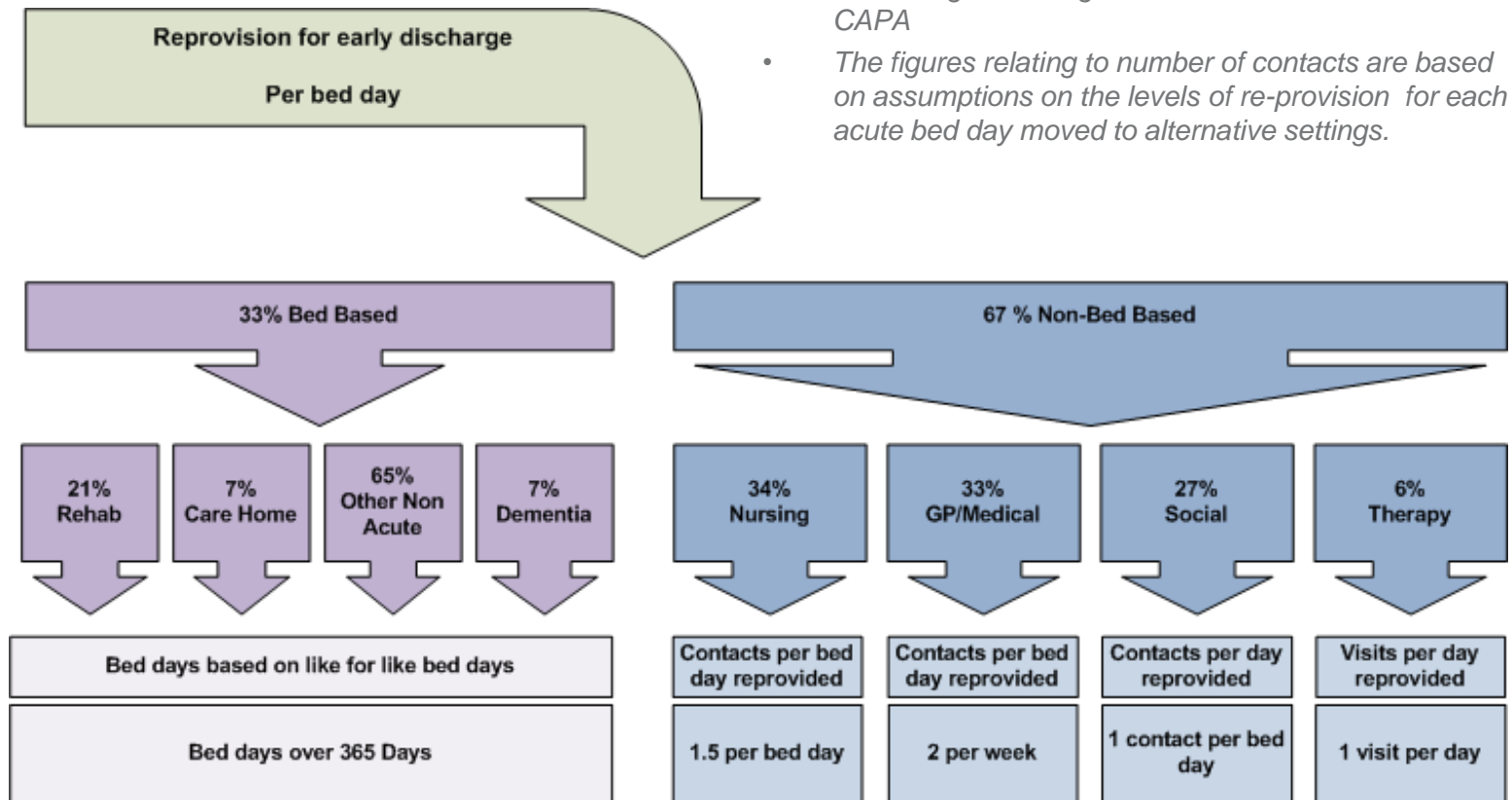
Social care provision is only based on reablement, does not include social care packages.

The figures relating to number of contacts are based on assumptions on the levels of re-provision for each acute bed day moved to alternative settings.

# Re-provision assumptions for early supported discharge

The indicative level of re-provision for early discharge has been modelled in the a similar way, estimating the alternative re-provision necessary to support early discharge and avoid acute bed days.

Again these are indicative figures only and further work would be necessary to map current flows, understand current patterns of community provision to validate these assumptions.



### Comments:

- Percentages relating to care location are based on CAPA
- The figures relating to number of contacts are based on assumptions on the levels of re-provision for each acute bed day moved to alternative settings.

# Re-provision in alternative settings

Using these re-provision assumptions for the levels of reduced acute activity and bed days in the likely scenario for 2016/17 gives these results.

The largest diversion can be seen in the number of nursing contacts for reduced admissions.

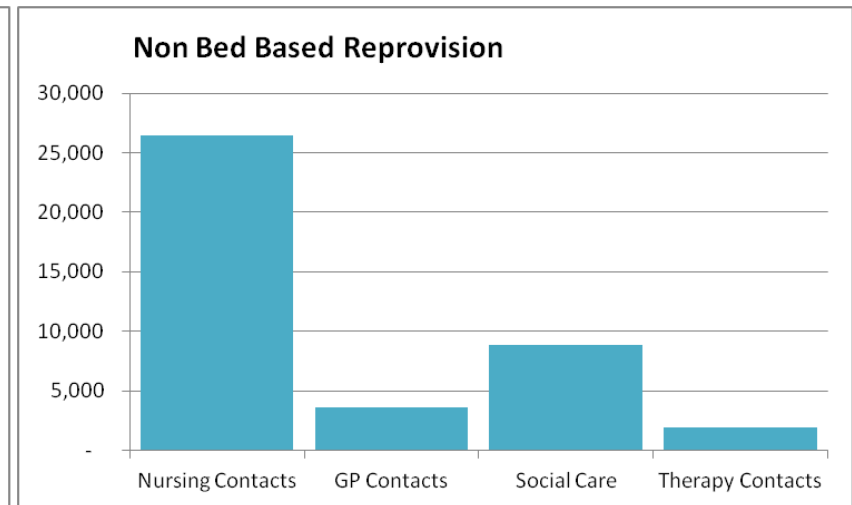
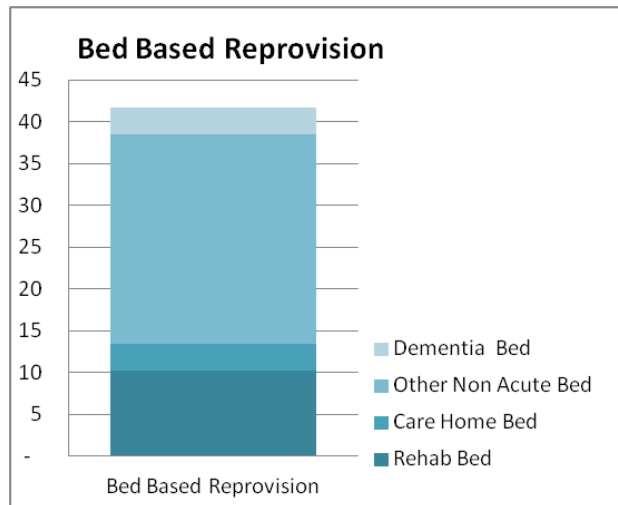
For reduced length of stays, clearly there would be an increased requirement for additional non-acute beds to support the earlier discharge.

The model does not make any assumptions about the efficacy of current non-acute bed use (typically, we find that around half of patients in non-acute beds could be discharged earlier to home based care). The model also makes no assumptions about community service productivity and capacity.

Further work would be necessary to map current flows and understand current patterns of community provision to validate the findings.

Bed Based Reprovision	Reprovision for Early supported Discharge	Reprovision for Admission Reduction
Rehab Bed Days	2,885	859
Care Home Bed Days	962	207
Other Non Acute Bed Days	8,929	207
Dementia Bed Days	962	207
<b>Indicative Non-Acute Beds</b>	<b>38</b>	<b>4</b>

Non Bed Based Reprovision	Reprovision for Early supported Discharge	Reprovision for Admission Reduction
Nursing Contacts	14,224	12,194
GP Contacts	2,630	990
Social Care	7,530	1,333
Therapy Contacts	1,673	200



# CAPITA

## Implications for Commissioners



Commentary on key issues

# Implications for Commissioners

While the purpose of the assignment was to undertake modelling of historic, current and forecast activity, flows and spend, the ultimate aim of this exercise is to support commissioners in their decision making for the longer term. In this section, we offer a commentary on some of the key points arising from the review, which help address some of the questions CCGs are seeking to answer, and signpost the CCGs to what they might consider next to address remaining gaps in their knowledge. The key issues are summarised below.

<b>Scope of plans</b>	The analysis shows that the current plans will help stem the tide of demand growth from population change but that in the long term, demand will continue to grow. This suggests that a more radical approach to meeting the challenge will be needed – current plans could be strengthened by exploring opportunities for more upstream intervention in health and wellbeing, shifting the emphasis from diversion to prevention of demand. In addition, the CCGs could explore more radical approaches to delivery of integrated, proactive care, involving redefining the role and shape of primary, community and social care for the longer term, with the current plans being used to generate breathing space to put the necessary investment into non-acute services to enable long term change.
<b>Community data</b>	The data provided for community services is not adequate to derive reliable calculations of the impact of commissioning intentions and the information provided in this report should be seen as illustrative. We would recommend that the basis for our modelling should be validated in collaboration with providers and further work be undertaken locally to understand the extent to which capacity in community services could be released to support the activity shifts associated with the commissioning intentions, and then the true quantum of additional capacity that will be required to support the long term shift indicated in the first point above.
<b>Impact of social care resource constraints</b>	The modelling suggests that austerity across the system is having an impact on the provision of social care, with a reduction in spend on assessments and shift in provision from institutional to home based care . The impact of this on health status and demand for health services cannot be inferred from the modelling at this point, but it seems logical to assume that there will be an increase in demand, particularly for home-based health care. By investing in more integrated approaches to risk stratification, population segmentation, prevention and proactive care, and by considering further opportunities for pooling resources to achieve this, health and social care commissioners will be better able to avoid this demand emerging in acute services and to deliver the most beneficial outcomes for the population in terms of overall health status. Further work should be undertaken now to understand the nature of social care provision, the client groups impacted and the care pathways / packages needed to address their needs.



# Implications for Commissioners

<b>Specialised Services / impact of new technologies</b>	<p>Despite the direction of travel to consolidate further the provision of specialist services into larger centres, from the information available, this is unlikely to have a major impact on patient flows within the mid Mersey geography, as neither of the two local providers delivers significant specialist services (the key exception being burns). The delegation of commissioning of some services to CCGs will impact on local commissioning intentions but is unlikely to impact on patient flows. It is likely that, with technological and pharmaceutical advances, more services and procedures become more amenable to local delivery (as in the case of renal dialysis and chemotherapy) but the need for these to be linked back to specialist expertise suggests the development of outreach from specialist centres of chains of providers, rather than involving a shift of provider.</p>
<b>Aligning wider system changes</b>	<p>The modelling has been built on commissioning intentions and it is suggested that these be compared with the impact of provider supply strategy and business plans, where known. For example, it would be helpful to understand the strategies of local trusts in respect of attracting activity from competitors. The pressure at St Helens and Knowsley Trust to optimise the use of Whiston Hospital may drive it towards a more aggressively competitive approach to practices in Halton, where flows are more varied, which would impact on the viability of the Halton Hospital site.</p> <p>While it is unlikely that the Greater Manchester Healthier Together strategy will impact on flows from mid Mersey, any plans for reconfiguration of services across Liverpool (and in the longer term, the re-build of the Royal Liverpool Hospital) may impact on flows from practices on the western edge of the patch.</p> <p>A more likely scenario for CCGs to consider is the impact of their plans for a sustained sift from acute to community services on provider sustainability and consequently, behaviour. To mitigate the impact on income, Trust responses may focus on developing partnerships and alliances with community services, or they may become more overtly competitive, seeking to develop vertically integrated alternatives to current provision. The latter, coupled with potential for establishment of GP Federations, provides a potential threat to Bridgewater Community Trust, which in turn may threaten the implementation of CCGs' plans in the medium term. Further work to understand community services flows would help CCGs develop a clear approach to this area of the market.</p>

# CAPITA

## Appendices

Appendix 1 - Summary of data sources used

# Collection of interventions and assumptions

Commissioning interventions have been imported from a number of sources and filtered into areas for modelling – the list of documents is shown here.

Document	Source	Type	Received From	Date
5 year plan meeting notes	Halton CCG	doc	<a href="mailto:Mike.Shaw@haltonccg.nhs.uk">Mike.Shaw@haltonccg.nhs.uk</a>	27/02/2014
5 year plan on a page V2	Halton CCG	doc	<a href="mailto:Mike.Shaw@haltonccg.nhs.uk">Mike.Shaw@haltonccg.nhs.uk</a>	27/02/2014
5 year strategic plan 2014_19 V1 GSB	Halton CCG	doc	<a href="mailto:Mike.Shaw@haltonccg.nhs.uk">Mike.Shaw@haltonccg.nhs.uk</a>	27/02/2014
5 year strategic plan presentation	Halton CCG	ppt	<a href="mailto:Mike.Shaw@haltonccg.nhs.uk">Mike.Shaw@haltonccg.nhs.uk</a>	27/02/2014
140205 Plan Assurance - 3x3 matrix	Halton CCG	ppt	<a href="mailto:Mike.Shaw@haltonccg.nhs.uk">Mike.Shaw@haltonccg.nhs.uk</a>	27/02/2014
Anytown Tool - Halton CCG Mapping exercise	Halton CCG	doc	<a href="mailto:Mike.Shaw@haltonccg.nhs.uk">Mike.Shaw@haltonccg.nhs.uk</a>	27/02/2014
CCG_Com_Planning_Template_(Functional)_V5_0 {1} SUBMITTED	Halton CCG	xls	<a href="mailto:Mike.Shaw@haltonccg.nhs.uk">Mike.Shaw@haltonccg.nhs.uk</a>	27/02/2014
Copy of Operational workplan figures 2014-16	Halton CCG	xls	<a href="mailto:Mike.Shaw@haltonccg.nhs.uk">Mike.Shaw@haltonccg.nhs.uk</a>	27/02/2014
Medication Error Reporting -Proposal for plan BRIDGEWATER as QP provider	Halton CCG	doc	<a href="mailto:Mike.Shaw@haltonccg.nhs.uk">Mike.Shaw@haltonccg.nhs.uk</a>	27/02/2014
operational plan 2014-16 V2.3.6 FINAL	Halton CCG	doc	<a href="mailto:Mike.Shaw@haltonccg.nhs.uk">Mike.Shaw@haltonccg.nhs.uk</a>	27/02/2014
ProvCom_Planning_Template_(functional)_V7_0 SUBMITTED	Halton CCG	xls	<a href="mailto:Mike.Shaw@haltonccg.nhs.uk">Mike.Shaw@haltonccg.nhs.uk</a>	27/02/2014
stra-op-stat-temps	Halton CCG	doc	<a href="mailto:Mike.Shaw@haltonccg.nhs.uk">Mike.Shaw@haltonccg.nhs.uk</a>	27/02/2014
Summary Doc 5 year and 2 year plans	Halton CCG	doc	<a href="mailto:Mike.Shaw@haltonccg.nhs.uk">Mike.Shaw@haltonccg.nhs.uk</a>	27/02/2014
Link to JSNA	Halton CCG	pdf	<a href="mailto:Mike.Shaw@haltonccg.nhs.uk">Mike.Shaw@haltonccg.nhs.uk</a>	11/03/2014
Copy of V7 DRAFT - Better Care Fund Template Part 2 14 2 14 Submission to NHSE	St Helens CCG	xls	<a href="mailto:Ian.Campbell@sthelensccg.nhs.uk">Ian.Campbell@sthelensccg.nhs.uk</a>	26/02/2014
V7 DRAFT Better Care Fund planning template part 1 - 14 2 14 Submission to NHSE	St Helens CCG	doc	<a href="mailto:Ian.Campbell@sthelensccg.nhs.uk">Ian.Campbell@sthelensccg.nhs.uk</a>	26/02/2014
v7.0 ProvComm Planning Template 2014-15 for UNIFY Submission.xls	St Helens CCG	xls	<a href="mailto:Jason.Taylor@sthelensccg.nhs.uk">Jason.Taylor@sthelensccg.nhs.uk</a> / <a href="mailto:Kerry.In">Kerry.In</a>	05/03/2014
v5.0 CCG Planning Template for Unify (functional)	St Helens CCG	xls	<a href="mailto:Jason.Taylor@sthelensccg.nhs.uk">Jason.Taylor@sthelensccg.nhs.uk</a> / <a href="mailto:Kerry.In">Kerry.In</a>	05/03/2014
Internal data collection CCG Com Plans 2014-15	St Helens CCG	xls	<a href="mailto:Jason.Taylor@sthelensccg.nhs.uk">Jason.Taylor@sthelensccg.nhs.uk</a> / <a href="mailto:Kerry.In">Kerry.In</a>	05/03/2014
v8.0 ProvComm Planning Template 2014-15 for UNIFY Submission.xls	St Helens CCG	xls	<a href="mailto:Jason.Taylor@sthelensccg.nhs.uk">Jason.Taylor@sthelensccg.nhs.uk</a>	12/03/2014
PROVCOMM MATRIX OF CHANGE	St Helens CCG	doc	<a href="mailto:Jason.Taylor@sthelensccg.nhs.uk">Jason.Taylor@sthelensccg.nhs.uk</a>	12/03/2014
St Helens CIs 1415 contract round v5	St Helens CCG	xls	<a href="mailto:Jason.Taylor@sthelensccg.nhs.uk">Jason.Taylor@sthelensccg.nhs.uk</a>	12/03/2014
Project Information Collation Table V0.2	St Helens CCG	xls	<a href="mailto:Jason.Taylor@sthelensccg.nhs.uk">Jason.Taylor@sthelensccg.nhs.uk</a>	12/03/2014
link to WCCG refreshed commissioning intentions	Warrington CCG	ppt	<a href="mailto:Linda.Bennett@warringtonccg.nhs.uk">Linda.Bennett@warringtonccg.nhs.uk</a>	03/03/2014
link to ISOP 2012/13-13/14	Warrington CCG	ppt	<a href="mailto:Linda.Bennett@warringtonccg.nhs.uk">Linda.Bennett@warringtonccg.nhs.uk</a>	03/03/2014
Financial Plan Template 1415 to 1819 CCG (14Feb14 1014 - v4.7 updated) Text	Warrington CCG	xls	<a href="mailto:David.Cooper@warringtonccg.nhs.uk">David.Cooper@warringtonccg.nhs.uk</a>	06/03/2014
Warrington BCF Plan - Part 1 (2)	Warrington CCG	doc	<a href="mailto:David.Cooper@warringtonccg.nhs.uk">David.Cooper@warringtonccg.nhs.uk</a>	06/03/2014
Warrington BCF Planning Template - Part 2	Warrington CCG	xls	<a href="mailto:David.Cooper@warringtonccg.nhs.uk">David.Cooper@warringtonccg.nhs.uk</a>	06/03/2014
2014_02_Urgent_Care_GP_Specification v1 1 - final for inclusion	Warrington CCG	doc	<a href="mailto:David.Cooper@warringtonccg.nhs.uk">David.Cooper@warringtonccg.nhs.uk</a>	06/03/2014
eoi-proforma Warrington GP Federations (2)	Warrington CCG	pdf	<a href="mailto:David.Cooper@warringtonccg.nhs.uk">David.Cooper@warringtonccg.nhs.uk</a>	07/03/2014
Knowsley draft Better Care Fund plan 20140214	Knowsley CCG	pdf	<a href="mailto:Paul.Brickwood@knowsleyccg.nhs.uk">Paul.Brickwood@knowsleyccg.nhs.uk</a>	03/03/2014
Children and Young Peoples Needs Assessment2	Knowsley CCG	pdf	<a href="mailto:Ian.stewart@knowsleyccg.nhs.uk">ian.stewart@knowsleyccg.nhs.uk</a>	07/03/2014
knowsley-jsna-2011-full-report	Knowsley CCG	pdf	<a href="mailto:Ian.stewart@knowsleyccg.nhs.uk">ian.stewart@knowsleyccg.nhs.uk</a>	07/03/2014
Knowsley Public Health Annual Report Statistical Compendium 2012-13	Knowsley CCG	pdf	<a href="mailto:Ian.stewart@knowsleyccg.nhs.uk">ian.stewart@knowsleyccg.nhs.uk</a>	07/03/2014
Public Health Annual Report 2012-2013	Knowsley CCG	pdf	<a href="mailto:Ian.stewart@knowsleyccg.nhs.uk">ian.stewart@knowsleyccg.nhs.uk</a>	07/03/2014
CCG_Com_Planning_Template_FINAL	Knowsley CCG	xls	<a href="mailto:Ian.stewart@knowsleyccg.nhs.uk">ian.stewart@knowsleyccg.nhs.uk</a>	07/03/2014
ProvCom_Planning_Template_FINAL	Knowsley CCG	xls	<a href="mailto:Ian.stewart@knowsleyccg.nhs.uk">ian.stewart@knowsleyccg.nhs.uk</a>	07/03/2014