

# The link between non-acute investment and system productivity

September 2023

# Executive summary

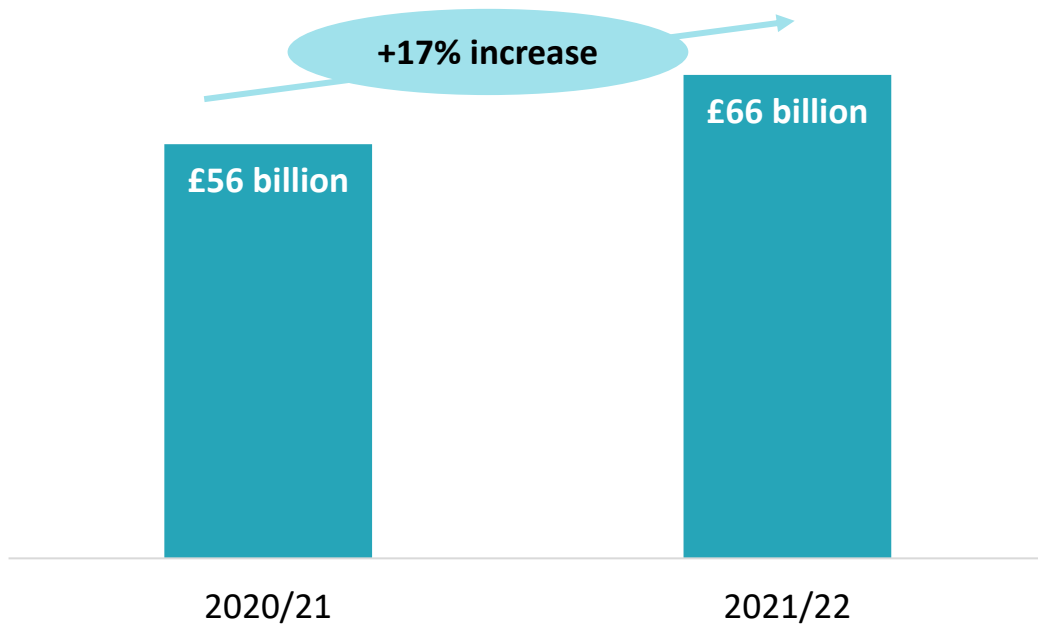
## Increased spending on out of hospital care can create value through through reduced hospital demand

- As part of our continuing series on healthcare value, we explore the **relationship between spending on the NHS and the value it creates**, using a unique longitudinal dataset we have created. In our first piece we highlighted a **4x return on investment** in economic growth from NHS spending. In our second piece we showed how **spending on primary and community care drive economic growth**. Here we explore how **primary and community spending support system productivity**.
- Between 2020/21 and 2021/22, **acute healthcare spending has grown faster** than any other form of NHS spending and yet performance continues to be challenged with pressure on A&E, beds and discharges. This has led to **intense focus on hospital productivity** and also **social care as a source of delay**.
- However, the key to unlocking system productivity may be found in **primary and community care**. In short, primary care spending can help people to **remain healthy and avoid emergency hospitalisation** whilst community care can help **people who need more support to remain independent**, especially older people to avoid being in hospital.
  - Having more GPs is associated with significant **reductions in A&E attendances and inpatient hospital stays** which would suggest it being cost effective to increase resources in primary care to reduce hospital activity.
  - Having more community nursing contacts per 1000 people over 65 is directly linked to lower occupied bed days.
- Despite this critical link, we find there is **no relationship** between the amount invested by NHS organisations in community care and their population community care needs. Relative to other areas, some have spent more given their population need while others have spent less.
- Areas that spent relatively less on community care given population need have seen higher average levels of hospital and emergency activity, compared to those spending relatively more. On average there were **15% lower non-elective admission rates** and **10% lower ambulance conveyance rates**, both statistically significant differences, together with lower average activity for elective admissions and A&E attendances.
- Previous work in NCL highlighted **significant inequities related to community health services** that exist within a health and care system. This included inequities in level of investment across geographies, with **CCGs historically investing more in community health linked with reduced acute activity**. A **bespoke and consistent community health services offer** was developed to help address some of these inequities and drive improved outcomes for residents across NCL.
- The reduction in acute demand associated with higher community spend could fund itself through savings on acute activity, with an average **31% return on investment** and average **net saving of £26m for an average ICS**. This suggests a substantial opportunity to **improve system productivity** by investing in community care.

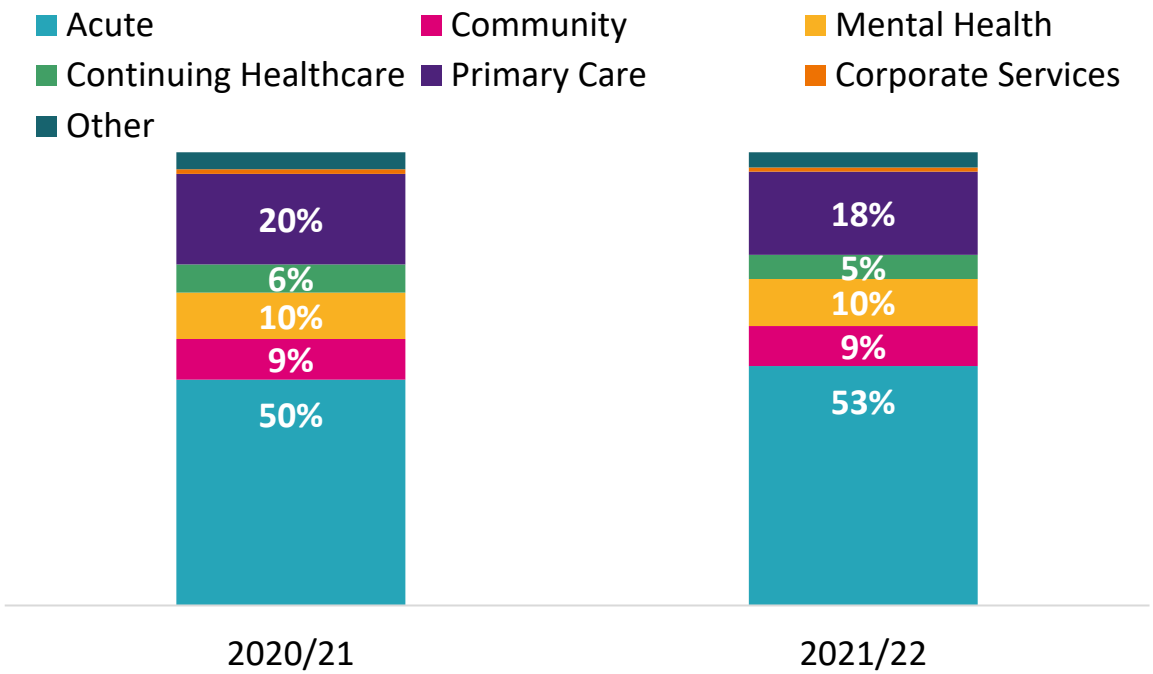
# Despite a 17% increase in acute spend by CCGs between 2020/21 and 2021/22, the acute sector is under increasing pressure

- National acute spend by CCGs increased by £10bn (17%) in real terms between 2020/21 and 2021/22, increasing from 50% to 53% of total CCG spend
- Despite this increase, the performance in the acute sector continues to be challenged with pressure on A&E, beds and discharges, as well as high waiting lists for elective care.

**National acute spend by CCGs, 2022 real terms**



**National CCG spend by setting of care, 2022 real terms**



# Why we think interventions in primary and community care can help improve system productivity by reducing acute demand

	What services are offered?	What does this provide?	Why does it matter?
Community care	<ul style="list-style-type: none"><li>• A wide range of services that do not fall under primary nor hospital care</li><li>• Focus on older people and helping them stay independent</li><li>• Services are in large part home-based (nursing, health visits, etc.)</li></ul>	<ul style="list-style-type: none"><li>• Rapid response closer to home</li><li>• Support for people to be independent</li><li>• Access to services that people would otherwise need hospital for</li></ul>	<ul style="list-style-type: none"><li>• Enables confidence in discharge</li><li>• Reduces length of stay in hospital</li><li>• Reduces readmission rate</li><li>• Reduces need for admissions and hospital outpatient attendances</li></ul>
Primary care	<ul style="list-style-type: none"><li>• First point of contact in the healthcare system</li><li>• Primarily general practice services but also includes community pharmacy, dental, and optometry services</li></ul>	<ul style="list-style-type: none"><li>• Case management</li><li>• Urgent response outside of hospital</li><li>• Management of long-term conditions</li></ul>	<ul style="list-style-type: none"><li>• Reduces A&amp;E attendances</li><li>• Reduces need for admissions</li><li>• There is proportion of primary care funding that is allocated locally</li></ul>

• Community and primary care services have the benefit of reducing the burden on hospital services through reduced A&E attendances, and admissions, faster discharge and shorter length of stay

• A strategic investment in these areas can therefore mean optimised healthcare delivery ensuring better health outcomes in general through better care offered at the right place and the right time

# Our previous work found increasing the primary care workforce can create savings by reducing need for acute care

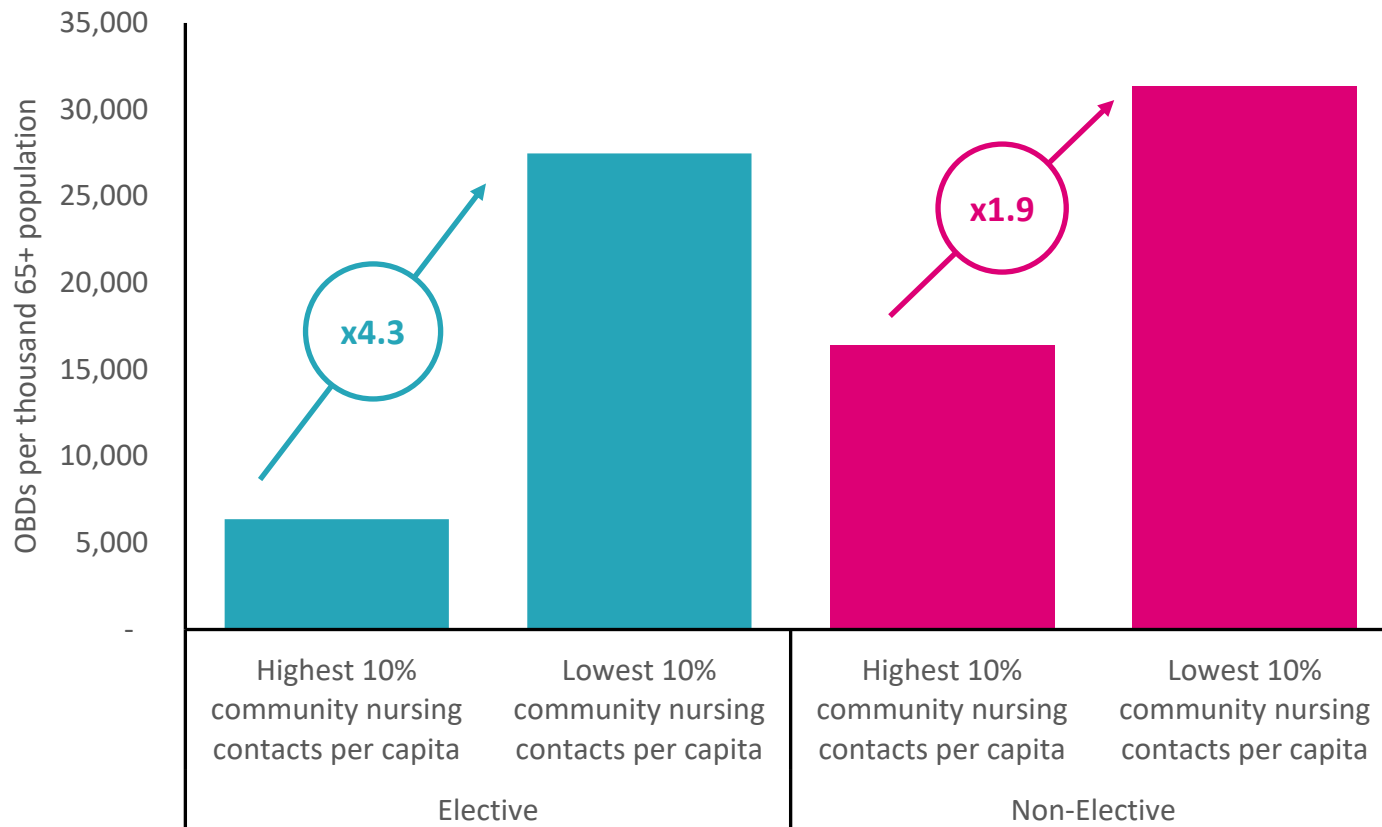
	Prevented events for one GP per 10,000 people
A&E attendances	97.5
Long-stay non-elective admissions	10.9
	Workforce cost
Salary for each GP	£65,070 to £98,194

- The **number of GPs per head is associated with a decrease in the number of A&E attendances and long-stay non-elective inpatient spells**
- Given that A&E attendances and long-stay non-elective admissions cost £297 and £4,842 respectively, for each GP there is a saving of **£82,000 saving** per 10,000 people
- Increasing primary care workforce could provide a **substantial cost saving on hospital care**
- The overall financial and economic benefit **is likely greater** than estimated here
- Reducing emergency attendances and hospital stays has a **positive health benefit**, preventing reducing future hospital demand
- For working age patients, **keeping in better health enables more economic participation**

# There are indications that areas with high community nursing contacts have lower OBDs in acute, highlighting the impact of community care on acute settings

## OBDs data

OBDs per 1,000 65+ split by POD & community nursing contact top & bottom decile

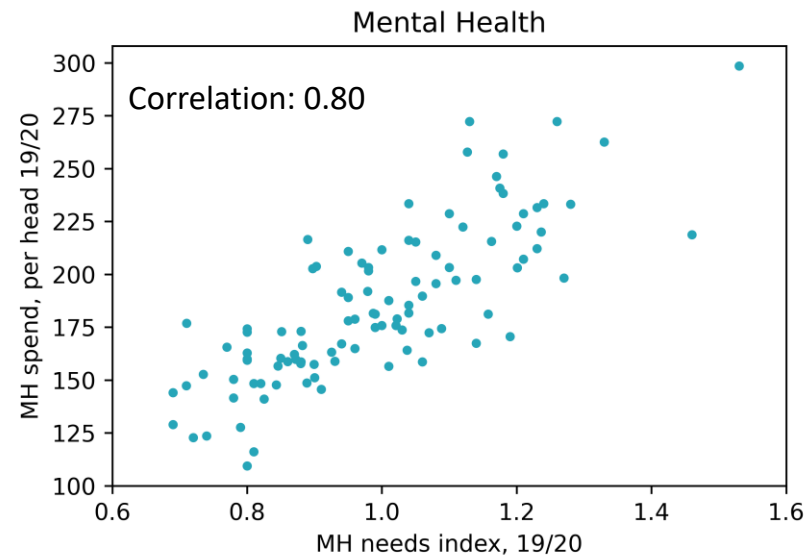
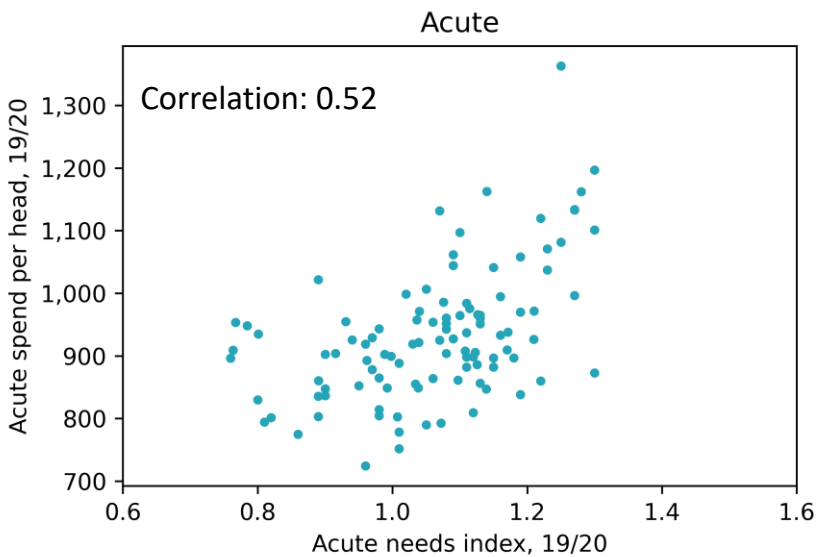
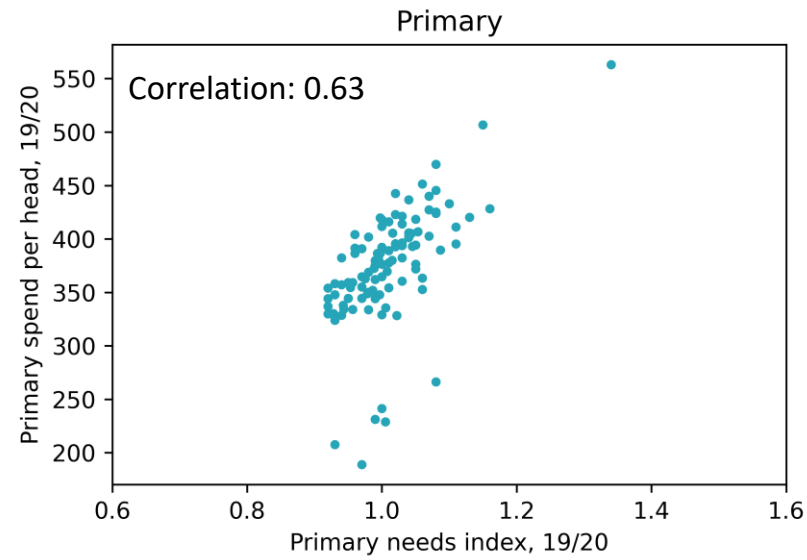
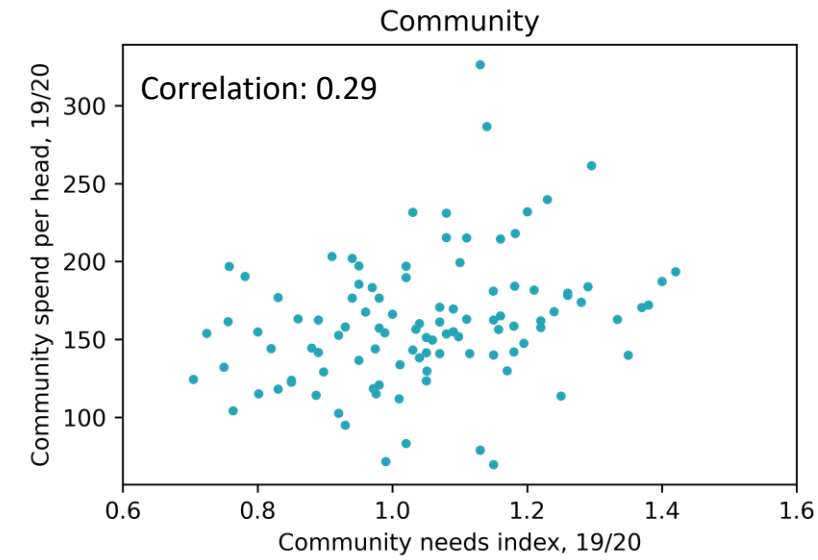


- Older (65+) populations tend to be more vulnerable, having **more complicated needs**
- Exploring the providers identified as having the highest submissions & data quality, we examined the **average OBDs per thousand people across elective and non-elective activity**.
- The analysis reveals that **providers in the highest decile** of community nursing contacts per 65+ have **substantially lower OBDs** than providers in the lowest decile.
- This suggests there is a **link between community care and acute** and highlights the role of community services in **informing acute strategy**.

**Highest 10%:**  
575 contacts  
per 1,000 65+ people

**Lowest 10%:**  
37 contacts  
per 1,000 65+ people

# Community spending does not correlate with community needs index, in 2019/20 data

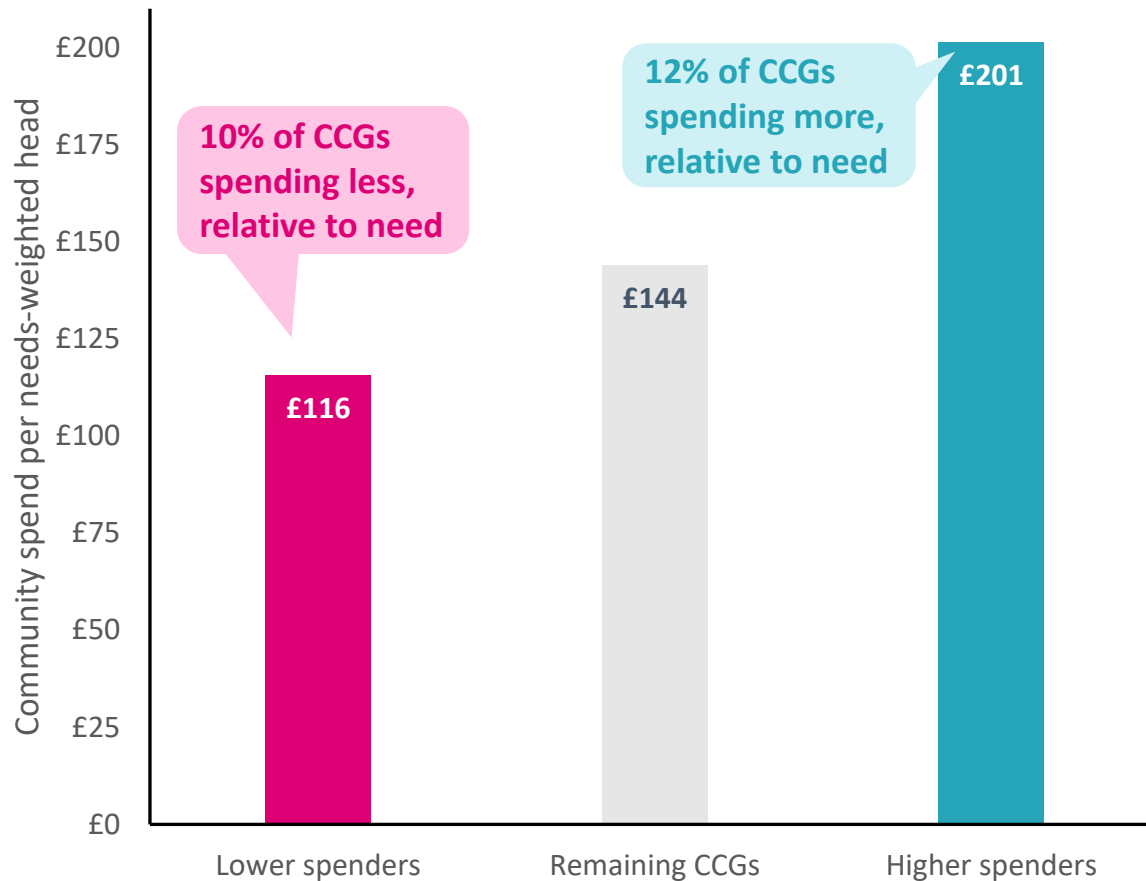


- We examined the correlation between NHS spending by setting and the corresponding needs indices, released by NHS England
- We found **community spending does not correlate with the community needs index**, with a correlation coefficient of only 0.291
- Correlation coefficients range from -1 (perfect negative correlation) and 1 (perfect positive correlation)
- As expected, a **positive correlation was found for the other three settings of care** examined, indicating that NHS spending matches need for primary care, acute and mental health

# We have classified CCGs into categories based on spending compared to needs index

## Community spend per needs-weighted head

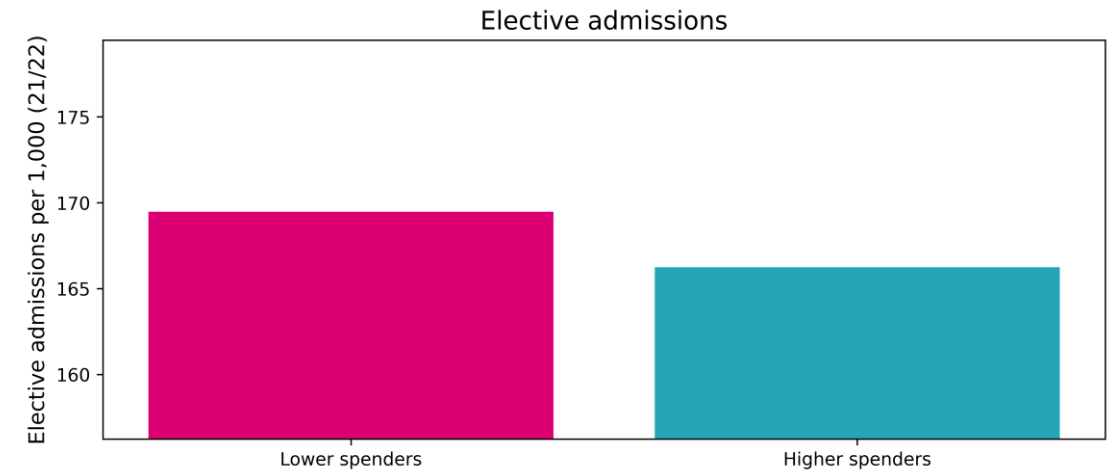
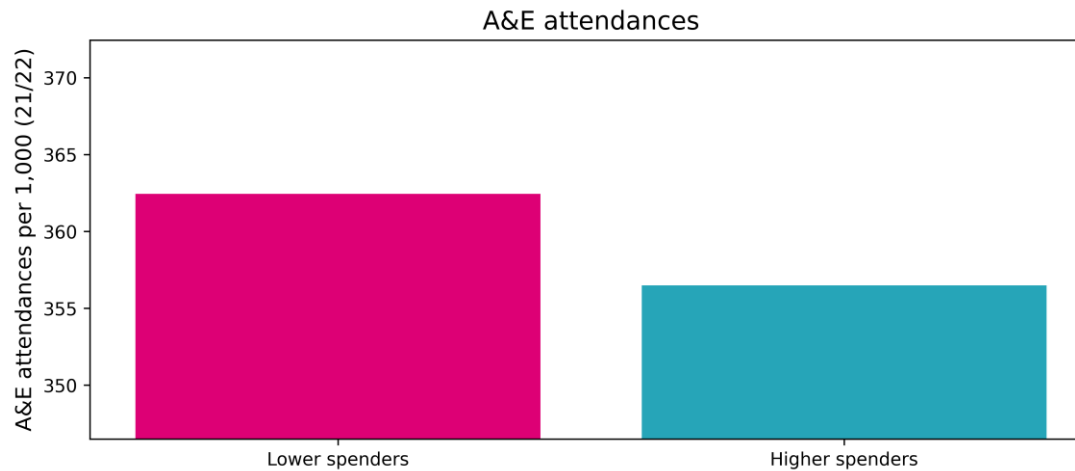
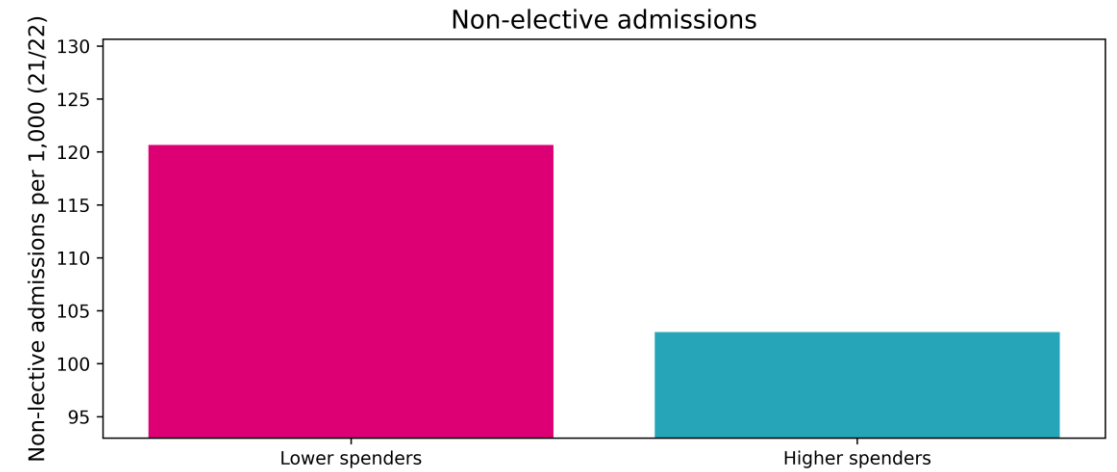
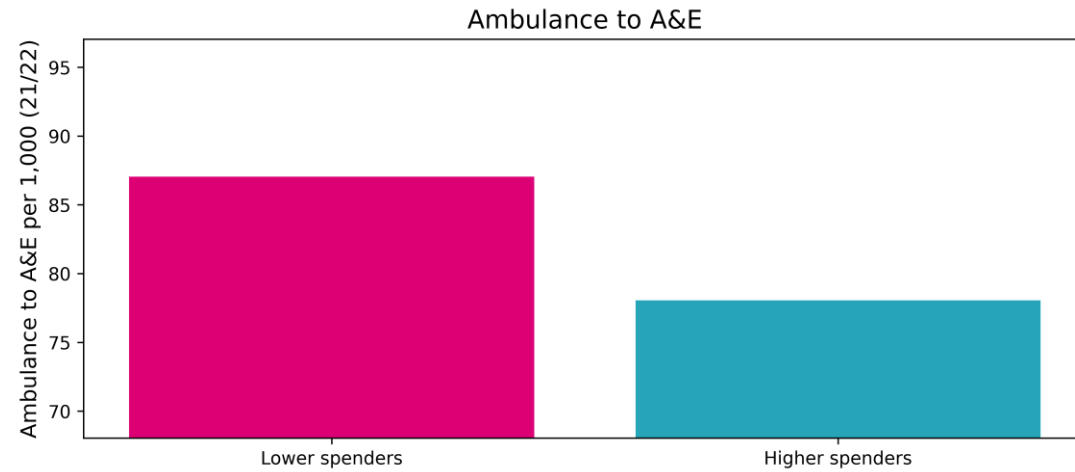
2019/20, Median of lower, middle and higher spenders



- In this work we have examined spending by CCG as this is the unit by which NHS spend data is available
- Local NHS funding is allocated using a **needs index**, that captures the amount of care needed in a population
- Actual spending on community care would be **expected to correlate** with the population need
- **Lower spending** CCGs (pink bar) on average spend **£116** per head on community care, weighting for population need, whilst **higher spending** CCGs (blue bar) spend **£201** per head on community care, weighting for population need
- CCGs spending **in line** with population need (grey bar) spend **£144** per needs weighted head on community care on average
- We classify **higher spending** CCGs as those with spending levels one decile above the national median and population needs one decile below the national median
- We classify **lower spending** CCGs as those with spending levels one decile below the national median and population needs one decile above the national median



# Areas that spent less on community care relative to need saw higher average levels of acute activity



We assume a lag of two years, to allow the effects of increased community capacity to impact acute activity



# Reducing acute demand by increased community spending would be self-funding, with 31% return on investment in acute care savings

	Community higher spending average	Community lower spending average	Average additional cost
Community care spend per 1,000 (19/20)	£185,000	£125,000	£60,000
NEL per 1,000 (21/22) *	£299,000	£350,000	£51,000
EL per 1,000 (21/22)	£1,145,000	£1,167,000	£22,000
Ambulance per 1,000 (21/22) *	£28,000	£31,000	£3,000
A&E per 1,000 (21/22)	£106,000	£108,000	£2,000

\* Statistically significant difference at 5% level

- This corresponds to a **net saving to the average ICS of £25.6m**
- If areas spending less in community care relative to need achieved the same average acute activity levels of higher spending areas, **return on investment would be 31%**
- **The total saving would be £78,000 per 1,000 people**
- We would expect **wider economic benefit** if working age patients are kept out of hospital and are able to work

Increased spend relative to need for NHS Primary and Community Care is associated with reduced Acute activity and subsequent savings

Spend (£) on Community and Primary Care is variable

Population needs are variable

Increasing Community and Primary Care spend relative to need shows a reduction in Acute activity...

↑ Spend / Population need =

↓ Acute activity  
 ~15% ↓ NEL admissions  
 ~10% ↓ Ambulance conveyances

Our findings indicate...



The reduction in acute demand associated with higher community spend could fund itself through savings on acute activity, with an average **31% return on investment** and average **net saving of £26m for an average ICS.**

# Community care is a crucial contributor to healthcare system productivity



This work has found that **community care spending nationally has not been in line with the needs** of local populations. It suggests community care may not have been appropriately prioritised in some areas and that the benefits of this important care setting are not being made fully available to patients in need.



In addition to possible direct effects of lacking community services, **we find an association between local areas spending less on community care and increased hospital demand**, compared with areas that spent more on community care relative to need. Factors other than relative community care spending may contribute to the acute activity seen, but we find statistically significant differences in non-elective admissions and ambulance conveyances, with **average 15% and 10% differences respectively**. This suggests neglecting community care services may be a false economy, as patient health may deteriorate and require more expensive and disruptive care in hospital. Community spend is not required to increase proportional to total allocation, unlike mental health spending. We recommend that **community spend is prioritised as a mechanism for reducing long-term pressure on the acute sector**.



We estimate there is **a substantial potential saving** associated with higher community care spending, in terms of **hospital care prevention** if this were a causal relationship, **averaging £25.6m saving per year for an ICS**. But the true saving would likely be higher, since patients requiring acute care are more likely to involve ongoing hospital contact and less likely to be economically productive.



**Community care is a crucial contributor to healthcare system productivity** and it should be prioritised accordingly. In this challenging financial environment, it would be a mistake to undervalue preventative services.

# To improve understanding of community services, we would suggest further investigation in the following areas

## Address data completeness

- Undertake a rapid diagnostic to understand the 1) trust EMR coverage, 2) barriers in data completion and 3) best practice
- Develop actions for addressing including 1) triage data tables to prioritise data ask 2) create incentive for completion (holdback or bonus), 3) funding improved data capture/coding, 4) EMR investment.

## Partner with top providers to understand specific services better

- Work with the top providers in handful of key areas to develop data-based specification of services
- Define key services and agree common way of capturing the service offer, the target population, a best practice workforce model
- Capture data from CSDS and directly from providers to complete data capture against key services
- Analyse services and pattern of delivery including coverage, activity, effectiveness and productivity

## Use existing national data to expand insight

- Link CSDS with HES to allow granular view in the areas with high completeness rates
- Develop analytically derived view of activity rates by age band/condition as well as a typical pathway
- Leverage in-depth workforce and finance reports to develop workforce productivity analysis for every service line
- Develop understanding of the return on investment of community services
- Review the actual spending on community services compared to the community services need index
- Assess whether the community needs index must be adjusted in light of these insights

## Prioritise community spending and expected impact

- Define the common list of services that should be commissioned
- Determine the benchmark activity rate for each community service
- Develop expected spend on community services model
- Develop expected return on investment model to inform where expected savings should fall

# We established recommendations for four distinct sets of stakeholders

## National government

- In future policies, working groups or committees, and funding schemes, future government policy should recognise the interrelatedness of community care with other services outside of the direct remit of the Department of Health and Social Care
- Investment in community care in particular should be incentivised

## NHS England

- NHS England should work with local leaders to develop a clearer definition of community care
- NHS England should work with clinical system providers to:
  - Prioritise data that better informs the value of community services;
  - Incentivise local leaders to collect comprehensive and accurate data; and
  - Standardise the collection of community care data and definitions.
- In future policies, NHS England should recognise the benefits of the NHS investing more in the community sector
- NHS England should conduct more data-led analysis of initiatives in order to demonstrate the impact and recognise the potential to prevent admissions in the future and the longer-term return on investment

## Integrated Care Systems

- System leaders are encouraged to:
  - Review community care spending against need at a system level, understanding the nature of associated acute savings that can be unlocked locally;
  - Develop a comprehensive inventory of local community care partnerships and services and their complementarity to other settings of care;
  - Understand the specific role of community services in improving wider local system productivity; and
  - Help broaden our understanding of prevention and deliver on the recommendations set out in the Hewitt Review.

## Providers

All providers of community health services should work with their ICSs to report operational performance and data on a daily basis, in order to ensure impact is adequately understood.

# About the authors



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Ben is **Managing Partner** at CF. He leads our Data Innovation and Life Sciences businesses in addition to serving a wide range of clients, focusing on how data and analytics can be used to create impact.

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# Appendix





# Methodology

Higher spending CCGs are defined as those with spending levels one decile above the national median and population needs one decile below the national median in the financial year 2019/20. Lower spending CCGs are defined as those with spending levels one decile below the national median and population needs one decile above the national median. Need index data are published by NHS England (NHSE) and spend data by care setting was obtained from NHSE by freedom of information request.

Acute activity for non-elective and elective admissions, accident and emergency attendances and ambulance conveyances to A&E were counted by CCG per 1,000 population for the financial year 2021/22 (hospital episodes statistics data). We have assumed a lag of two years in assessing the impact of community spend on acute activity to allow the effects of increased community capacity to be felt.

Average acute care costs incurred for higher and lower spending CCGs were estimated from acute activity counts (as above) and published average unit costs for delivering treatment (from the national schedule of NHS costs). The potential saving associated with different levels of community spending was estimated as the difference of mean acute costs between higher and lower spending CCGs.

The return on investment associated with community care was estimated using acute savings (above) together with the difference in mean community spending for the higher and lower spending CCGs.

The net saving for an average ICS was calculated as the difference between the average saving and average cost for an ICS. The saving and cost for an ICS were calculated by multiplying the per head saving or cost by the average ICS population size in the appropriate year.

# Data sources

Dataset	Source	Granularity used	Calculations and assumptions
CCG needs index	NHS England	<ul style="list-style-type: none"> <li>Financial Year</li> <li>Setting (general &amp; acute, mental health, overall)</li> </ul>	<ul style="list-style-type: none"> <li>Average needs index for CCGs that merged prior to 2021</li> </ul>
CCG spending, 2014/15 - 2019/20	NHS England, freedom of information request	<ul style="list-style-type: none"> <li>Financial year</li> <li>Setting (acute, primary care, community and mental health)</li> </ul>	<ul style="list-style-type: none"> <li>Excluded five CCGs whose funding reportedly changed dramatically between years, suggesting data quality issues</li> <li>Presented in 2022 real terms</li> </ul>
Mid-year population estimates	Office for National Statistics	<ul style="list-style-type: none"> <li>2015, 2019 &amp; 2021</li> <li>Lower super output area</li> </ul>	<ul style="list-style-type: none"> <li>Aggregated to 2021 CCG level</li> </ul>
Emergency Care Data Set (ECDS)	Hospital Episode Statistics	<ul style="list-style-type: none"> <li>CCG of patient residence</li> <li>Financial year 2021/22</li> <li>Attendances</li> <li>Arrivals by ambulance</li> </ul>	
Admitted Patient Care (APC)	Hospital Episode Statistics	<ul style="list-style-type: none"> <li>CCG of patient residence</li> <li>Financial year 2021/22</li> <li>Admission method</li> </ul>	
National schedule of NHS costs	NHS England	<ul style="list-style-type: none"> <li>Average cost of acute activity</li> </ul>	<ul style="list-style-type: none"> <li>Overall activity costs are estimated by counting units of activity from HES sources and multiplying by average unit cost</li> </ul>

# North Central London ICS Case Study

# We supported North Central London (NCL) ICS develop a bespoke core Community Services offer for the system, now supported by NCL investment in the community

## The context in NCL

NCL CCG (now ICB) was formed through the merger of five legacy CCGs in five boroughs in North Central London. We found that historic funding differences in the CCGs led to **considerable variation** in the way community services were commissioned and delivered across NCL. This has led to substantial variation in service offers, with inconsistent waiting times and inequalities of outcomes across the five boroughs. For example:

- Islington had **5 times** as many children's community nursing staff as Barnet, and was the **only borough** that offers a hospital at home service for seriously unwell children
- Enfield had over **twice** the prevalence of diabetes as Camden yet had a community diabetes resource that is **less than half the size**

System leaders across NCL agreed that the level of variation is something that needs to be addressed as a priority across NCL and have launched a multi-year programme to ensure a core offer is in place for all residents.

## Universal core offer

We worked with NCL CCG to develop a consistent Community Services core offer for the system, producing a **set of outlines** with care functions detailed in a set of specifications as well as a set of **coordinating functions** encompassing a central point of access and case management.

The core offer describes the services that should **be universally available** to all NCL residents, with consistent:

- Response times
- Criteria for people to access services
- Requirements for services to meet national 'must-dos'
- Workforce capabilities required

## NCL investment

Following the review, **NCL ICS has committed to providing the universal core offer we set out** and has already committed to a number of significant investments to equalise community services across the five boroughs, including:

- **£5.4m** investment in virtual wards, expected to avoid 13,000 bed days annually;
- **£1.95m** in Enfield Year 1 interventions, expected to avoid more than 2,000 bed days annually; and
- **£1.45m** in Haringey Year 1 interventions, expected to avoid more than 500 bed days annually.