

Lincolnshire Pharmaceutical Needs Assessment

Lincolnshire Health and Wellbeing Board

March 2015

Foreword

Our pharmacies provide people in Lincolnshire with vital supportive health services in ways which are accessible and timely. With over 19.4 million prescribed items being dispensed in Lincolnshire's pharmacies every year, the public is provided with easy access to the supply of medicines and appliances that they need as a vital part of the local healthcare system

Communicating health messages to people who are sick, as well as reassurance, advice and guidance to people who are well, is another key strength of the work that pharmacies deliver, and one which we need to make the most of, and build on.

We also need to ensure that pharmacies are able to play a stronger role in out-of-hospital care, the management of long-term conditions and signposting residents to useful health and wellbeing, social care and voluntary sector services, in partnership with other health professionals.

I therefore welcome this Pharmaceutical Needs Assessment, which considers the need for pharmaceutical services, describes the current services available to the county, and makes recommendations for the future provision of pharmaceutical services.

I trust that NHS England and others will find this assessment informative and useful in their commissioning of pharmaceutical services.



Sue Woolley

Cllr Sue Woolley
Chairman of the Lincolnshire Health and Wellbeing Board

Acknowledgements

With grateful thanks to the many people who have contributed to the production of this Pharmaceutical Needs Assessment, and special thanks to the people of Lincolnshire for their contributions to the consultation.

Particular thanks to the members of the Pharmaceutical Needs Assessment Steering Group, for their significant contribution to the development and writing of the assessment.

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Glossary

C-Card	Scheme providing free condoms and lubricants to teenagers, along with safe-sex information and signposting to other services
CCG	Clinical Commissioning Group
CHD	Coronary Heart Disease
COPD	Chronic Obstructive Pulmonary Disease
DH	Department of Health
DRUM	Dispensing Review of Use of Medicines
DSQS	Dispensing Services Quality Scheme
EHC	Emergency Hormonal Contraception
GP	General Practitioner
GUM	Genito-Urinary Medicine
HIV	Human Immunodeficiency Virus
HWB	Health and Wellbeing Board
IMD	Index of Multiple Deprivation
JSNA	Joint Strategic Needs Assessment
JHWS	Joint Health and Wellbeing Strategy
LA	Local Authority
LMC	Local Medical Committee
LPC	Local Pharmaceutical Committee
LSOA	Lower Super Output Area
MUR	Medicines Use Review
NHS	National Health Service
NMS	New Medicine Service
NSP	Needle and Syringe Programme
ONS	Office for National Statistics
OOH	Out of Hours
PBEvP	EHC via patient group direction provided from a community pharmacy
PBNEX	Pharmacy Based Needle Exchange
PBSAP	Pharmacy Based Supervised Administration Programme
PGD	Patient Group Direction
PNA	Pharmaceutical Needs Assessment
QOF	Quality Outcomes Framework

Executive Summary

The purpose of the Lincolnshire Pharmaceutical Needs Assessment (PNA) is to review existing pharmaceutical service provision in Lincolnshire and to identify any gaps or deficiencies that need to be addressed. Proposed changes may include increasing service provision, improving access to services or broadening the range of services available for Lincolnshire patients, with the ultimate goal of improving their health and wellbeing.

Methods

The data included in this review was compiled by members of the Public Health informatics (PHI) team at Lincolnshire County Council. Interpretation and presentation of the data has been the responsibility of the PNA Steering Group, comprised of staff from NHS England, GEM Commissioning Support Unit and Public Health.

The document reviews the prescribed process that must be followed to produce a PNA. It also considers both the health needs and the pharmaceutical needs of the Lincolnshire population. Health needs have been reviewed down to the level of each district council area and/or CCG boundary, dependent on the data. Within each of these localities, existing pharmaceutical service provision was reviewed, in order to identify geographical gaps in services (i.e. localities in which pharmaceutical service provision may be inadequate).

Lincolnshire

Lincolnshire is one of the largest counties in England. However, the population density in the county is less than a third of the average. Despite lower than average deprivation compared to the UK as a whole, there is considerable variation in deprivation across the county. Similarly, reported health also varies greatly across the county, with smoking, excess weight, diabetes, cardiovascular disease and COPD all more prevalent in Lincolnshire than in the rest of the UK.

Changes in the population structure resulting from an ageing population, in conjunction with a projected increase in obesity rates, are likely to have a negative effect on general health, and lead to an increase in the prevalence of associated diseases in the county.

Current pharmaceutical provision

Maps included in the document illustrate the distribution of pharmacies and dispensing practices across the county, as well as the provision of advanced community pharmacy services, such as Medicines Use Reviews (MURs) and the New Medicine Service (NMS). In addition, tables show the availability of pharmaceutical services commissioned by NHS England, including Saturday opening, 100-hour pharmacies, and the presence of dispensing and non-dispensing GP surgeries. These tables and maps show that most places in Lincolnshire have at least one accessible provider of dispensing services, whether a dispensing practice or a community pharmacy, and that some places have access to both types. The map of community pharmacy provision illustrates that some essential and advanced pharmaceutical services (e.g. help

with self-care, over-the-counter medicines, MURs and the NMS), which are only available through community pharmacies, are not consistently available across the whole of the county.

The PNA Steering Group committee has identified several gaps in service provision, and made recommendations on future actions to address this.

Conclusions and Recommendations

- Residents of Lincolnshire are adequately served by providers of dispensing services in both urban and rural areas. However, ongoing change linked to population growth in many localities will necessitate frequent review of this position. The Steering Group will use the population figures released annually by the ONS to inform such reviews.
- Patient access to self-care through the provision of healthcare advice and over-the-counter medicines is only available from community pharmacies. There are many rural areas of the county where dispensing services are available, but patients have no access to self-care, over-the-counter medicines or community pharmacy advanced services, such as Medicines Use Reviews (MURs) and the New Medicine Service (NMS).
- Having reviewed the evidence for the provision of a wide range of locally commissioned services through community pharmacy, the PNA Steering Group concluded that further expansion, and wider availability, of the range of services currently provided through community pharmacies would benefit the Lincolnshire population, subject to local need, patient demand, and clear evidence of benefit, value for money and improved health outcomes. This expansion should be done with existing community pharmacies, because establishing new pharmacies could lead to over-provision of essential services, and may destabilise current provision.
- The PNA Steering Group is supportive of patients exercising their right to choose where they access their pharmaceutical services. Patient choice is likely to be further enabled by the wider implementation of electronic prescribing across the county.
- As required by The National Health Service (Pharmaceutical and Local Pharmaceutical Services) Regulations 2013, the PNA Steering Group intends to continue reviewing pharmaceutical needs and local service provision, and publishing regular updates and supplementary statements where circumstances change.
- During July 2014, Healthwatch published a questionnaire, targeting people who use pharmacy services in Lincolnshire. In order to build on the findings from their Pharmacy Questionnaire, and subsequent recommendations, and bearing in mind their independent role, the PNA Steering Group would like to work with Healthwatch. Therefore, they would like to invite Healthwatch to send a representative to be a member of the PNA steering group.

1. Introduction

1.1 Legal framework

The provision of pharmaceutical services falls under The National Health Service (Pharmaceutical and Local Pharmaceutical Services) Regulations 2013. The regulations cover:

- the production of this Pharmaceutical Needs Assessment (PNA),
- the application and decision-making process for opening pharmacies, and
- the terms of service for pharmacies, dispensing appliance contractors and dispensing doctors.

New to the regulations is the inclusion of performance sanctions, which NHS England can use where contractors are not meeting their terms of service.

The regulations also cover the dispensing of medication to patients by doctors; Lincolnshire has 65 dispensing GP practices.

There are strict criteria regarding who may, or may not, receive dispensed medication. *'Dispensing status'* must be granted by NHS England, and is usually reserved for patients who:

- live more than 1.6 km from a pharmacy, and
- live in a controlled locality.

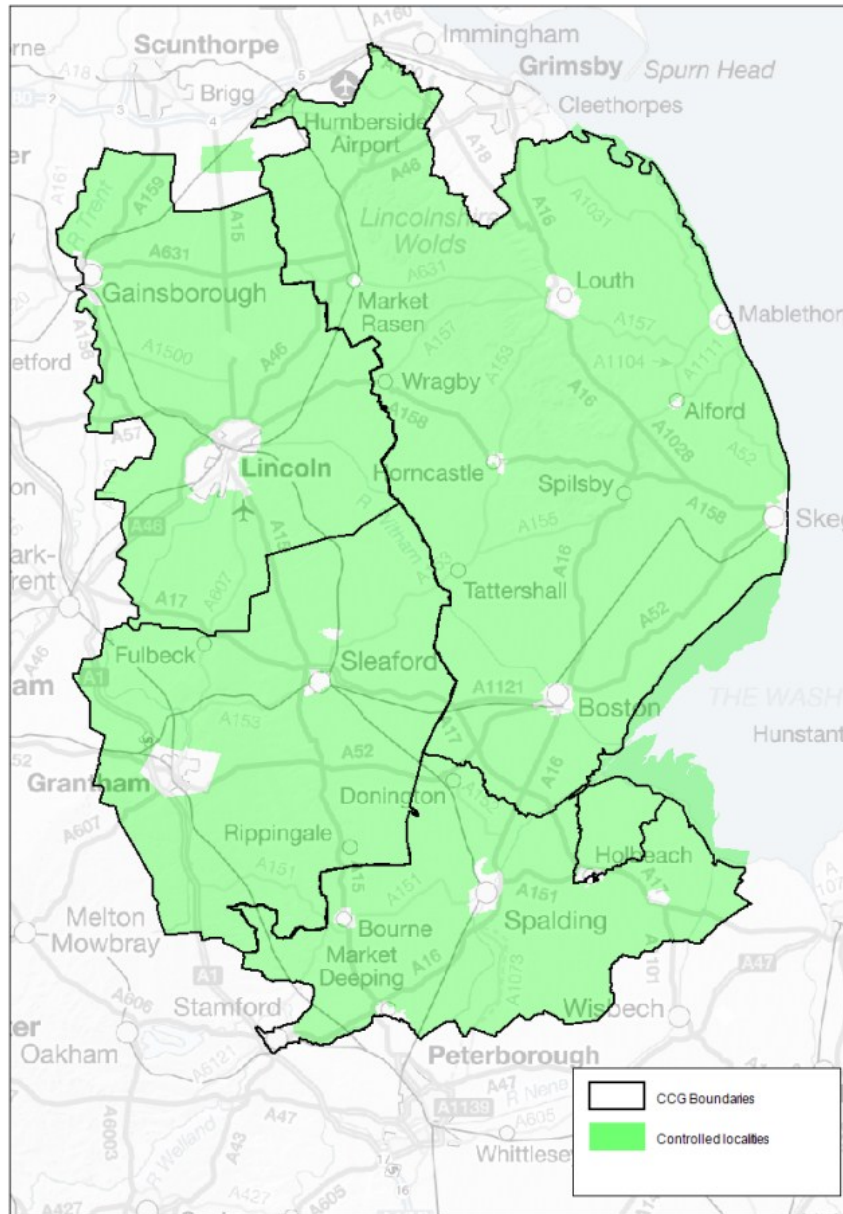
A controlled locality is an area which has been defined as such under the Regulations. An area that is defined as 'controlled' is usually rural in character.

Map 1 shows the controlled localities in Lincolnshire.

Responsibility for producing the PNA lies with the local Health and Wellbeing Board (HWB), with NHS England having responsibility for the application process and for ensuring that pharmacies comply with their terms of service.

This PNA informs the application and decision-making process, although NHS England ultimately has responsibility for approving or rejecting an application.

Map 1: Controlled localities in Lincolnshire



Source: NHS England
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1.1.1 Pharmaceutical needs assessment (PNA)

The NHS Regulations 2013 cover what constitutes a pharmaceutical service for the purposes of conducting a PNA, how and when the PNA is to be produced, and what information is to be contained within it, as well as matters for consideration when making an assessment.

Matters for consideration

Part 2 of the Regulations details matters for consideration in making an assessment. These cover:

- 'the demographic profile of the HWB's area,

- choice in obtaining pharmaceutical services,
- any differences in need within that HWB area, and
- services provided in neighbouring HWB areas which may affect the needs within that HWB area.

Finally, the PNA must consider any likely future needs, in order to make a proper assessment of the matters noted above.

Information to be contained in the PNA

Schedule 1 of the Regulations sets out the information to be contained within the PNA. This includes:

- provision and gaps in pharmaceutical services,
- improvement in access regarding gaps in provision,
- how the assessment was carried out, and
- maps detailing the provision of services.

1.1.2 Commissioning of pharmaceutical provision

The Regulations set out the types of application that can be made. These fall into two categories: 'Routine' and 'Excepted' applications.

'Routine' applications

'Routine' applications must meet the 'market entry test', which is that an application may be granted if NHS England is satisfied that:

- it is necessary to grant the application in order for the HWB to meet a need in its area for all, or some, of the services specified in the application, or
- granting the application would secure improvements in, or better access to, pharmaceutical services in its area.

Different types of 'Routine' application are:

- Current needs (identified in PNA)
- Future needs (identified in PNA)
- Improvements or better access to services (identified in PNA)
- Future improvements or better access to services (identified in PNA)
- Unforeseen benefits (something which has not been identified in the PNA: this could be examples of new and innovative types of service delivery)

'Excepted' applications

'Excepted' applications do not have to meet the market entry test,

and are not dependent on needs or improvements identified in the PNA.

Different types of 'Excepted' applications are:

- Relocations that do not result in significant change
- Distance-selling premises
- Changes of ownership
- Combined changes of ownership and relocations that do not result in significant change
- Applications for temporary listings arising out of suspensions
- Applications from persons exercising a right of return to a pharmaceutical list
- Applications relating to emergencies requiring the flexible provision of pharmaceutical services
- Applications offering to provide additional directed services

The changes to the NHS from the 1st April 2013 have led to changes in the commissioning of 'enhanced services'^a from community pharmacies. Previously, Primary Care Trusts would commission all services, but now NHS England is the only organisation entitled to commission enhanced services.

CCGs and Local Authorities can commission services from pharmacies, such services now being referred to as 'locally commissioned services'^b. These do not fall under the definition of 'pharmaceutical service' for the PNA, and will not be taken into consideration for applications. Nonetheless, in this PNA, these services have occasionally been referenced in order to demonstrate the wider impact they have on meeting health needs. Any such inclusions have been clearly identified as not being in the formal definition of pharmaceutical services for the purpose of producing the PNA.

1.2 Production of the PNA

The NHS Regulations specify that the PNA must include information about how it was carried out. This includes the requirement to explain how the localities referred to were chosen, how the PNA has taken account of differences in needs between the various localities, and how the consultation on the PNA was carried out.

The production of this PNA for Lincolnshire has been led by a PNA Steering Group made up of representatives from NHS England, Greater East Midlands

^a These are explained in section 4.1

^b These are discussed in section 5.4.1

1.2.1 Determination of localities

Localities included in this PNA were selected by the Steering Group because they conform to the Clinical Commissioning Group (CCG) boundaries in Lincolnshire. It is not always possible to report data on health needs at these levels, so where CCG-level data was not available, the administrative boundaries of local authorities (districts) were used instead. In reviewing the evidence, the PNA Steering Group has also referenced smaller areas within CCGs that appear, from the maps, to show gaps in pharmaceutical provision.

1.2.2 Assessment of differences in need in Lincolnshire

In assessing Lincolnshire's needs for this PNA, comparisons have been drawn with other areas (such as the East Midlands and England), and the variation in need within the county has been analysed. Where possible, the data from both local authority and CCG level has been used for comparison.

Data analysis for health needs was carried out as far as 31 March 2014, and analysis relating to population continued up to June 2014 to ensure a consistent approach throughout the PNA.

The regulations governing the production of the PNA require an explanation of how the needs of people who share one of the 'protected characteristics' (identified in the Equality Act 2010¹) were considered as part of the overall assessment of needs. Therefore, where data is available, sections relating to need have also considered 'protected characteristics'.

1.2.3 Consultation

The NHS Regulations stipulate who the HWB must consult whilst carrying out the PNA. It is also specified that those being consulted may be directed to a website address containing the draft PNA, but that they are entitled to request an electronic or hard copy version, as an alternative.

Furthermore, a minimum period of 60 days for consultation responses is set down in the Regulations, and at the end of this time, a full report on the consultation must be published as part of the PNA.

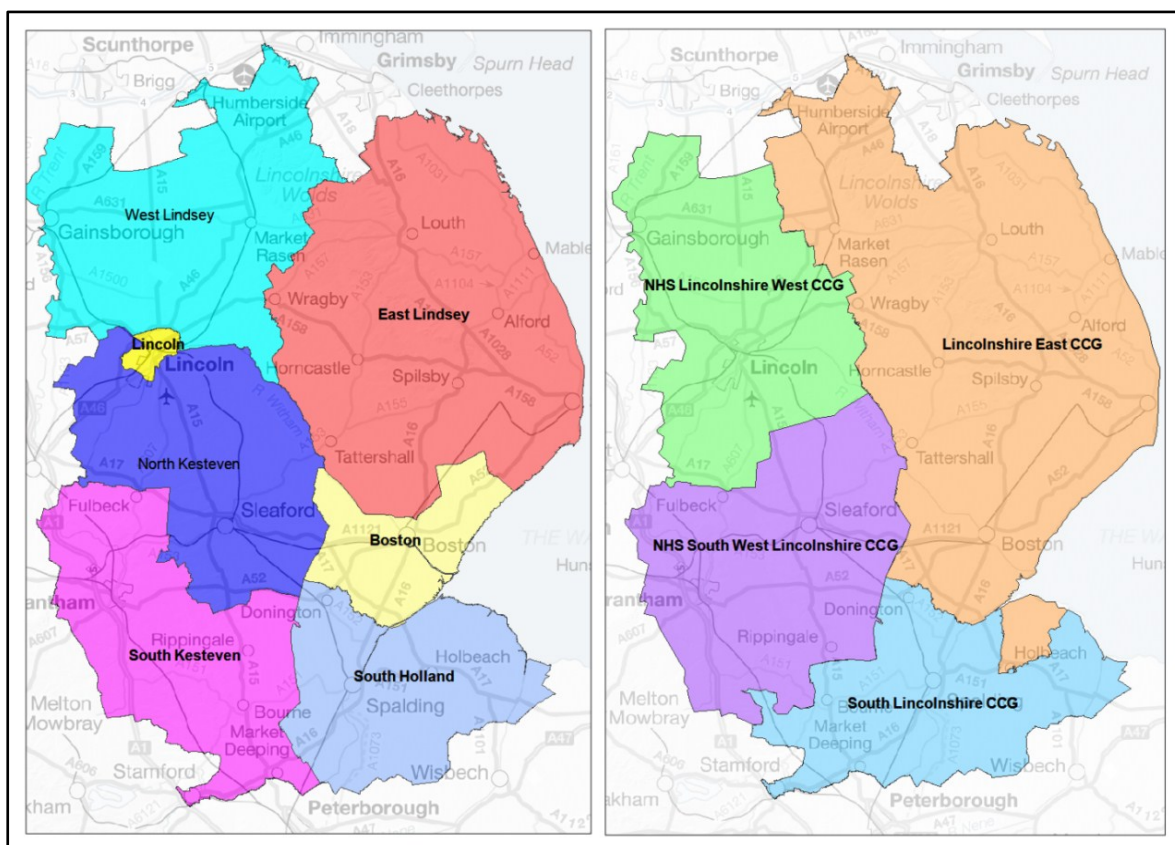
2. Lincolnshire Population and Socio-economic Context

2.1 Geography of Lincolnshire

Lincolnshire is one of the largest counties in England, with a land area of 5,937 square kilometres². The county has a diverse geography, comprising large rural and agricultural areas, urban areas and market towns, and a long eastern coastline.

In 2013, there was an estimated population of 724,500. The population density in the county is just 121 persons per square kilometre (less than a third of the average for England and Wales)^c.

Map 2: Location of Lincolnshire's district council and clinical commissioning group areas



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^c Based on 2011 mid-year population estimates and UK Standard Area Measurements from the ONS

2.2 Population

In June 2013, the population mid-year estimate for the area covered by Lincolnshire County Council was 724,500³.

The rate of increase in Lincolnshire's population has slowed in recent years; figures indicate the rate was below the national rate of growth. However, the annual percentage change between 2012 and 2013 shows the increase in the population of Lincolnshire (0.9 per cent) was higher than the national figure (0.7 per cent) for the first time in many years.

Lincolnshire's population is projected to increase by approximately 49,700 people by 2023 (Table 1). This is a growth rate of 6.9%, which is very similar to the projected growth of the population of England and Wales⁴.

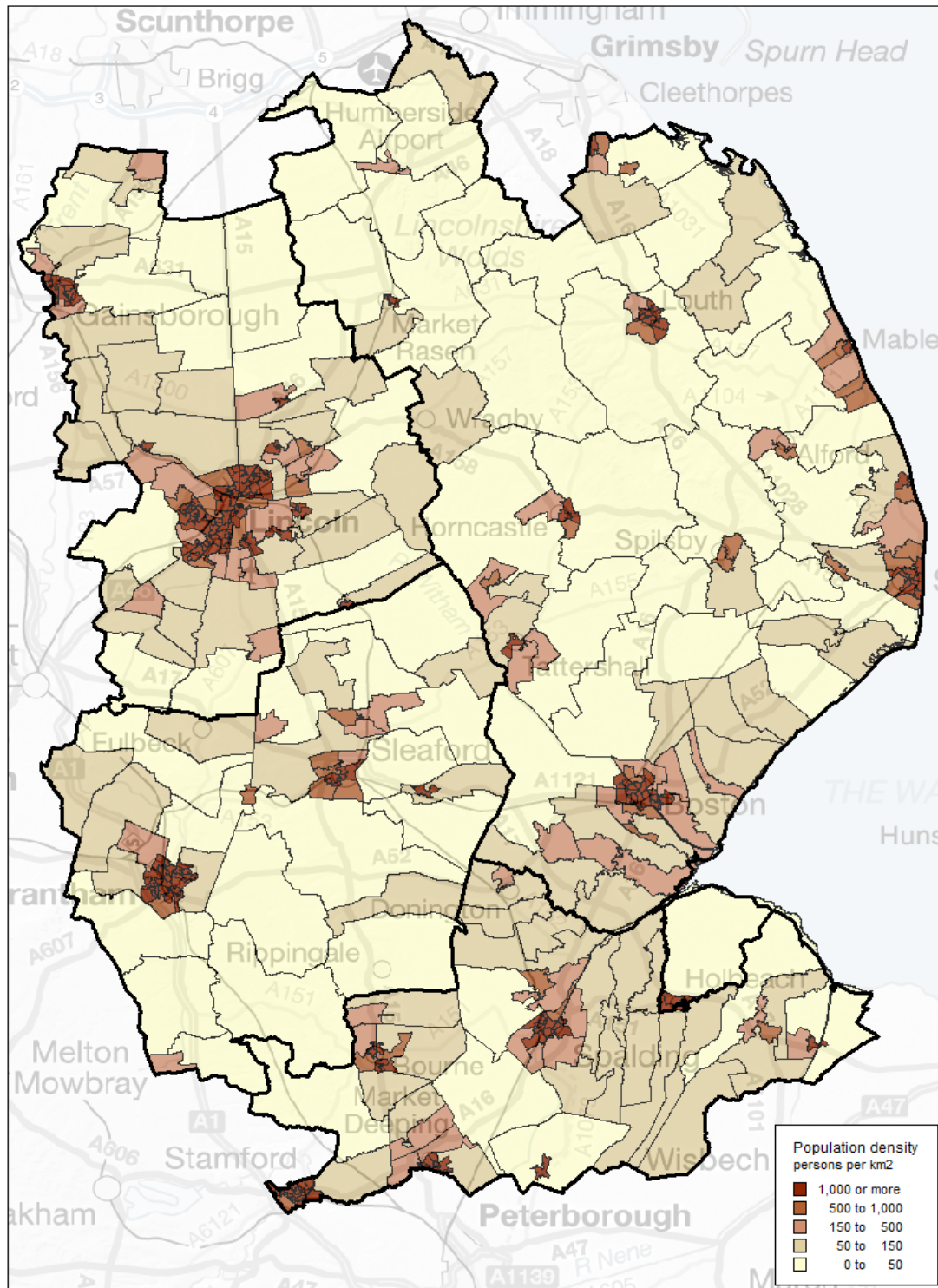
Table 1: Summary of Lincolnshire's demographic and socio-economic characteristics

Area name	Population ⁽ⁱ⁾	Proportion of 65+ ⁽ⁱⁱ⁾	Projected increase by 2023 ⁽ⁱⁱⁱ⁾	People in 20% most deprived areas ^(iv)	Unemployment ^(v)	Youth unemployment ^(vi)
Boston	65,900	20.6%	8.7%	19.5%	2.4%	4.5%
East Lindsey	136,700	27.8%	5.9%	22.3%	3.3%	6.5%
Lincoln	95,600	14.7%	2.0%	28.4%	4.1%	4.3%
North Kesteven	109,900	22.3%	8.7%	0.0%	1.6%	3.8%
South Holland	89,200	23.8%	9.6%	0.0%	2.2%	4.0%
South Kesteven	136,400	20.7%	7.4%	3.3%	2.0%	3.6%
West Lindsey	90,700	22.5%	6.3%	10.6%	3.3%	6.8%
Lincolnshire	724,500	22.1%	6.9%	11.7%	2.7%	4.7%

Key to Table 1:

- ⁽ⁱ⁾ ONS, 2013 mid-year population estimate
- ⁽ⁱⁱ⁾ Proportion of the 2013 population aged 65 or over; ONS 2013 mid-year population estimate
- ⁽ⁱⁱⁱ⁾ Total population increase based on the difference between 2013 mid-year estimates and the 2023 projected population estimates, 2012 based; ONS
- ^(iv) Percentage of population living in what is classed as 20% most deprived areas in England, based on 2010 IMD scores
- ^(v) Claimant count as proportion of working-age population, November 2013
- ^(vi) Claimant count for ages 18-24, November 2013

Map 3: Population density in Lincolnshire



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Source: Office for National Statistics (ONS)

It is known that, at certain times of the year, tourism greatly increases the population of Lincolnshire. This is particularly noticeable around the City of Lincoln and along the Lincolnshire coast, although the population also increases in other areas, such as around the rural market towns and near to the many cultural assets of the county.

According to Lincolnshire County Council estimates, based on the STEAM model^d in 2013, the county attracted nearly 18.5 million visitors, including day visitors and overnight domestic and international visitors.

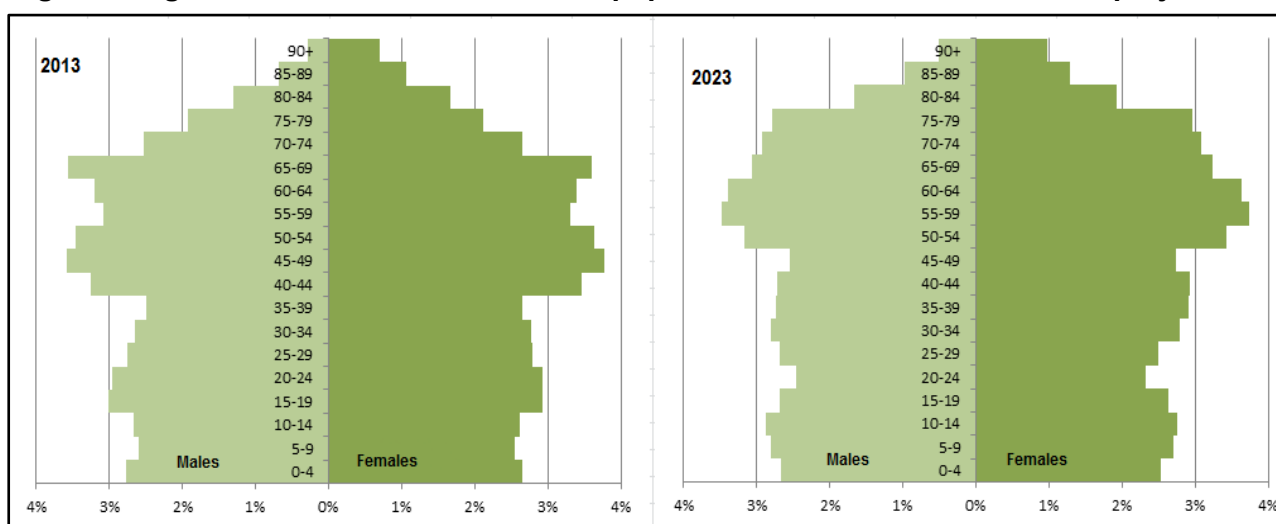
2.2.1 Age structure

The proportion of children and young people in Lincolnshire (aged under 18 years) fell from approximately 21% of the total population in 2003 to 19% in 2013. By contrast, during the same period, the population of those in the county aged 65 years and over increased by 3% to approximately 22%.

By 2023, all local authority district areas of Lincolnshire are projected to experience a decrease in the proportion of the population which is of working age.

Although the projected decrease is relatively small, when considered alongside the increasingly ageing population, it will present a challenge in respect of a declining tax-paying and care-giving population at a time when the need for services for an ageing population will be rising.

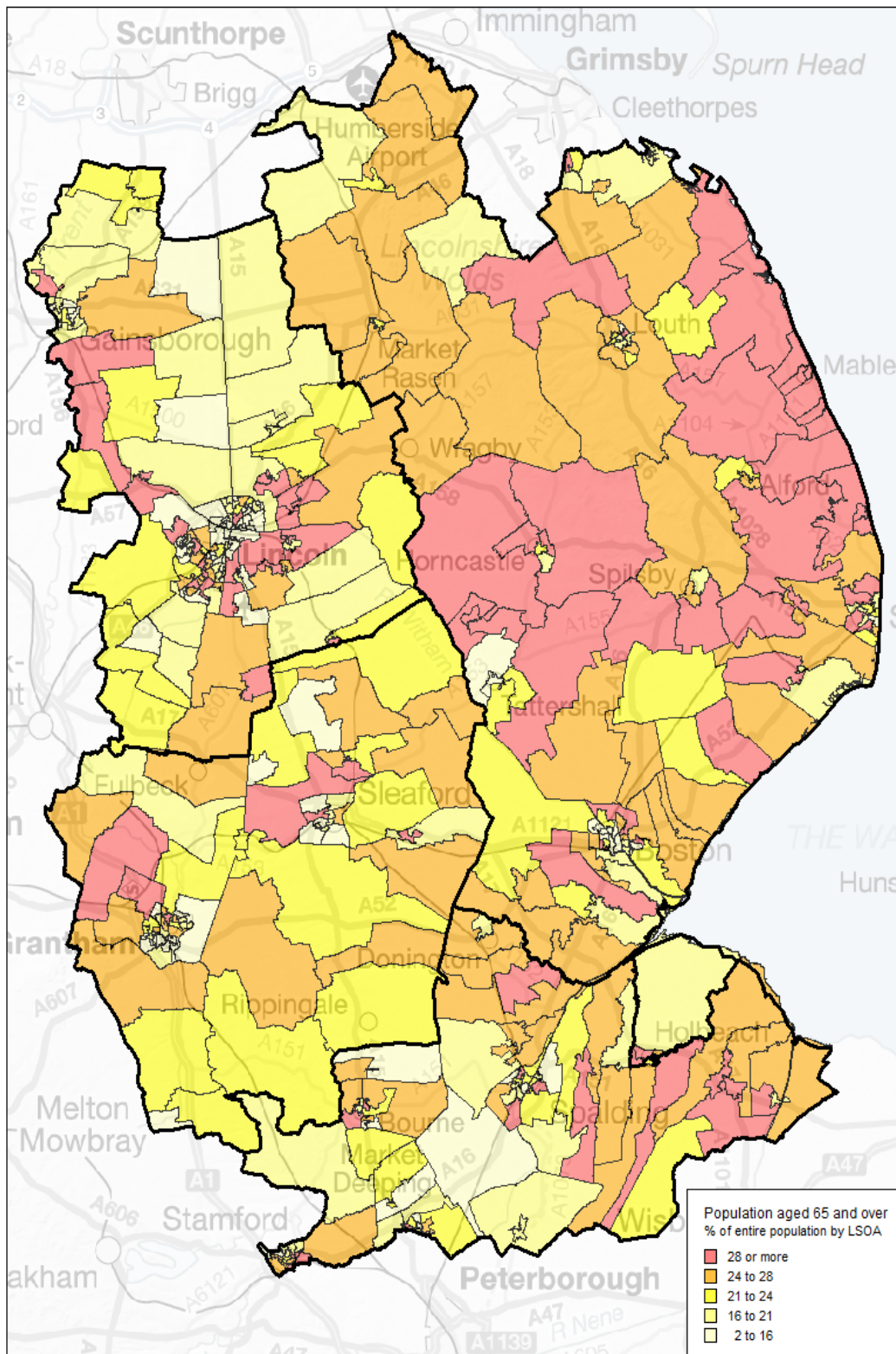
Figure 1: Age structure of the Lincolnshire population, 2013 estimate and 2023 projection



Source: ONS, 2013 Mid-year population estimate, June 2014; ONS Population Projections, 2012 based

^d Scarborough Tourism Economic Activity Monitor model, which looks at tourism based on total revenue by district, total revenue by sector, number and type of visitor and the number of employment opportunities created.

Map 4: Proportion of the population aged 65 years and over

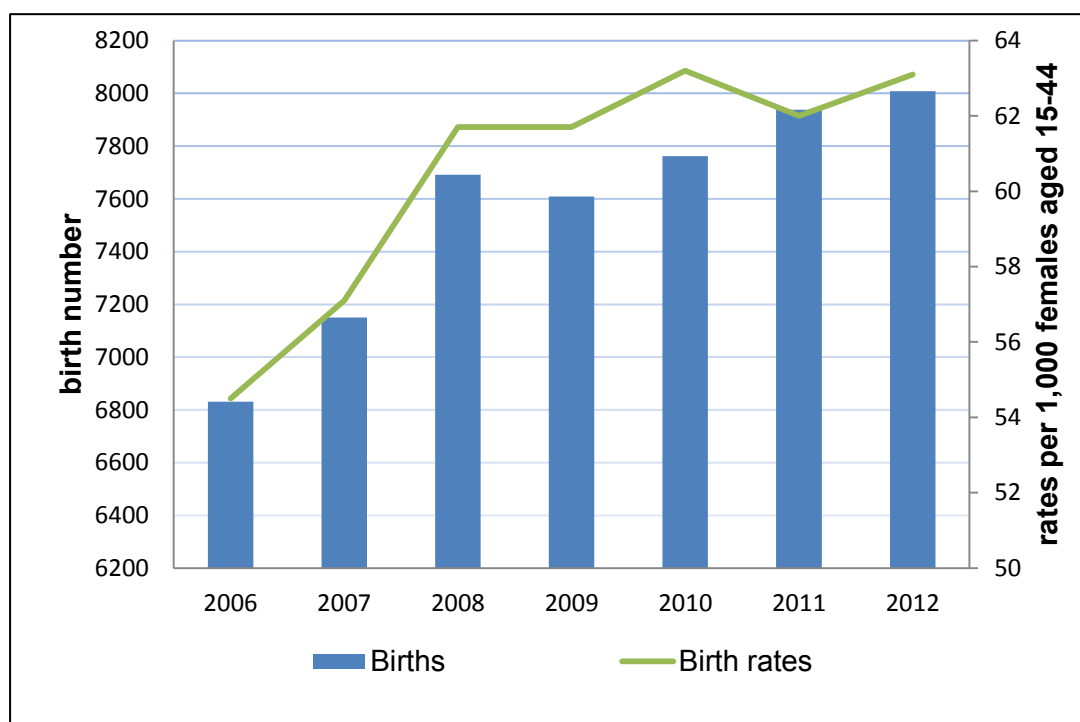


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 Source: Office for National Statistics (ONS)

2.2.2 Births, mortality and life expectancy

Lincolnshire has experienced an increase in the annual number of births in recent years. Despite this increase, birth rates in 2012 were still below national rates: 63.1 per 1,000 females aged 15-44 years in Lincolnshire compared to 64.8 in England and Wales⁵.

Figure 2: Number of live births and birth rates in Lincolnshire, 2006-2012



Source: Office for National Statistics (ONS)

Infant mortality in Lincolnshire was 4.1 per 1,000 live births in 2010-2012, which is at the average national level^e.

For the same period, life expectancy at birth was 82.9 years for females and 79.1 years for males in Lincolnshire, which is just at the average level for England. Healthy life expectancy (years a person would expect to live in good health, based on mortality rates and self-reported good health) is 64.6 years for both genders, and is not significantly different from national or regional figures^f.

In Lincolnshire, mortality rates from leading causes like cancers, cardiovascular diseases and respiratory conditions are generally lower than, or similar to, national figures^g.

^e Public Health Outcomes Framework, Indicator 4.01, Available from: <http://www.phoutcomes.info/public-health-outcomes-framework>

^f Public Health Outcomes Framework, Indicators 0.1i-ii, Available from: <http://www.phoutcomes.info/public-health-outcomes-framework>

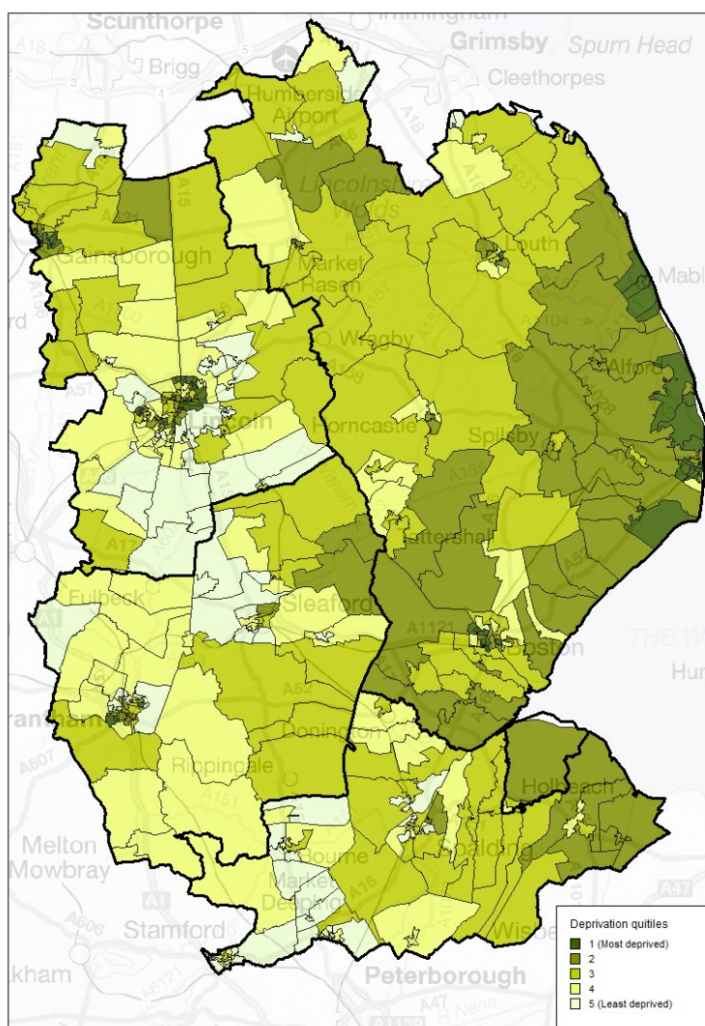
^g Public Health Outcomes Framework, Indicators 4.04,4.05,4.07, Available from: <http://www.phoutcomes.info/public-health-outcomes-framework>

2.3 Deprivation

Across Lincolnshire, 12% of the residents live within areas classified as being amongst the 20% most deprived in England. Although this 'average' deprivation is lower than the national rate, there are differences across the county. In Lincoln City, 28.4% of people live within this national quintile of deprivation, followed by 22.3% in East Lindsey and 19.5% in Boston Borough^h.

Nationally, deprivation tends to be associated with pockets of urban areas, which, in Lincolnshire, can be found in such areas as Lincoln, Gainsborough and Boston. However, with relatively poor transport and broadband infrastructure, the county also suffers from wide areas of rural deprivation.

Map 5: Deprivation: National quintile of deprivation by LSOA



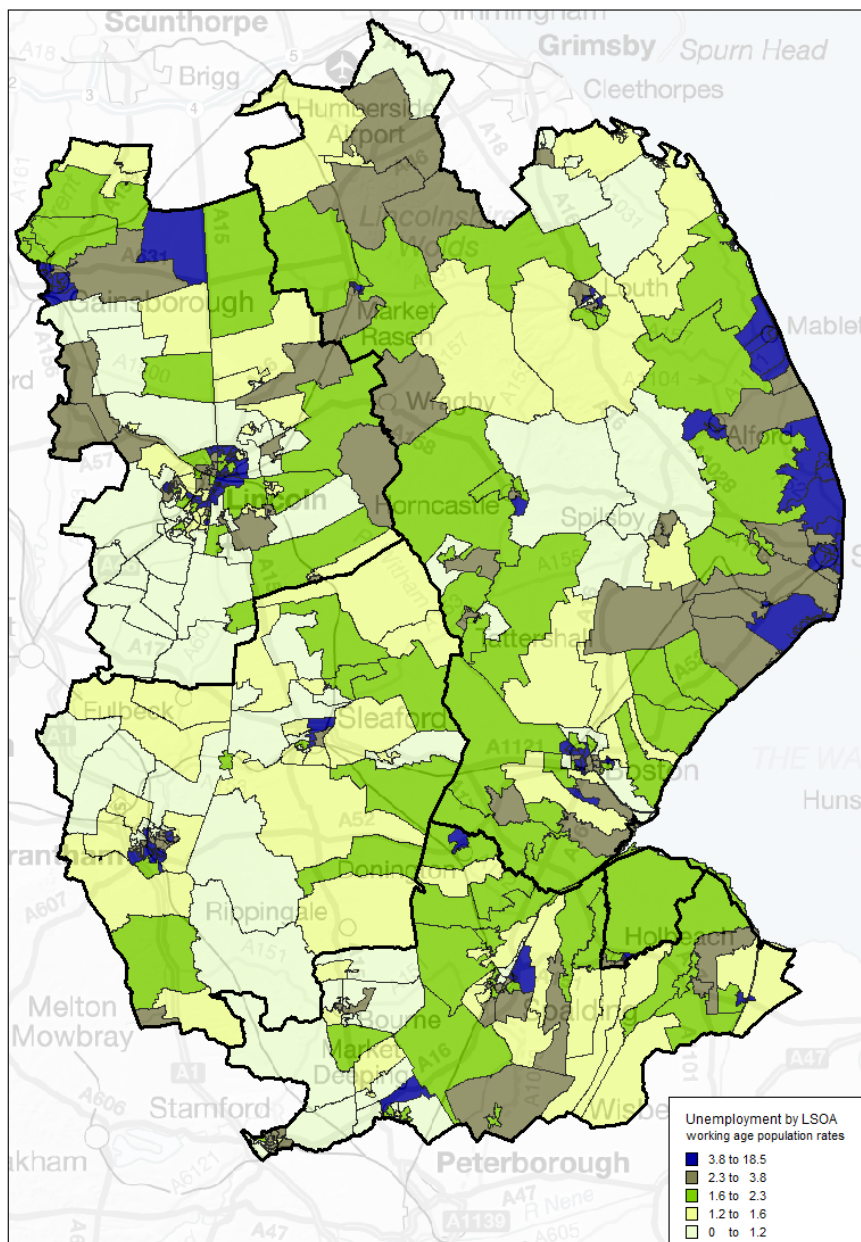
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Source: Department for Communities and Local Government (DCLG)

^h Based on Indices of Multiple Deprivation, 2010. Department for Communities and Local Government and ONS Mid-year Population Estimates, 2013

2.4 Employment and skills

Average unemployment in Lincolnshire is lower than the national rate, but there are pockets of long-term unemployment, as well as seasonal employment and unemployment in the major industries of agriculture and tourism. Unemployment among the younger population (aged 24 years and below) is higher than the national average¹.

Map 6: Unemployment: Claimant rate as a proportion of working-age population, December 2013



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Source: Office for National Statistics (ONS)

¹ Office of National Statistics claimant count, November 2013. [cited Feb 2014] Available from: <http://www.nomisweb.co.uk>

The predominantly low-wage and low-skilled economy encourages the outflow of more highly educated residents, and the general level of education among adults is below both the national and regional levels, according to the Office for National Statistics (ONS)^j.

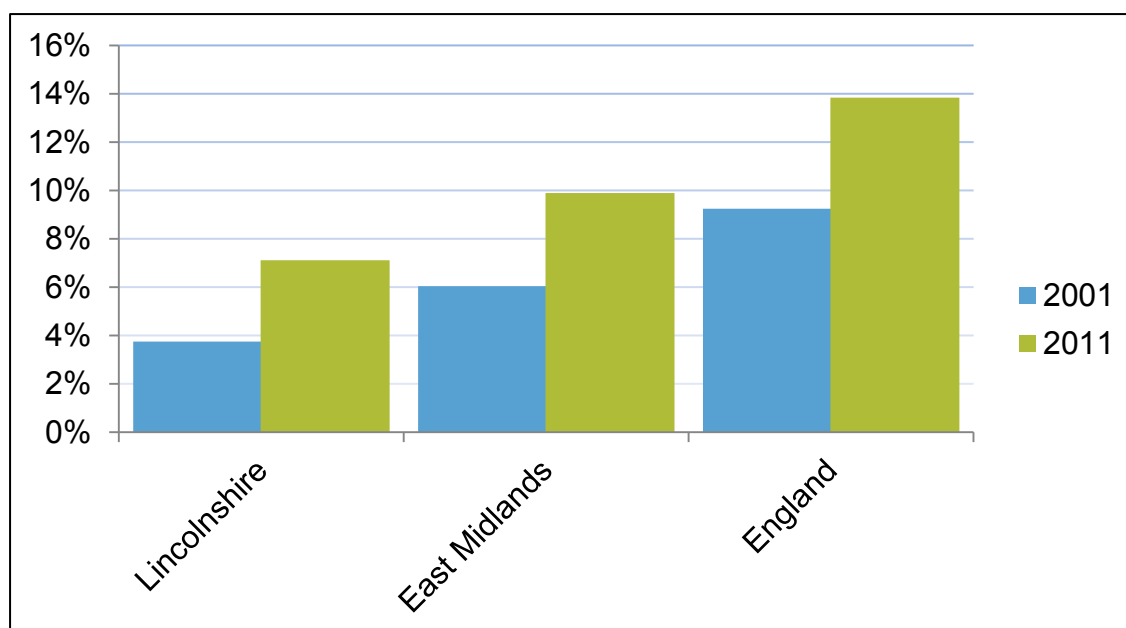
2.5 Ethnicity and country of birth

At the 2011 census, the non-white population made up 2.4% of Lincolnshire residents, compared to 1.4% in 2001. Despite the increase, the percentage was still lower than that for the national non-white population, which was 14%.

Between 2001 and 2011, the number of Lincolnshire residents who were born outside the UK more than doubled. According to the ONS 2011 population census, the proportion of foreign-born residents in Lincolnshire then stood at 7.1% (compared to 13.8% nationally).

The majority of recently-arrived international migrants came from Eastern and Central Europe, and tended to be younger and more economically active than the UK-born residents of Lincolnshire⁶.

Figure 3: Proportion of residents born outside the UK



Source: ONS, 2001 and 2011 Population Census

^j Office for National Statistics (ONS), 2012, Annual Population Survey (APS). Available from: <http://www.research-lincs.org.uk>

3. Health Needs in Lincolnshire

3.1 General health

Based on the 2011 census, the proportion of people who reported having bad, or very bad, health was slightly higher in Lincolnshire than in England (5.9% compared to 5.5%).

The data from the census shows a link between poor health and an ageing population, and also suggests a link between poor health and deprivation (although IMD scores themselves do include aspects of health). East Lindsey district had the highest proportion of self-reported poor health among the Lincolnshire districts across the entire adult population.

The proportion of people of all ages whose day-to-day activities were limited because of their health was also greater in Lincolnshire than in England (20.4% compared to 17.6%)⁷.

3.2 Health and lifestyle

3.2.1 Smoking

The Lincolnshire Tobacco Control Profile (2012) indicated that the number of diseases and deaths in the county that were attributable to smoking were comparable with the England averages, and were representative of health inequalities, both historically and currently, within Lincolnshire (e.g. Lincoln has the highest disease and death rates that are attributable to smoking)⁸.

Smoking prevalence for Lincolnshire in 2012 was quoted as 20.9% in the Public Health Outcomes Framework. This is above the percentage for both the East Midlands (19.9%) and England (19.5%)^k.

For routine and manual workers in Lincolnshire, the smoking prevalence percentage was 35.6%, which was higher than that for either the East Midlands (29.4%) or England (29.7%)^l.

In 2011/12, 18.4% of women in Lincolnshire who gave birth were current smokers at the time of delivery (figure quoted for all maternities where smoking in pregnancy status was recorded). This compares unfavourably with average percentages for both the East Midlands region (15.84%) and England as a whole (13.31%)^m.

^k Public Health Outcomes Framework, Indicator 2.14, Available from: <http://www.phoutcomes.info/public-health-outcomes-framework>

^l Public Health Outcomes Framework, Indicator 2.14, Available from: <http://www.phoutcomes.info/public-health-outcomes-framework>

^m Public Health Outcomes Framework, Indicator 2.03, Available from: <http://www.phoutcomes.info/public-health-outcomes-framework>

3.2.2 Alcohol (adults)

Alcohol treatment data is reliable. However, the minimum data set is small, and so insight into population trends is limited. In 2010/11, the numbers of people entering specialist alcohol treatment services dropped by 19%, after having increased by 71% between 2008/09 and 2009/10⁹. (A total of 892 people were in treatment at the end of March 2011.)

Within Lincolnshire, there is a clear divide between male and female mortality attributable to alcohol. Across all districts, male mortality rates are higher than female mortality rates. The highest rates for males are in Lincoln, which are higher than the East Midlands and England rates (although the differences are not statistically significant). However, mortality rates for males in North Kesteven and South Holland are significantly lower than the national and regional rates. For females, the highest rates are in East Lindseyⁿ. Numbers for South Kesteven are very low, and so have been suppressed from publication. Regional differences in female mortality attributable to alcohol cannot be considered statistically significant, due to the small numbers of observed cases.

Table 2: Alcohol-specific mortality by Lincolnshire district (males and females, 2010-2012)

Area name	Males	Lower 95% CI	Upper 95% CI	Females	Lower 95% CI	Upper 95% CI
Boston	14.57	7.69	24.86	5.31	1.68	12.16
East Lindsey	10.62	6.66	15.84	8.66	5.15	13.34
Lincoln	22.37	14.49	32.73	4.75	1.71	10.33
North Kesteven	6.20	2.93	11.38	3.04	0.94	7.05
South Holland	6.76	3.06	12.81	*	*	*
South Kesteven	12.98	8.42	18.97	3.76	1.60	7.36
West Lindsey	9.50	4.76	16.66	6.91	3.25	12.76
East Midlands	14.40	13.49	15.36	6.42	5.83	7.06
England	14.57	14.29	14.85	6.78	6.59	6.96

Source: LAPE: Local Authority Alcohol Indicators

3.2.3 Drug misuse

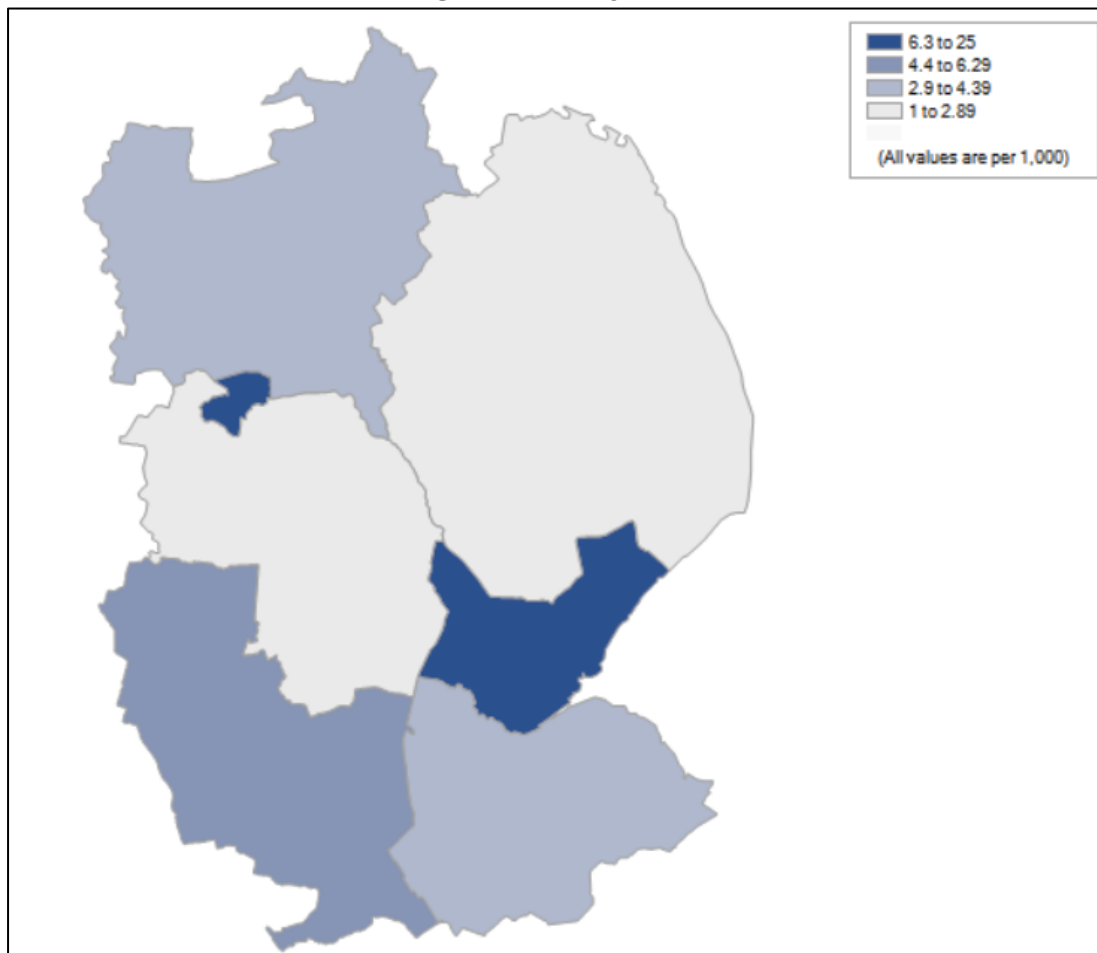
Between 2006/07 and 2010/11, the estimated number of problem drug users of crack and/or opiates in Lincolnshire (crude rate per 1,000 for

ⁿ Public Health England, Local Alcohol Profiles for England. Available from: <http://www.lape.org.uk/>

those aged 15-64 years) was consistently lower than the estimates for either the East Midlands or England.

However, as demonstrated in Map 7, there were differences between the districts, with the more urban areas, such as Lincoln and Boston, typically having higher crude rates than the more rural districts of the county^o.

Map 7: Drug misuse, estimated problem drug users (crack and/or opiates), crude rate per 1,000: ages 15 to 64 years (Health Profiles), 2010/11



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Source: Public Health England / LRO

In the financial year 2012/13, of 2,050 adults who were engaged in effective drug treatment in Lincolnshire, 1,774 were problem drug users^p.

The estimated number of problematic drug users for 2012/13 has not yet been published, but the estimate for 2011/12 was 3,039 users^q.

^o Drug Misuse, Estimated problem drug users (crack and/or opiates). Available from: <http://fingertips.phe.org.uk/profile/health-profiles>

^p PHE, National Drug Treatment Monitoring System (NDTMS), 'Adult Alcohol Performance Report (HTLA) for Lincolnshire – Quarter 4, 2013/14'

^q Drug Misuse, Estimated problem drug users (crack and/or opiates), crude rate per 1000: Ages 15 to 64 (Health Profiles), 2010-2011 – Public Health England/LRO

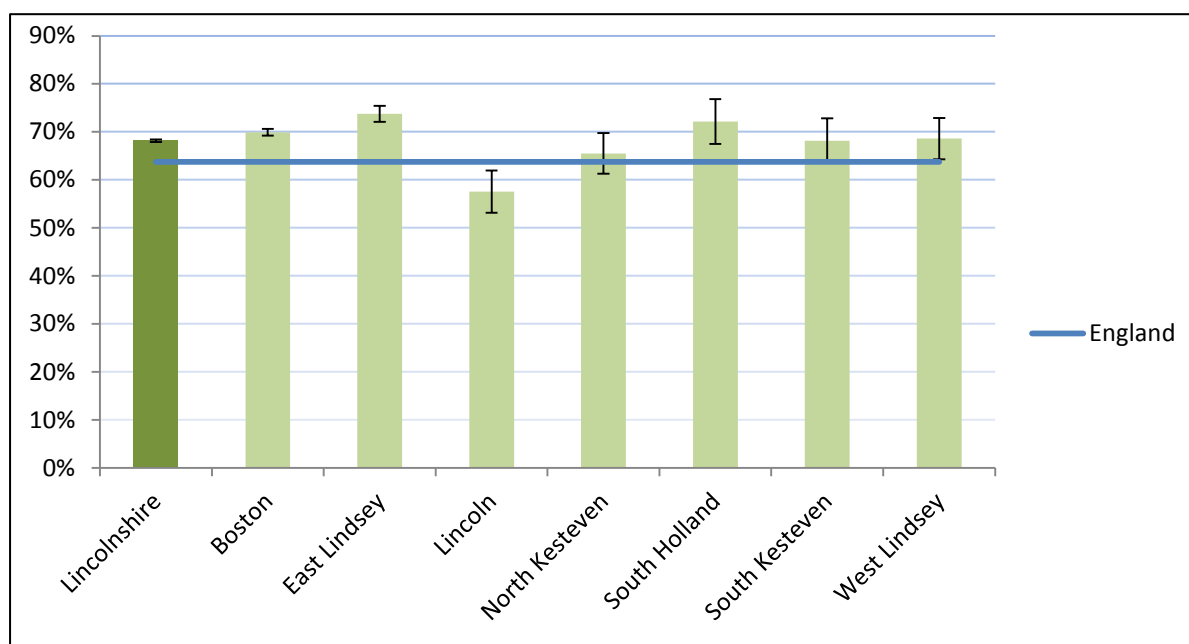
3.2.4 Excess weight (adults and children)

Data on excess weight in adults is part of the Public Health Outcomes Framework (PHOF). The data is comprised of estimates, based on responses to the 'Active People' survey, and, in 2012, suggested that more than half (54.7%) of the Lincolnshire population were carrying excess weight. This included 36.1% who were overweight and 18.6% who were obese.

For both obesity and excess weight, there is a higher prevalence in Lincolnshire than in either the East Midlands or England.

Although there are differences in obesity prevalence between the Lincolnshire districts, these are not statistically significant. The prevalence of excess weight (including obesity) in Lincoln is significantly lower than that for all other Lincolnshire districts, but the difference between Lincoln and North Kesteven is not significant, as shown in Figure 4^r.

Figure 4: Estimated prevalence of excess weight in the population (percentage either overweight or obese), 2012



Source: Public Health England (Public Health Outcomes Framework)

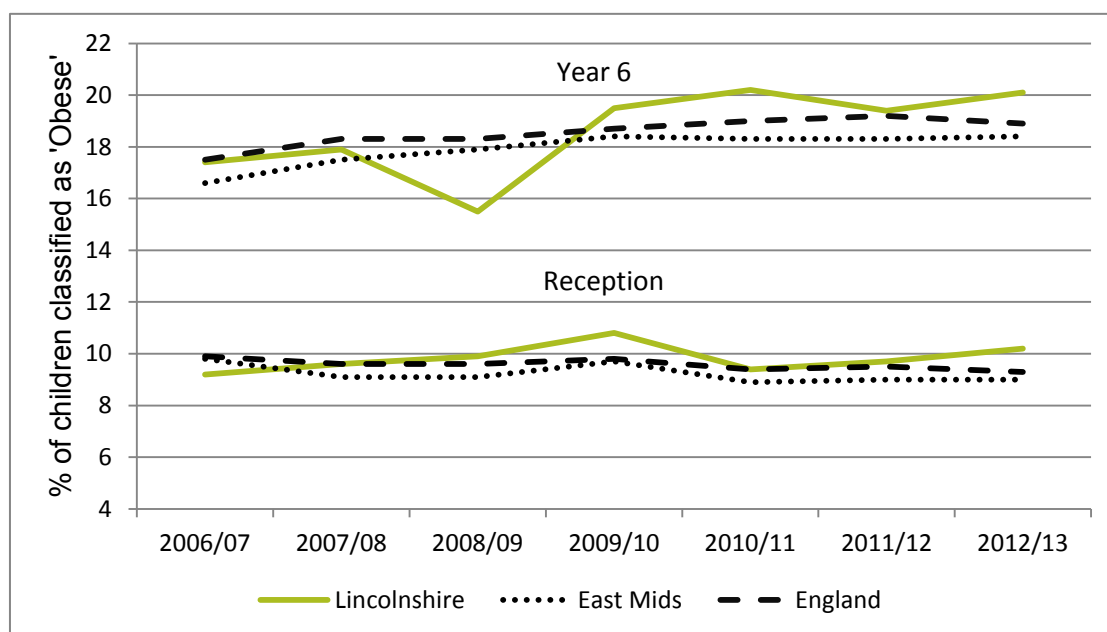
The National Child Measurement Programme (NCMP) provides an excellent insight into the height and weight of children in Reception and Year 6, and has been running since the academic year 2006/07. Data gathered under the programme indicates that the prevalence of obesity amongst children in Lincolnshire is higher than the prevalence in either

^r Public Health Outcomes Framework, Indicator 2.12. Available from: <http://www.phoutcomes.info/public-health-outcomes-framework>

the East Midlands or England, for children in Reception classes and for those in Year 6.

The trend revealed through all seven years of NCMP data is that obesity rates are increasing, and although the increase is only marginal in the case of children in Reception classes, it is more rapid amongst children in Year 6.

Figure 5: Prevalence of childhood obesity (trend over time)



Source: National Child Measurement Programme

At district level, the prevalence of obesity in North Kesteven was significantly lower than that in East Lindsey, South Holland or West Lindsey amongst children in Reception, and significantly lower than that in Boston, East Lindsey or South Holland amongst Year 6 children^s.

3.3 Long-term conditions

3.3.1 Diabetes

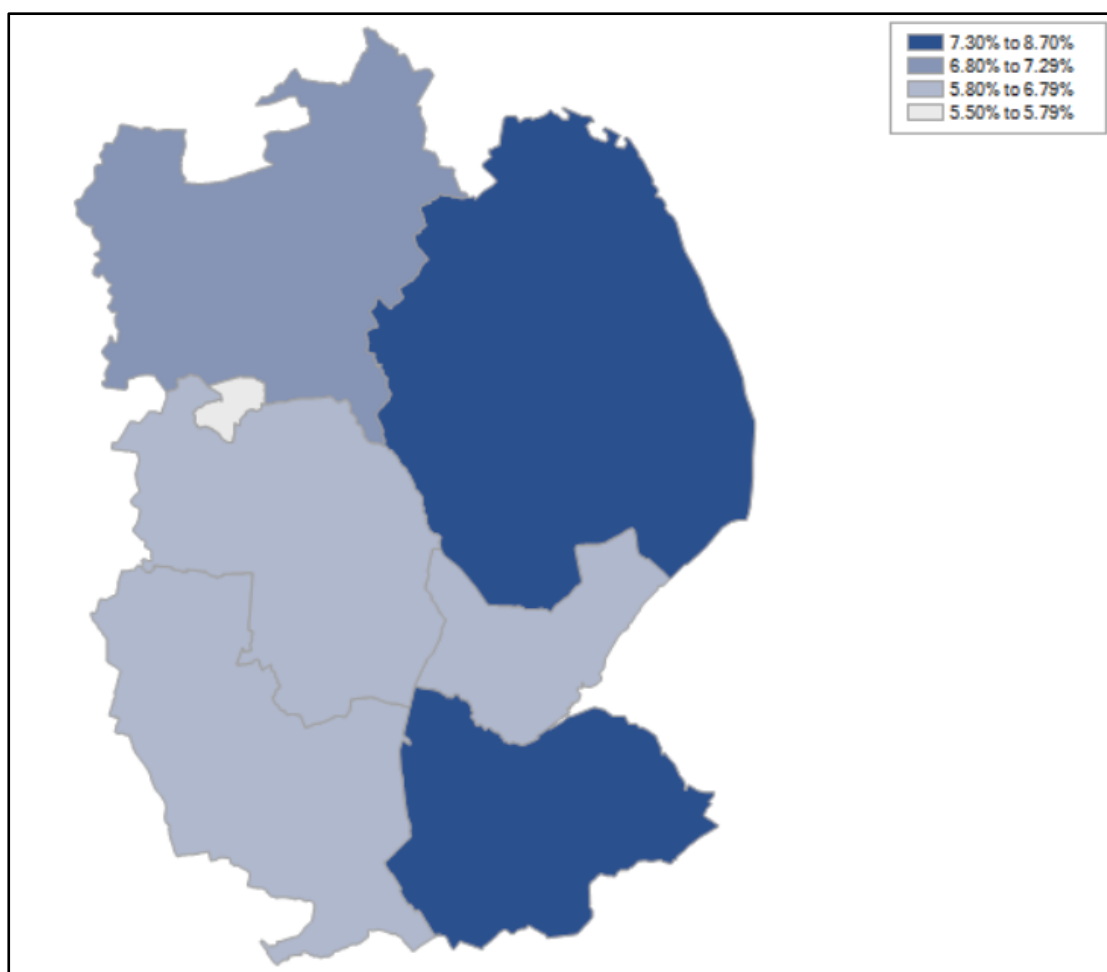
Between 2009/10 and 2012/13, the prevalence rate of diabetes in Lincolnshire (for those aged 17 years and over) increased from 6.1% to 6.96%, and thus has remained higher than the prevalence in England, which increased from 5.4% to 6.0% during the same period.

Within Lincolnshire, there are variations between the districts, as demonstrated in Map 8^t.

^s Public Health Outcomes Framework, Indicator 2.06. Available from: <http://www.phoutcomes.info/public-health-outcomes-framework>

^t HSCIC, Quality and Outcomes Framework. Available from: <http://www.hscic.gov.uk/gof>

Map 8: Disease prevalence, diabetes, percentage: actual (recorded), persons aged 17 years and over, 2012-2013



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Source: Public Health England and NHS Health and Social Care Information Centre / LRO

By 2020, Lincolnshire is projected to have a disease prevalence estimate of 8.7% for diabetes (compared to an estimate of 8.2% for England), and by 2030, the figure is expected to be 9.6% (compared to 8.8% for England).

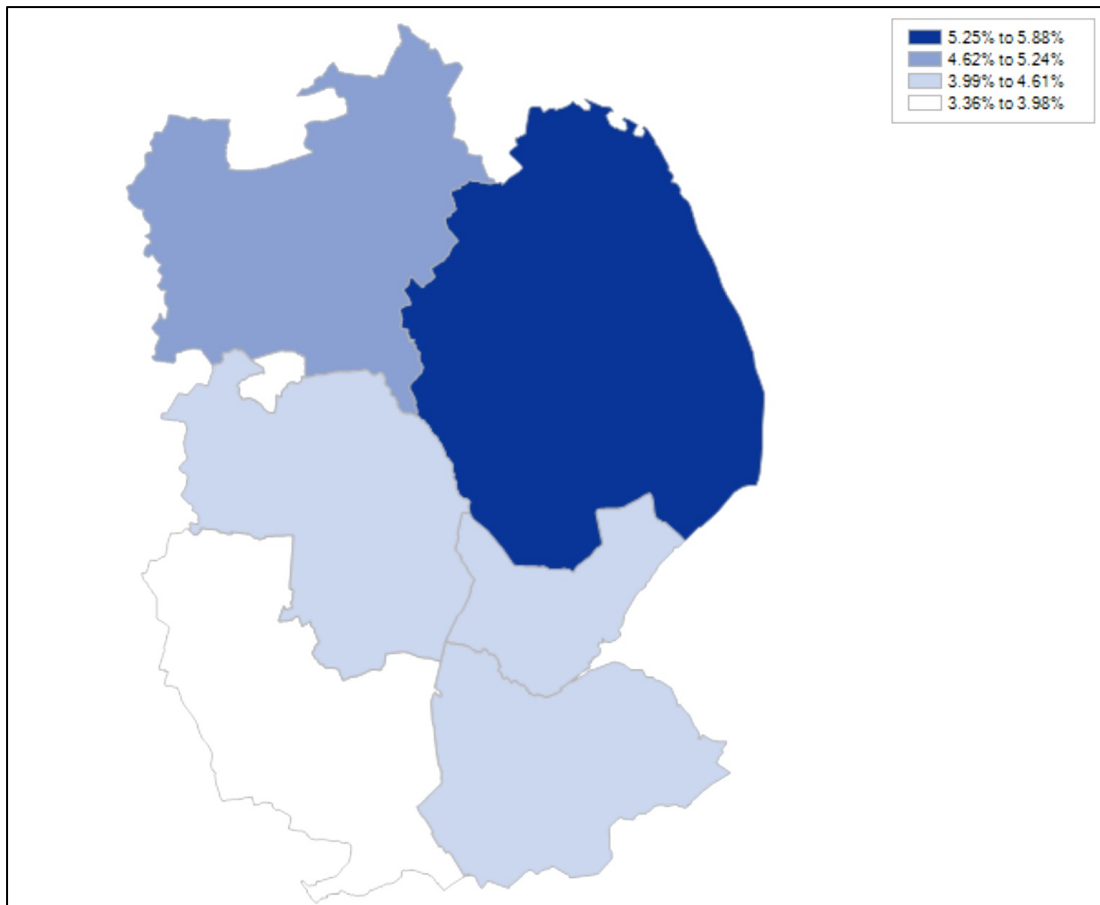
Estimated and projected rates include all people, aged 16 years and over, who are living with diabetes (both diagnosed and undiagnosed). The projected increase is due to the changing age and ethnic structure of the population, as well as a projected increase in obesity rates¹⁰.

3.3.2 Coronary heart disease (CHD)

Each GP practice has a coronary heart disease (CHD) register. The actual prevalence of CHD in Lincolnshire is lower than the modelled prevalence. This could indicate that a number of patients are missed off the disease register, and are not being treated appropriately¹¹.

The disease prevalence for CHD across Lincolnshire is 4.49%, compared with 3.3% for England. East Lindsey is the district with the highest percentage (5.88%), and the City of Lincoln has the lowest percentage (3.36%).

Map 9: Disease prevalence, coronary heart disease (CHD), percentage: actual (recorded), all ages, 2012-2013



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Source: Public Health England and NHS Health and Social Care Information Centre / LRO

In Lincolnshire, in the past 12 years, there has been a dramatic reduction of more than 40% in the number of deaths from CHD for people aged under 75 years¹¹. However, there are variations between the districts, with the highest rates being found in Boston and South Holland, and the lowest in North and South Kesteven.

CHD continues to be a key cause of premature death across the county. However, there is significant evidence to suggest that continued investment in lifestyle services, such as smoking cessation and weight management, would be of benefit in addressing this issue¹¹.

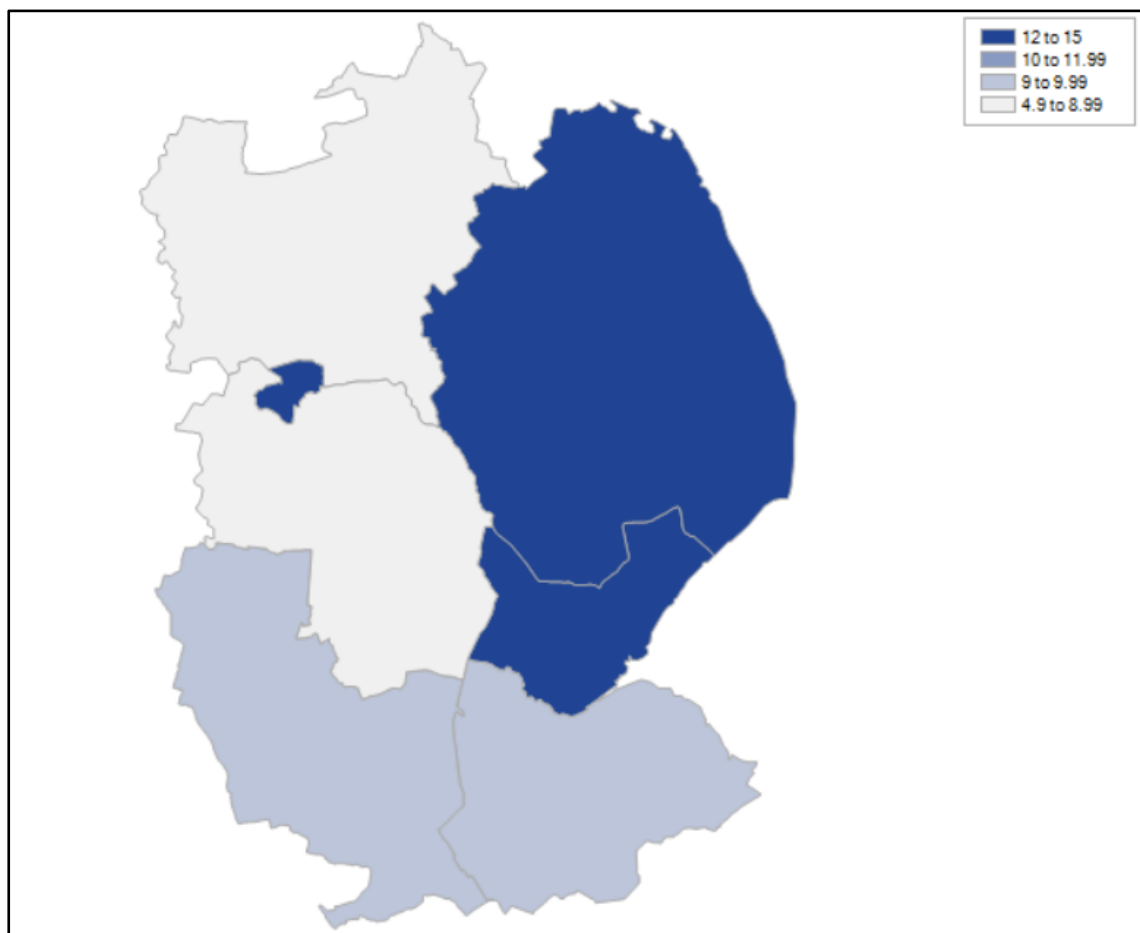
Although Lincoln has the highest number of premature deaths from CHD, at 52.01 per 100,000 people, it also has the lowest actual prevalence of CHD, at 3.63%. This could indicate that some people are being missed off the CHD Quality and Outcomes Framework (QOF) register¹¹.

3.3.3 Chronic obstructive pulmonary disease (COPD)

According to data from the 2012/13 QOF, the actual recorded prevalence of chronic obstructive pulmonary disease (COPD) in Lincolnshire was 2.05%, which was higher than the national rate of 1.7%.

Of the Lincolnshire districts, East Lindsey had the highest prevalence rate, which is unsurprising, since the average age of its population is also higher than the county's average, and the prevalence rates are not adjusted for age.

Map 10: Disease prevalence, chronic obstructive pulmonary disease (COPD), percentage: actual (recorded), all ages, 2012-2013



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Source: Public Health England and NHS Health and Social Care Information Centre / LRO

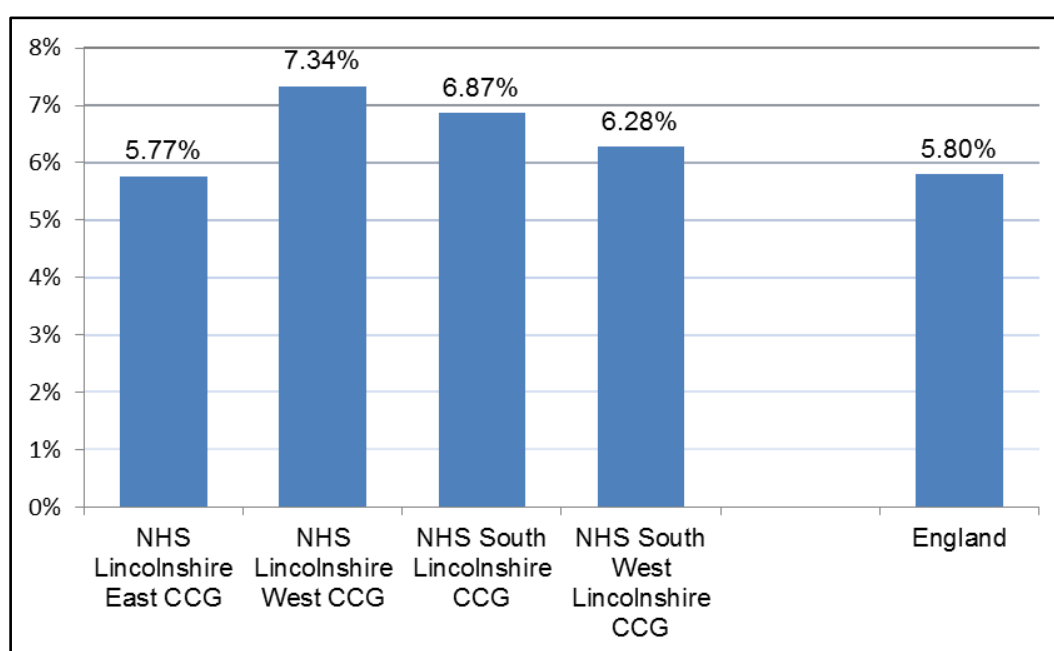
Between 2010 and 2012, over 300 people in Lincolnshire died prematurely from COPD, although the county's directly standardised mortality rates for those aged under 75 years (10.2 per 100,000) are lower than those for England and Wales (11.7 per 100,000)¹².

3.3.4 Depression

General Practices in the UK keep a record of all patients diagnosed with depression.

Figure 6 shows the proportion of patients, aged 18 years and over, who are on the depression register. From the chart, Lincolnshire West CCG appears to have a higher rate of such patients (7.34%) than the other Lincolnshire CCGs, and one which is higher than the England rate of 5.80%. However, it is difficult to know whether or not this rate may be influenced by diagnostic or recording behaviour within the CCG^u.

Figure 6: Percentage of patients, aged 18 years and over, with depression, as recorded on GP practice depression registers (all patients diagnosed since April 2006)



Source: Quality and Outcomes Framework 2012/13

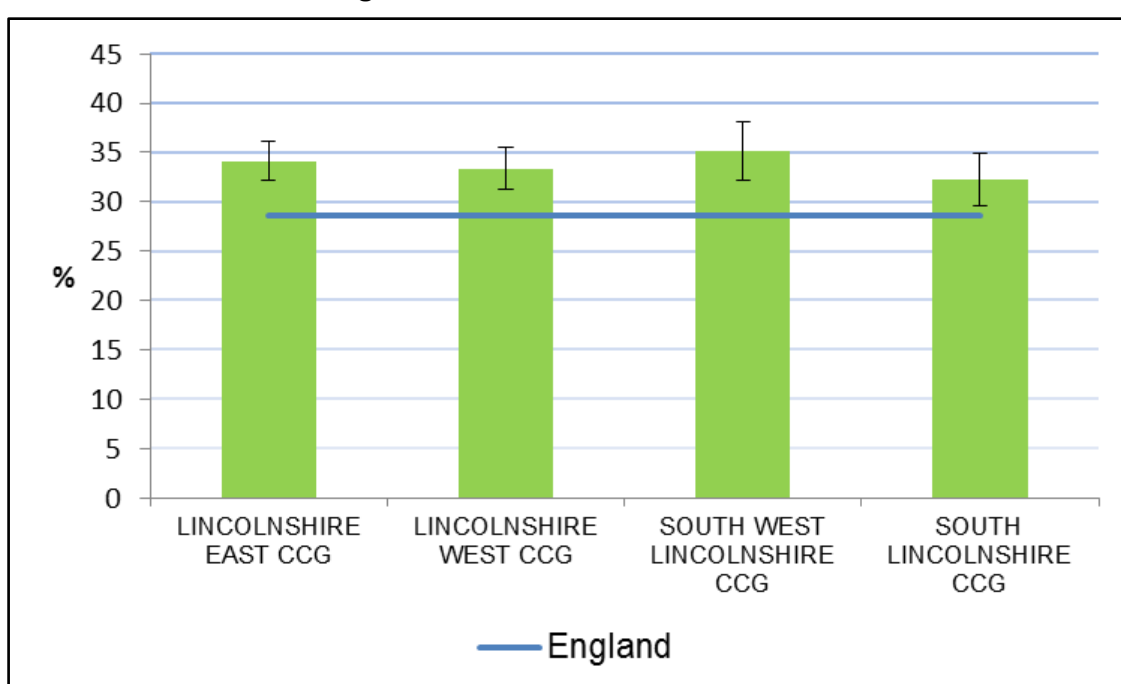
^u HSCIC, Quality and Outcomes Framework. Available from: <http://www.hscic.gov.uk/qof>

3.4 End-of-life care

Between 2010 and 2012, on average, 7,300 patients in Lincolnshire died each year, with 23% of them dying in their own homes.

During the same period, 2,150 people in the county died from cancer. The percentage of cancer patients who died at home was higher than that for people who died at home as a result of other causes. Indeed, more than a third of Lincolnshire cancer patients (33.7%) died at home compared with the national average of 28.7%^v.

Figure 7: Home deaths as a percentage of all cancer deaths in Lincolnshire, 2010-2012, all ages



Source: Public Health England, End of Life Care CCG Profiles

A high proportion of home deaths may suggest increased demand on palliative care medicines.

Nonetheless, there is no significant difference between the Lincolnshire CCGs in respect of the proportion of home deaths in their respective areas.

^v Public Health England, End-of-Life CCG Profiles. Available from: http://www.endoflifecare-intelligence.org.uk/profiles/CCGs/Place_and_Cause_of_Death/atlas.html

3.5 Vulnerable groups and enclosed communities

3.5.1 Adults with dementia

According to the QOF data, there were 5,190 people with dementia on GP registers in Lincolnshire, in 2012/13. The prevalence of dementia was highest in the area served by Lincolnshire East CCG, which accords with the older population profile of this CCG^w.

However, based on national estimates from the Alzheimer's Society, the estimated number of people with dementia in the county is more than twice as high as the reported number. This could suggest that dementia is being underdiagnosed^x.

Assuming that the prevalence rates will remain stable, the number of people suffering from dementia in Lincolnshire is projected to increase by a third by 2021, partly because of general growth in the size of the population, and partly because the population profile will include a greater proportion of elderly residents^y.

Approximately 12.5% of dementia patients are estimated to suffer from the severe form of the disease^z.

3.5.2 Adults in residential homes

In Lincolnshire, there has been a steady increase in the number of people, aged 65 years and over, who are in residential or nursing care.

Table 3: Number of people (aged 65 years and over) in residential or nursing care in Lincolnshire

Year	2010-11	2011-12	2012-13
Residential and nursing care home residents, persons: aged 65 years and over, residential care	1,966	1,995	2,458
Residential and nursing care home residents, persons: aged 65 years and over, nursing care	670	705	911
Total	2,636	2,700	3,369

Source: Lincolnshire County Council Adult Social Care

^w HSCIC, Quality and Outcomes Framework. Available from: <http://www.hscic.gov.uk/qof>

^x Alzheimer's Society, Dementia UK, 2007

^y Projecting Older People Population Information System. Available from: www.poppi.org.uk

^z Available from: www.poppi.org.uk

A wide range of care options is available for individuals who require long-term care. One of the key objectives is to enable people to maintain their independence in their own home, and this may be possible through the use of such services as:

- reablement,
- intermediate care,
- extra care housing, and
- telecare.

The availability of the services listed above may help to explain why admissions to residential and care homes are falling¹³.

3.6 Sexual health and sexually-transmitted diseases

3.6.1 Chlamydia

Chlamydia is the most common sexually-transmitted infection in the UK, with sexually active young people at highest risk. As chlamydia often has no symptoms, and can have serious health consequences (e.g. pelvic inflammatory disease, ectopic pregnancy and infertility), screening remains an essential element of good quality sexual health services for young adults.

The exact prevalence of the infection is unclear, both for Lincolnshire and for the UK as a whole. The main focus of the National Chlamydia Screening Programme is to increase diagnostic rates, with a view to identifying and treating as many infected individuals as possible¹⁴.

Table 4: Activity of national chlamydia screening programme in Lincolnshire by financial year

	2008/09	2009/10	2010/11	2011/12	2012/13
Total number of screens	8,175	20,899	25,209	25,489	24,067
Total number of positives	621	1672	*	1,743	1,770
Positivity rate	7.60%	8%	*	6.80%	7.40%
Diagnostic rate (per 100,000) population aged 15-24	744	1,896	*	2,029	2,040

*Data not available

Source: NHS Lincolnshire chlamydia screening monitoring report

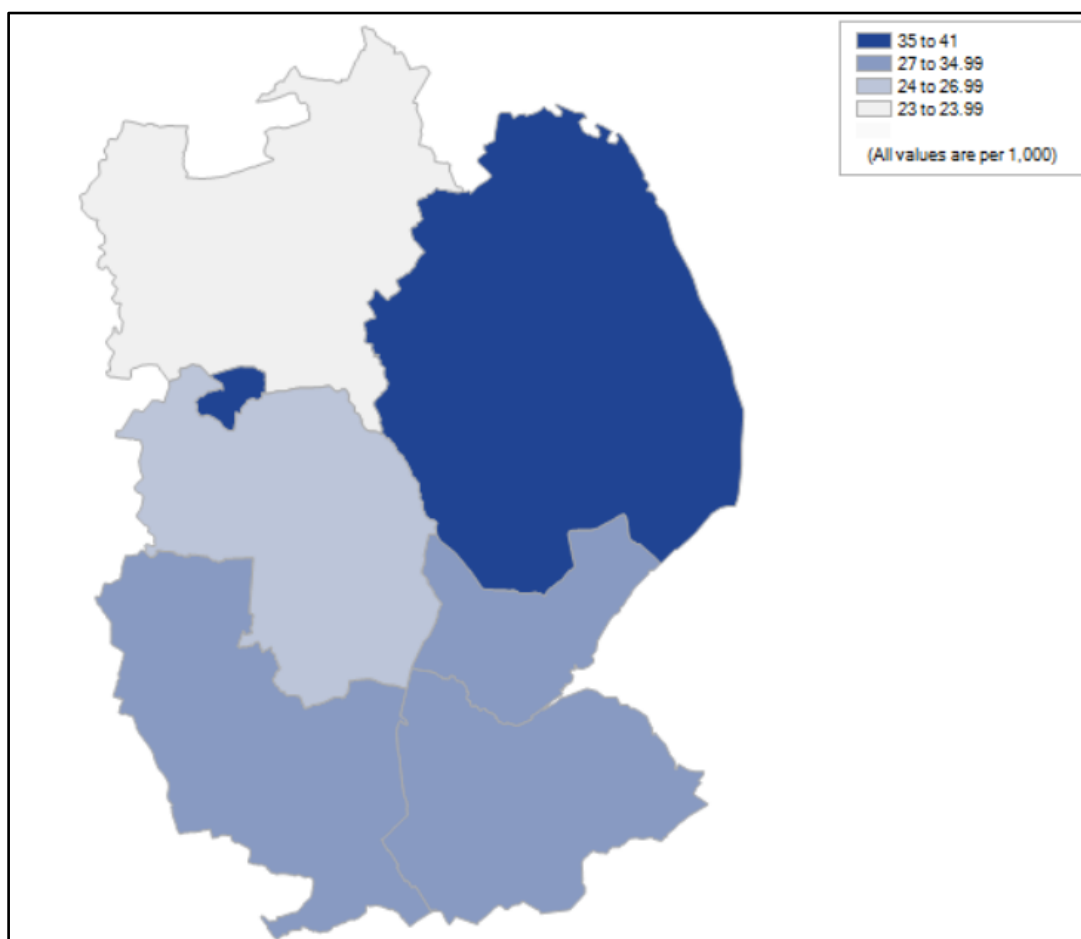
3.6.2 Teenage pregnancy

Teenage pregnancy rates in Lincolnshire have continued to drop in line with national and regional rates.

However, between 2011 and 2012, the decline was slower than that observed either nationally or regionally, and the under-18 conception rate was 30.5 per 1,000 females aged 15-17 years, compared to 27.7 in England.

Lincoln district had the highest teenage conception rate (40 per 1,000) amongst the local authorities in Lincolnshire, which was comparable with the national rate of 2008. Conception rates in East Lindsey and Boston also remained above both the national average and the Lincolnshire average in 2012, as shown in Map 11¹⁵.

Map 11: Under-18 conceptions, rate per 1,000 females aged 15-17 years, 2012



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Source: Office for National Statistics / LRO

3.6.3 HIV / AIDS

According to Public Health England, there were 250 people in Lincolnshire accessing HIV-related care in 2012.

The diagnosed prevalence of HIV in Lincolnshire was 0.6 per 1,000 population aged 15-59 years. This is lower than either the prevalence in the East Midlands (1.2 per 1,000) or the national prevalence (2.1 per 1,000)^{aa}.

Table 5: Diagnosed prevalence of HIV in Lincolnshire by district

Local Authority	Residents accessing HIV-related care (aged 15-59)	Diagnosed HIV prevalence per 1,000 (aged 15-59)
Boston	28	0.77
East Lindsey	35	0.51
Lincoln	40	0.65
North Kesteven	41	0.68
South Holland	32	0.67
South Kesteven	36	0.47
West Lindsey	38	0.77
Lincolnshire	250	0.6

Source: Survey of Prevalent HIV Infections Diagnosed (SOPHID), Public Health England, 2012

3.7 Future needs

The trend in recent years has been for the population of Lincolnshire to increase slowly, and growth is projected to continue at the rate of approximately 0.7% annually over the next three years^{bb}.

However, the projected rate of increase for people aged 65 years and older is much faster, at approximately 2.5% annually, while the number of working-age people in the county is unlikely to change much^{cc}.

Although some negative lifestyle choices (such as smoking) are showing a declining trend, which is likely to continue, other factors (including a population structure which has an increasing proportion of elderly residents, and a projected increase in obesity rates) are likely to have a negative effect on the general health and disease prevalence in the county.

Future pharmaceutical provision will need to be kept under review, to take into account the dynamics of the population in Lincolnshire.

^{aa} Public Health England, Diagnosed HIV prevalence by upper and lower tier local authority. <https://www.gov.uk/government/statistics/hiv-data-tables>

^{bb} Office for National Statistics, Population Estimates for UK, England and Wales, Scotland and Ireland

^{cc} Ibid.

4. Pharmaceutical Provision

4.1 Background

The NHS Regulations 2013 specify that the pharmaceutical services to which the PNA must relate are all provided under commissioning arrangements made by NHS England. These are defined as:

- Essential services:- These must be available from every community pharmacy providing NHS pharmaceutical services, and are defined within the terms of service. They include:
 - dispensing of medicines;
 - repeat dispensing;
 - disposal of waste medicines;
 - promotion of healthy lifestyles;
 - participation in Public Health campaigns; and
 - support for self-care.

- Advanced services:- These are services that may be provided by community pharmacy contractors and dispensing appliance contractors, subject to accreditation, and include the following:
 - Medicines Use Reviews (MURs);
 - New Medicines Service (NMS) from community pharmacies;
 - Appliance Use Reviews;
 - Stoma Customisation Service provided by dispensing appliance contractors; and
 - Appliance Use Review Services for Specified Appliances provided by dispensing appliance contractors.

- Enhanced services:- Until 31 March 2013, all services that were commissioned locally were known as enhanced services. Since 1 April 2013, only services that are commissioned by NHS England are classed as enhanced services. This could include the following:
 - Anticoagulation monitoring;
 - Care home service;
 - Disease specific medicines management service;
 - Gluten-free food supply service;
 - Independent prescribing service;
 - Home delivery service;

- Language access service;
 - Medication review service;
 - Medicines assessment and compliance support;
 - Minor ailment service;
 - On-demand availability of specialist drugs;
 - Out-of-hours service;
 - Patient group direction service (not related to public health services);
 - Prescriber support service;
 - Schools service; and
 - Supplementary prescribing service.
- Dispensing services provided by GPs:- In relation to other providers of pharmaceutical services, dispensing practices have been considered as part of the PNA, but solely as providers of dispensing services. In accordance with the NHS Regulations, other services, such as provision of the Dispensing Review of Use of Medicines (DRUM) service through the Dispensing Quality Scheme, have not been included.

4.2 Access to pharmaceutical services

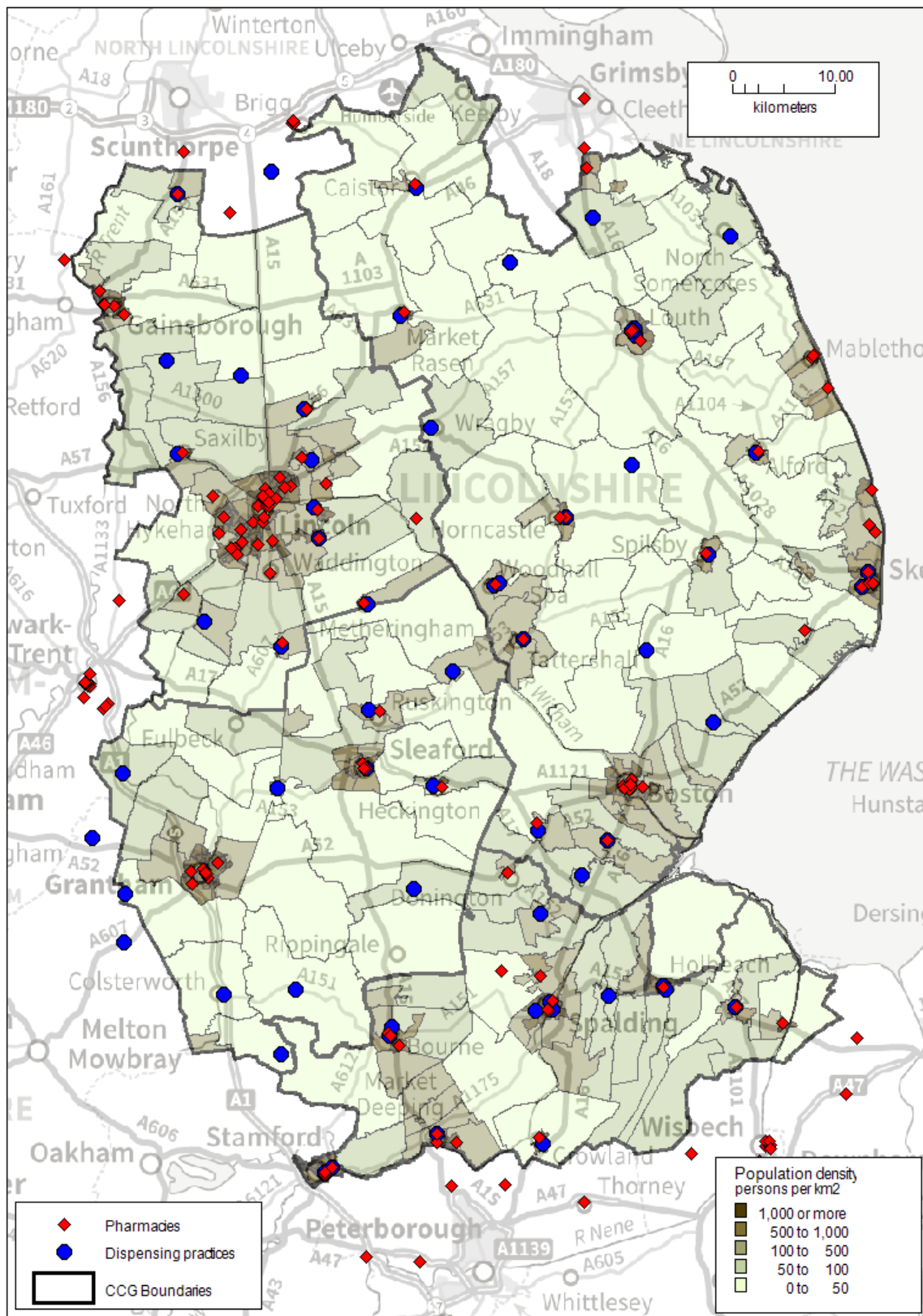
For patients in Lincolnshire, there is a split across the county, with community pharmacies and GP practices both providing services to patients.

Approximately 74% of patients registered with Lincolnshire practices are registered as non-dispensing and are able to use community pharmacies for their pharmaceutical services. The remaining 26% are dispensing patients and have their prescriptions dispensed from their dispensing GP practice.

Many Lincolnshire dispensing practices participate in the Dispensing Services Quality Scheme, and consistently demonstrate high quality services and high levels of patient satisfaction. Nonetheless, there are a number of key pharmaceutical services that are available from community pharmacies, but not from dispensing practices.

The PNA Steering Group felt that it was important for patients to be aware that they have this choice.

Map 12: Pharmacies and dispensing practices, including out-of-county pharmacies

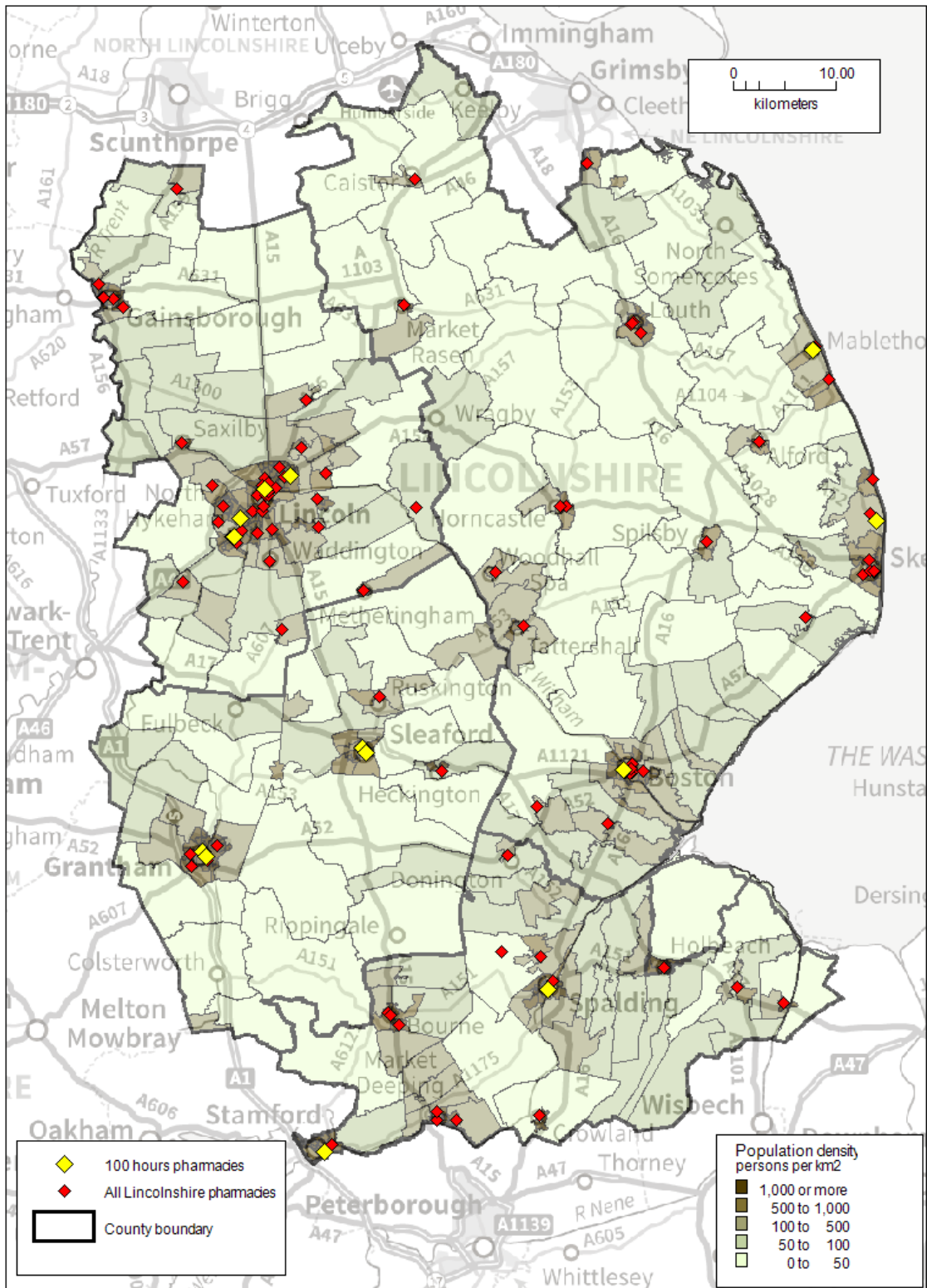


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Source: NHS England

100-hour pharmacies were established under the 2005 regulatory framework, and are required to open for 100 contracted hours each week, as agreed with NHS England.

Map 13: 100-hour pharmacies in Lincolnshire



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4.3 CCG-level provision

4.3.1 Lincolnshire East CCG

Table 6: Locations with a dispensing practice, but no community pharmacy, Lincolnshire East CCG

Location	Dispensing GP practices*	All GP practices
Binbrook	1	1
North Somercotes	1	1
North Thoresby	1	1
Old Leake	1	1
Stickney	1	1
Tetford	1	1
Wragby	1	1
Lincolnshire East	7	7

*Most dispensing at GP practices is only available within the core opening hours of the practice

Source: NHS England

Table 7: Pharmaceutical services, Lincolnshire East CCG

Location	Pharmacies	Saturday opening	Sunday opening	100-hour	GP practices	Dispensing GPs practices*
Alford	1	1	0	0	1	1
Boston	7	6	2	1	5	0
Caistor	1	1	0	0	1	1
Chapel St Leonards	1	0	0	0	0	0
Coningsby	1	1	0	0	1	1
Holton-le-Clay	1	1	0	0	0	0
Horncastle	2	2	0	0	1	1
Ingoldmells	2	1	1	1	0	0
Kirton	1	1	0	0	1	1
Louth	4	4	3	0	3	3
Mablethorpe	3	2	1	1	1	0
Market Rasen	1	1	0	0	1	1
Skegness	5	3	2	0	2	2
Spilsby	1	1	0	0	1	1
Sutton on Sea	2	2	0	0	0	0
Swineshead	1	0	0	0	1	1
Wainfleet	1	1	0	0	1	0
Woodhall Spa	1	1	0	0	2	2
Lincolnshire East	36	29	9	3	22	15

*Most dispensing at GP practices is only available within the core opening hours of the practice

Source: NHS England

Table 8: Advanced pharmaceutical services, Lincolnshire East CCG

Location	New Medicine Service (NMS)	Medicines Use Review (MUR)
Alford	1	1
Boston	6	7
Caistor	1	1
Chapel St Leonards	1	1
Coningsby	1	1
Holton-le-Clay	1	1
Horncastle	2	2
Ingoldmells	1	2
Kirton	1	1
Louth	4	4
Mablethorpe	3	3
Market Rasen	1	1
Skegness	5	5
Spilsby	1	1
Sutton on Sea	2	2
Swineshead	1	1
Wainfleet	1	1
Woodhall Spa	1	1
Lincolnshire East	34	36

Source: NHS England

Extended-hours pharmacies in Louth

NHS England commissions extended opening hours for pharmacies in Louth as an 'enhanced service'. Currently, four pharmacies in Louth are commissioned as part of this service.

Table 9: Extended-hours pharmacies in Louth

Pharmacy Name	Pharmacy Address	Town	Post Code
Your Local Boots Pharmacy	96-98 Eastgate	Louth	LN11 9AA
Louth Pharmacy	155 Newmarket	Louth	LN11 9EH
Boots the Chemists Ltd	26 Mercer Row	Louth	LN11 9JQ
Lincoln Co-op Chemists Ltd	52 Eastgate	Louth	LN11 9PG

Source: NHS England

4.3.2 Lincolnshire West CCG

Table 10: Locations with a dispensing practice, but no community pharmacy, Lincolnshire West CCG

Location	Dispensing GP practices*	All GP practices
Bassingham	1	1
Hibaldstow [†]	1	1
Ingham	1	1
Willingham By Stow	1	1
Lincolnshire West	4	4

*Most dispensing at GP practices is only available within the core opening hours of the practice

[†]This GP practice is located outside the Lincolnshire Health and Wellbeing Board Area

Source: NHS England

Table 11: Pharmaceutical services, Lincolnshire West CCG

Location	Pharmacies	Saturday opening	Sunday opening	100-hour	GP practices	Dispensing GP practices*
Bardney	1	0	0	0	0	0
Bracebridge Heath	1	1	0	0	0	0
Branston	1	1	0	0	1	1
Cherry Willingham	1	1	0	0	0	0
Gainsborough	5	4	1	0	3	0
Lincoln	22	18	7	3	18	0
Metheringham	1	1	0	0	2	1
Navenby	1	0	0	0	1	1
Nettleham	1	1	0	0	1	1
North Hykeham	4	3	1	1	2	0
Saxilby	1	1	0	0	2	2
Scotter	1	0	0	0	1	1
Skellingthorpe	1	1	0	0	0	0
Waddington	1	1	0	0	0	0
Washingborough	1	1	0	0	1	1
Welton	1	1	0	0	1	1
Witham St Hughs	1	1	0	0	0	0
Lincolnshire West	45	36	9	4	33	9

*Most dispensing at GP practices is only available within the core opening hours of the practice

Source: NHS England

Table 12: Advanced pharmaceutical services, Lincolnshire West CCG

Location	New Medicine Service (NMS)	Medicines Use Review (MUR)
Bardney	1	1
Bracebridge Heath	1	1
Branston	1	1
Cherry Willingham	1	1
Gainsborough	5	5
Lincoln	19	20
Metheringham	1	1
Navenby	1	1
Nettleham	1	1
North Hykeham	3	4
Saxilby	1	1
Scotter	1	1
Skellingthorpe	1	1
Waddington	1	1
Washingborough	1	1
Welton	1	1
Witham St Hughs	1	1
Lincolnshire West	41	43

Source: NHS England

There is one dispensing appliance contractor in Lincoln. Dispensing appliance contractors provide prescription appliances to patients.

4.3.3 South Lincolnshire CCG

Table 13: Locations with a dispensing practice, but no community pharmacy, South Lincolnshire CCG

Location	Dispensing GP practices*	All GP practices
Gosberton	1	1
Moulton	1	1
Sutterton	1	1
South Lincolnshire	3	3

*Most dispensing at GP practices is only available within the core opening hours of the practice

Source: NHS England

Table 14: Pharmaceutical services, South Lincolnshire CCG

Location	Pharmacies	Saturday opening	Sunday opening	100-hour	GP practices	Dispensing GP practices*
Bourne	3	3	1	0	2	2
Crowland	1	1	0	0	1	1
Deeping St James	1	1	0	0	0	0
Donington	1	1	0	0	0	0
Holbeach	2	2	0	0	1	1
Long Sutton	1	1	0	0	1	1
Market Deeping	2	1	0	0	1	1
Pinchbeck	1	1	0	0	0	0
Spalding	5	5	2	1	3	3
Stamford	4	4	1	1	3	3
Sutton Bridge	1	1	0	0	0	0
West Pinchbeck	1	0	0	0	0	0
South Lincolnshire	23	21	4	2	12	12

*Most dispensing at GP practices is only available within the core opening hours of the practice

Source: NHS England

Table 15: Advanced pharmaceutical services, South Lincolnshire CCG

Location	New Medicine Service (NMS)	Medicines Use Review (MUR)
Bourne	3	3
Crowland	1	1
Deeping St James	1	1
Donington	1	1
Holbeach	2	2
Long Sutton	1	1
Market Deeping	2	2
Pinchbeck	1	1
Spalding	5	5
Stamford	3	3
Sutton Bridge	0	1
West Pinchbeck	1	1
South Lincolnshire	21	22

Source: NHS England

In South Lincolnshire area, there is one distance-selling pharmacy, based in West Pinchbeck. Distance-selling pharmacies must provide essential services to patients, without patients entering the premises of the pharmacy. They are able to provide advanced services to patients on site.

4.3.4 South West Lincolnshire CCG

Table 16: Locations with a dispensing practice, but no community pharmacy, South West Lincolnshire CCG

Location	Dispensing GP practices*	All GP practices
Ancaster	1	1
Billingborough	1	1
Billinghay	1	1
Bottesford [†]	2	2
Castle Bytham	1	1
Colsterworth	1	1
Corby Glen	1	1
Croxton Kerrial [†]	1	1
Long Bennington	1	1
Woolsthorpe By Belvoir	1	1
South West Lincolnshire	11	11

*Most dispensing at GP practices is only available within the core opening hours of the practice

[†]This GP practice is located outside the Lincolnshire Health and Wellbeing Board Area

Source: NHS England

Table 17: Pharmaceutical services, South West Lincolnshire CCG

Location	Pharmacies	Saturday opening	Sunday opening	100-hour	GP practices	Dispensing GP practices*
Grantham	10	10	2	2	5	0
Heckington	1	1	0	0	1	1
Ruskington	1	1	0	0	1	1
Sleaford	4	4	3	2	1	1
South West Lincolnshire	16	16	5	4	8	3

*Most dispensing at GP practices is only available within the core opening hours of the practice

Source: NHS England

Table 18: Advanced pharmaceutical services, South West Lincolnshire CCG

Location	New Medicine Service (NMS)	Medicines Use Review (MUR)
Grantham	9	10
Ruskington	1	1
Sleaford	4	4
South West Lincolnshire	14	15

Source: NHS England

5. Gaps in Pharmaceutical Provision

5.1 Provision of dispensing services

Map 12 shows all community pharmacies, dispensing practices and out-of-county pharmacies across Lincolnshire and beyond its borders. On the basis of the evidence provided by this map, the PNA Steering Group concluded that the residents of Lincolnshire are adequately served by providers of dispensing services, in both urban and rural areas. Similarly, no case of pharmaceutical need was identified in respect of the provision of dispensing services.

However, community pharmacies provide a wider range of essential services, as well as currently offering 'advanced services' that are not provided by dispensing practices. In particular, the PNA Steering Group recognised that patient access to self-care, through the provision of healthcare advice and over-the-counter medicines, is only available from community pharmacies.

Access to the 'advanced services' provided by community pharmacies (the New Medicine Service (NMS) and the Medicines Use Review (MUR) service) was also identified as a key matter for consideration, as discussed below.

Self-care is about ensuring that people have the necessary advice and support to enable them to look after themselves in a healthy way. This may include advice on healthy eating, exercise, dental hygiene, personal hygiene, smoking cessation and alcohol moderation. It may also include advice on the improved management of a long-term condition, such as diabetes, or supplying a medicine that may be purchased over the counter to treat a minor ailment, such as a cold or hay fever.

Community pharmacy is ideally placed to deliver a wide variety of support to enable people to manage their own health, rather than putting additional strain on front-line medical services, such as general practices or Accident and Emergency departments.

5.2 The New Medicine Service (NMS)

The NMS is designed to provide early support to patients who have been prescribed medicines, for the first time, for a defined range of conditions and therapy areas. These areas are:

- asthma and chronic obstructive pulmonary disease (COPD),
- type 2 diabetes,
- antiplatelet/ anticoagulant therapy, and
- hypertension.

When a patient has been prescribed a 'pre-defined medicine' for the first time, they may be recruited to the NMS, either by prescriber referral, or opportunistically by the community pharmacy. The patient is asked to consent to information arising from the NMS being shared with their GP, as necessary. The pharmacy dispenses the prescription, and provides initial advice as usual,

but agrees with the patient a convenient time for further interventions, and the method by which they may be conducted. The first intervention is an interview conducted by the pharmacist, either face to face, or by telephone, 7 to 14 days after the initial patient engagement. The interview follows a pre-defined schedule, and is designed to:

- assess adherence to therapy,
- identify any early problems (such as poor tolerability or patient concerns), and
- address any need for further information and support.

A further follow-up contact with the patient (again either face to face, or by telephone) takes place 14 to 21 days after the initial intervention, in order to discuss how the patient is getting on with their medicine as it becomes a more established part of their therapy.

At both the intervention and follow-up stages, the pharmacist may identify a problem that needs to be referred back the prescriber for review. In particular, the pharmacist may feed back on:

- potential drug interactions,
- potential or actual adverse drug reactions that are preventing the patient from adhering to therapy,
- concerns that the patient has reported they have stopped taking the medicine or never started taking it,
- difficulties experienced by the patient in using the medicine (due to the delivery device, formulation etc.), or
- concerns that the patient is reporting lack of efficacy, problems with the dosage regime or unresolved concerns about the medicine itself.

The development of the NMS was based on a raft of new research that identified:

- the problems people experience with new medicines;
- the reasons for poor adherence or non-adherence to newly prescribed medicines, and
- the contribution that pharmacy-led intervention can make in supporting adherence.

In a survey of 258 patients with a chronic condition, who were aged over 75 years, and who were just starting on a newly prescribed medicine, almost one-third reported non-adherence, and two-thirds had a medicine-related problem that required further information within 10 days of starting the medicine¹⁶.

A subsequent randomised controlled trial compared the support for patients with a long-term condition, who were receiving a new medicine that was provided by community pharmacy, with the usual care provided for such patients. The results clearly demonstrated significantly lower rates of non-adherence and medicine-related problems or concerns in the intervention group¹⁷.

In summary, problems with newly started medicines emerge rapidly, and require early intervention by an appropriately experienced healthcare professional.

There is strong evidence of the beneficial effect of interventions by community pharmacies to improve adherence, and address medicine-related concerns, in respect of newly prescribed medicines. Such interventions can significantly improve both patient adherence and the patient experience. There is also strong evidence that improved patient adherence can improve disease-related outcomes.

A recent external evaluation of the NMS service by the University of Nottingham, which was commissioned by NHS England, concluded that the NMS service is of value in establishing patient adherence to new medication regimens. As a result of this evaluation, the NMS service has continued to be incorporated within the Community Pharmacy Contractual framework.

5.3 Medicines Use Reviews (MURs)

MURs have been available as part of the Community Pharmacy Contractual Framework for a number of years. They are designed to improve the patient's knowledge, understanding and use of their medicines, and can help to identify and rectify adherence problems. Improved patient understanding should reduce medicines wastage.

Unlike the NMS, which focuses on new medicines, MURs are likely to be focused on patients with an established regimen of therapy. Regulations for MURs require a pharmacy to have a minimum of three months of Patient Medication Records for a patient in order to undertake the review. Patients not accessing a regular pharmacy for dispensing services will not be eligible for a routine annual MUR.

From 1st October 2011, pharmacies have had to ensure that 50% of their MURs are targeted at patients who:

- are taking 'high risk medicines' (defined as non-steroidal anti-inflammatory drugs, anticoagulants, antiplatelet agents and diuretics),
- have recently been discharged from hospital with an amended medicines regimen (ideally, patients discharged from hospital should receive an MUR within four weeks of discharge, although in certain circumstances within eight weeks would be acceptable), or
- have respiratory disease (such as asthma or COPD).

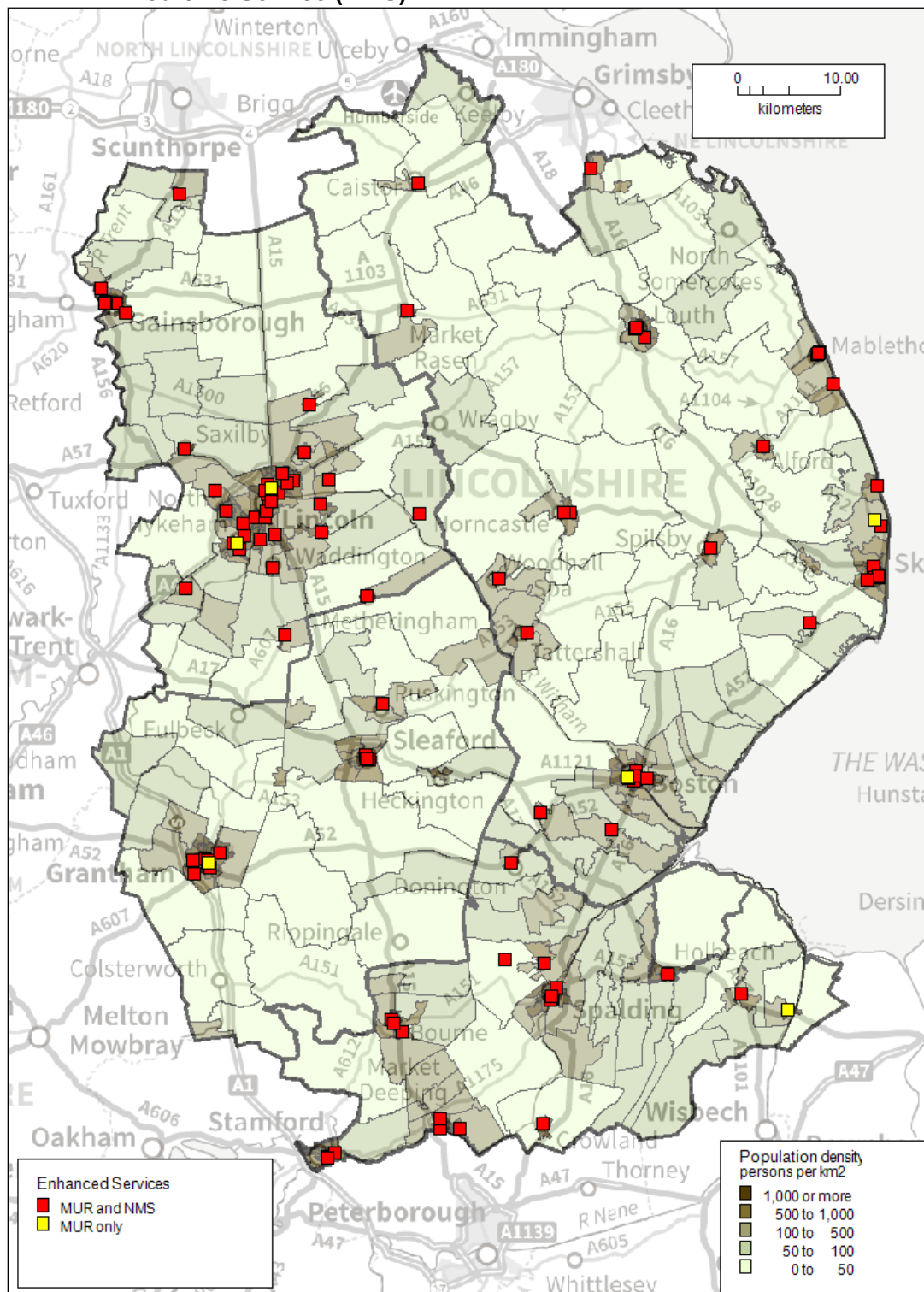
In addition, from 1st January 2015, a fourth target group has been added to this list:

- patients who are at risk of, or who have been diagnosed with, cardiovascular disease, and are regularly being prescribed at least four medicines.

From 1st April 2015, community pharmacies must carry out at least 70% of their MURs within any given financial year on patients in one or more of the agreed target groups. These MURs will focus on all of the medicines currently taken by the patient, not just those defined in the target groups.

The remaining 30% of the MURs provided by the pharmacy may focus on patients who fall outside of the target groups.

Map 14: Pharmacies that provide Medicines Use Reviews (MURs) and the New Medicine Service (NMS)



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Source: NHS England

From Map 14, which shows 'Pharmacies that provide Medicines Use Reviews (MURs) and the New Medicine Service (NMS)', the PNA Steering Group found that there are gaps across the county where Lincolnshire patients are likely to

experience difficulty accessing these, and other services provided by the community pharmacies, including self-care and over-the-counter medicines.

In many rural areas of Lincolnshire, significant gaps in the provision of some essential services (i.e. support with self-care) and some advanced services (i.e. the NMS and MURs) were identified.

5.4 Opportunities

5.4.1 Locally-commissioned services

As long ago as the publication of the '*Pharmacy in England*' White Paper in 2008, community pharmacies were regarded as key contributors to the 'healthy living and better care' agenda, with more recent documents clearly recognising and outlining the contribution that pharmacy-based services can make to improving patient care^{18,19}.

In both rural and deprived inner city areas, community pharmacies are based in the heart of the community, where people live, work and shop. Consequently, through daily interactions with patients and customers, community pharmacy teams gain a particular understanding of the needs of individuals in their communities. Because they provide convenient access for the public, without the need for an appointment, visitors to pharmacies come from all sectors of the population.

Pharmacies are ideally placed to access 'hard to reach' groups and thus reduce health inequalities.

For areas of deprivation, the community pharmacy may provide the only available healthcare professional. Therefore, in the new Public Health service, matters to be addressed by community pharmacies include:

- NHS Health Checks,
- tackling drug and alcohol misuse,
- promoting healthy lifestyles and prevention of long-term illness, and
- increasing the uptake of seasonal flu vaccination²⁰.

Essential Public Health services provided by all community pharmacies within the contractual framework include:

- acting as centres promoting and supporting healthy living,
- offering both patients and the public advice on healthy lifestyles and support for self-care, and
- providing up to six Public Health campaigns per year, as agreed by the local authority.

In addition to these essential services, a number of local services are already being commissioned from pharmacies in Lincolnshire. These services are primarily being commissioned by Public Health within Lincolnshire County Council, and not by NHS England. Therefore, they

fall outside the definition of 'locally commissioned services', as set out in the National Health Service (Pharmaceutical and Local Pharmaceutical Services) Regulations 2013. Nevertheless, they are recognised as services which benefit patients in Lincolnshire. Such services include:

- support for smoking cessation,
- support for sexual health (e.g. chlamydia screening and treatment, pregnancy testing, provision of condoms and emergency hormonal contraception),
- provision of pharmacy-based needle exchange and supervised administration of methadone,
- pilot for pharmacy-based screening, advice and brief intervention for alcohol use, and
- the Emergency Supply Services and the Minor Ailments Scheme, which are commissioned by the CCGs, and which serve to help reduce patient access to GP practices, A&E and walk-in-centres, because patients attend at the pharmacy in the first instance.

Smoking cessation

- For many years, community pharmacies across Lincolnshire have performed consistently well as part of the Phoenix Smoking Cessation service, with the pharmacy-based clinics routinely achieving quit rates at the higher levels (many achieving in excess of 50% success rates).
- This performance level reflects a national trend. Five review papers on the community pharmacy contribution to smoking cessation indicated that 'stop smoking services' run by trained community pharmacy staff were both effective and cost-effective in helping smokers to quit^{21,22,23,24,25}.

Pharmacist support for those with long-term conditions

- Further evidence indicated the effectiveness of pharmacy services in reducing lipid levels; the effect was sustained one year after the intervention ended.
- Evidence from a single randomised controlled trial showed the effectiveness of a pharmacy service in significantly increasing the prescribing of antiplatelet medicines, lipid lowering treatment and smoking cessation treatments.
- A workplace-based cardiovascular disease (CVD) risk reduction programme, provided by community pharmacists, significantly reduced blood pressure and improved lipid profiles, but had no effect on weight. A community-pharmacy-based service, where peer educators measured blood pressure and completed CVD risk profiles for people with hypertension, was well received, both by patients and by GPs.

- Medicines management in patients with heart failure, who had recently been discharged from hospital, led to a reduction in hospitalisation, but did not lead to a reduction in mortality²⁵.
- There was strong evidence that community pharmacists can make an important contribution to the management of diabetes, through screening, helping to improve concordance with medication, and supporting patients to reduce their blood glucose or 'HBA1c'. Community pharmacists were also effective in achieving weight reduction in diabetic patients²⁵.
- It is clear from the evidence that interventions by pharmacists could promote reduction of cholesterol and high blood pressure to improve cardiovascular health.
- There is also good evidence that community pharmacy interventions can improve the use of medicines by, and the respiratory function of, patients with asthma²⁵.

Flu vaccination

- Many Lincolnshire pharmacies have already developed the competency and expertise to provide vaccination services, and are providing a high number of private flu vaccinations. These fall outside the data collection for the NHS annual campaigns.
- A recent peer-reviewed research paper concluded that the involvement of community pharmacies in the seasonal influenza vaccination programme is associated with high levels of patient acceptability, and that it could help to increase vaccination rates¹⁸.
- The Parliamentary Health Committee was presented with evidence from a survey of 500,000 people who were vaccinated through a Novartis Vaccines scheme in community pharmacies. Of those who responded, 37% would not have had the vaccination if it had not been offered by the pharmacy^{dd}.

Sexual health services

- Services that reduce the risks of unwanted pregnancy, such as the provision of emergency hormonal contraception (EHC) and supplying condoms, receive considerable public interest. Pharmacies were highly rated by the women who used them, and there is evidence that pharmacies can provide 'timely access'.
- Through the NHS, the provision of 'on-demand' EHC to 13-to-19 year olds, without the need for an appointment, has been operating in some Lincolnshire pharmacies for a number of years.

^{dd} Evidence provided to HC 1048-III Health Committee. Available from: www.parliament.co.uk

- Currently, Lincolnshire pharmacies provide pregnancy testing services, as well as registration for the C-card scheme and distribution of condoms to young people. Chlamydia screening is available from pharmacies, which, more recently, have also provided treatment for those who have tested positive for chlamydia.
- Innovative schemes are being piloted elsewhere to enable pharmacies to supply women who are over 16 years old with regular oral contraception, without the need for a prescription.

Substance use

- The majority of community pharmacies in Lincolnshire work in conjunction with the providers of substance misuse services to deliver supervised administration services, where the patient attends the pharmacy on a daily basis to access the medicines prescribed to treat addiction. This ensures medication is consumed appropriately, in a safe environment, and protects both the client and the public.
- Some evidence on the supervised methadone administrative services provided by community pharmacies shows that high attendance is achieved, and that the service is acceptable to users^{23,24,25}. There is evidence from one paper²⁶ that the introduction of supervised methadone dosing has resulted in a substantial decline in deaths from overdoses of methadone in both Scotland and England. However, the data used was not community pharmacy specific.
- Pharmacy-based needle exchange schemes have been found to be cost effective, and achieve high rates of returned injecting equipment. Evidence for this is based on descriptive studies^{25,27}.
- Conversation with clients on a daily basis helps to safeguard service users, but could also be used to deliver 'healthy living' messages to the clients at the same time.

Having reviewed the evidence for the provision of a wide range of locally commissioned services through community pharmacy, the PNA Steering Group concluded that further expansion and wider availability of the range of services currently provided through community pharmacies would benefit the Lincolnshire population, subject to:

- local need,
- patient demand, and
- clear evidence of benefit, value for money, and improved health outcomes.

This expansion should be done with existing community pharmacies, because establishing new pharmacies could lead to an over-provision of essential services, and may destabilise current provision.

5.4.2 Local Health and Care (LHAC)

Alongside the aim of expanding the work of the community pharmacies, the PNA Steering Group acknowledged the potential benefit of working with LHAC and the developing neighbourhood teams.

5.4.3 Development of electronic prescribing

Electronic prescribing is being rolled out progressively across Lincolnshire, and has huge implications for patient choice. As part of their registration for electronic prescribing, the patient is required to nominate their preferred pharmacy, or, if appropriate, they may select their dispensing practice.

Historically, 'dispensing patients' in rural areas of the county were expected to collect their dispensed prescription from the dispensing practice that provided their medical services.

Electronic prescribing should enable the patient to decide where they wish to collect their dispensed medicines from. Thus, they should be able to choose a more convenient supplier (perhaps one closer to their workplace), or one that provides a more desirable 'added value' service, such as collection and delivery.

The PNA Steering Group is supportive of patients exercising their right to choose.

6. Conclusions and Recommendations

- Residents of Lincolnshire are adequately served by providers of dispensing services in both urban and rural areas. However, ongoing change linked to population growth in many localities will necessitate frequent review of this position.
- Patient access to self-care through the provision of healthcare advice and supply of over-the-counter medicines is only available from community pharmacies. There are many rural areas of the county where dispensing services are available, but patients have no access to self-care, over-the-counter medicines or community pharmacy advanced services such as Medicines Use Reviews and the New Medicine Service.

Having reviewed the evidence for the provision of a wide range of locally commissioned services through community pharmacy, the PNA Steering Group concluded that further expansion and wider availability of the range of services currently provided through community pharmacies would benefit the Lincolnshire population subject to local need, patient demand, and clear evidence of benefit, value for money and improved health outcomes. This expansion should be done with existing community pharmacies, because establishing new pharmacies could lead to an over-provision of essential services, and may destabilise current provision.

- The PNA Steering Group is supportive of patients exercising their right to choose where they access their pharmaceutical services. Patient choice should be further enabled by the wider implementation of electronic prescribing across the county.
- As required by The National Health Service (Pharmaceutical and Local Pharmaceutical Services) Regulations 2013, the PNA Steering Group intend to continue reviewing pharmaceutical need and local service provision, and publishing regular updates and supplementary statements where circumstances change.
- During July 2014, Healthwatch published a questionnaire, targeting people who use pharmacy services in Lincolnshire. In order to build on the findings from their Pharmacy Questionnaire, and subsequent recommendations, and bearing in mind their independent role, the PNA Steering Group would like to work with Healthwatch. Therefore, they would like to invite Healthwatch to send a representative to be a member of the PNA steering group.

6.1 Ownership and review

The PNA for Lincolnshire will continue to be managed on behalf of the HWB by the PNA Steering Group. This will include the ongoing legal requirement for the HWB to review the PNA, and issue supplementary statements, as and when required.

References

1. Government Equalities Office. Equality Act 2010: Specific duties to support the equality duty. What do I need to know? A quick start guide for public sector organisations. HM Government; 2011.
2. Office for National Statistics. UK Standard Area Measurements (SAM): Standard Area Measurements for regions [Internet]. [cited 2015 Mar 4]. Available from: <http://www.ons.gov.uk/ons/guide-method/geography/products/other/uk-standard-area-measurements--sam-/index.html>
3. Office for National Statistics. Population Estimates for UK, England and Wales, Scotland and Northern Ireland, Mid-2013 [Internet]. [cited 2015 Mar 4]. Available from: <http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm:77-322718>
4. Office for National Statistics. Subnational Population Projections, 2012-based projections [Internet]. [cited 2015 Mar 4]. Available from: <http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm:77-335242>
5. Office for National Statistics. Birth Summary Tables, England and Wales, 2013 [Internet]. [cited 2015 Mar 4]. Available from: <http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm:77-317529>
6. Lincolnshire Research Observatory. Country of Birth, Ethnicity and Nationality of Lincolnshire Residents [Internet]. [cited 2015 Mar 4]. Available from: <http://www.research-lincs.org.uk/UI/Documents/country-of-birth-ethnicity-and-nationality-of-lincolnshire-residents-census2011-112013.pdf>
7. Lincolnshire Research Observatory. Health and Unpaid Care [Internet]. [cited 2015 Mar 4]. Available from: <http://www.research-lincs.org.uk/UI/Documents/health-and-unpaid-care-census-2011-112013.pdf>
8. Lincolnshire Research Observatory. JSNA Topic: Smoking (Adults), Commentary, July 2012 [Internet]. [cited 2015 Mar 4]. Available from: <http://www.research-lincs.org.uk/jsna-Smoking-Adults.aspx>
9. Lincolnshire Research Observatory. JSNA Topic: Alcohol, Commentary, August 2011 [Internet]. [cited 2015 Mar 4]. Available from: <http://www.research-lincs.org.uk/jsna-Alcohol.aspx>
10. Public Health England. Diabetes Prevalence Model APHO: APHO Diabetes Prevalence Model for England - Key Findings for England [Internet]. [cited 2015 Mar 4]. Available from: <http://www.yhpho.org.uk/default.aspx?RID=81090>
11. Lincolnshire Research Observatory. JSNA Topic: CHD - Coronary Heart Disease, Commentary, May 2011 [Internet]. [cited 2015 Mar 4]. Available from: <http://www.research-lincs.org.uk/jsna-CHD.aspx>
12. Lincolnshire Research Observatory. JSNA Topic: Chronic Obstructive Pulmonary Disease (COPD), Commentary, May 2014 [Internet]. [cited 2015 Mar 4]. Available from: <http://www.research-lincs.org.uk/jsna-COPD.aspx>
13. Lincolnshire Research Observatory. JSNA Topic: Residential and Nursing Care, Commentary, May 2011 [Internet]. [cited 2015 Mar 4]. Available from: <http://www.research-lincs.org.uk/jsna-Residential-and-Nursing-Care.aspx>

14. Lincolnshire Research Observatory. JSNA Topic: Chlamydia Screening, Commentary, May 2011 [Internet]. [cited 2015 Mar 4]. Available from: <http://www.research-lincs.org.uk/jsna-Chlamydia-Screening.aspx>
15. Office for National Statistics. Conception Statistics, England and Wales, 2012 [Internet]. [cited 2015 Mar 4]. Available from: <http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm:77-332828>
16. Barber N, Parsons J, Clifford S, Darracott R, Horne R. Patients' problems with new medication for chronic conditions. *Quality & safety in health care*. 2004 Jun;13:172-5.
17. Elliott RA, Barber N, Clifford S, Horne R, Hartley E. The cost effectiveness of a telephone-based pharmacy advisory service to improve adherence to newly prescribed medicines. *Pharmacy world & science : PWS*. 2008 Jan;30:17-23.
18. Local Government Association. Community Pharmacy: Local Government's New Public Health Role. Local Government Association; 2013.
19. Pharmaceutical Services Negotiating Committee. Public Health Services: Pharmacy and Public Health Forum, Community Pharmacy and Public Health - evidence base review [Internet]. [cited 2015 Mar 4]. Available from: <http://psnc.org.uk/services-commissioning/4-service-domains/public-health-services>
20. Department of Health. Healthy Lives, Healthy People: our strategy for public health in England. The Stationery Office; 2010.
21. Dent LA, Harris KJ, Noonan CW. Tobacco interventions delivered by pharmacists: a summary and systematic review. *Pharmacotherapy*. 2007 Jul;27:1040-51.
22. Sinclair H, Bond C, Stead L. Community pharmacy personnel interventions for smoking cessation (Review) - The Cochrane Database of Systematic Reviews. John Wiley & Sons Ltd; 2008.
23. Anderson C, Blenkinsopp A, Armstrong M. The contribution of community pharmacy to improving the public's health: Summary report of the literature review 1990-2007. Pharmacy Health Link; 2009.
24. Agomo CO. The role of community pharmacists in public health: a scoping review of the literature. *Journal of Pharmaceutical Health Services Research*. 2012 Mar 16;3:25-33.
25. Brown D, Portlock J, Rutter P. Review of services provided by pharmacies that promote healthy living. *International journal of clinical pharmacy*. 2012 Jun;34:399-409.
26. Strang J, Hall W, Hickman M, Bird SM. Impact of supervision of methadone consumption on deaths related to methadone overdose (1993-2008): analyses using OD4 index in England and Scotland. *BMJ (Clinical research ed)*. 2010 Jan;341:c4851.
27. Watson T, Hughes C. Pharmacists and harm reduction: A review of current practices and attitudes. *Canadian pharmacists journal*. 2012 May;145:124-127.e2.