Worcestershire County Council

Background Papers

Health and Well-Being Board

Tuesday, 29 September 2020, 2.00 pm

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Health and Well-Being Board
Tuesday, 29 September 2020, 2.00 pm, Online Only

Background Papers

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The Economic Impact of Health and Care Services in Herefordshire and Worcestershire

Outputs of baseline analysis and potential schemes for modelling

Outline

1. Rationale for the project
2. Introduction, method and key findings
3. Health and care in context – key features of the local economy
4. Baseline health and care analysis
    A. The economic impact of health and care provision
    B. The economic impact of ill health – some examples
    C. The economic and environmental impact of the current model of outpatient care
5. Opportunities to increase social and economic value
    A. Local priorities
    B. Example opportunities
    C. Identifying and prioritising local opportunities
6. Next Steps

Rationale for the project

Rationale

Public sector services rarely think of themselves as economic actors, but there is a growing sense of the contribution they can make to local growth. *The NHS Long Term Plan* seeks to support wider social goals, including through the concept of the NHS being an 'anchor institution' in local economies.[1]

Decisions about the way public resources are allocated and service models configured have material socio-economic consequences beyond their impact on individual citizens. If these wider consequences are known and embraced in decision-making, there is potential to derive greater overall benefit from the investment of each public sector pound.

With support from the West Midlands Academic Health Science Network, Herefordshire and Worcestershire STP is seeking understand:

a) **Its current impact on the wider local economy; and**

b) **How that impact might be increased.**

1. https://www.longtermplan.nhs.uk/online-version/appendix/

The NHS as an ‘anchor institution’

18. As an employer of 1.4 million people, with an annual budget of £114 billion in 2018/19, the health service creates social value in local communities. Some NHS organisations are the largest local employer or procurer of services. For example, nearly one in five people employed in Blackpool work for the NHS and the Gross Value Added (GVA) from health spending is significantly higher than in areas in the south (over 17% vs 4% in London). Sandwell and West Birmingham Hospitals NHS Trust has committed to deploying 2% of its future annual budget with local suppliers, estimating it will add £5-8 million to the local economy. Leeds Teaching Hospitals NHS Trust is supporting the city’s inclusive growth strategy by targeting its employability and schools outreach offer at neighbourhoods in the most deprived 1% nationally and is increasing its apprenticeship programmes by 51% year-on- year. In partnership with the Health Foundation, we will work with sites across the country to identify more of this good practice that can be adopted across England.

Examples from previous studies

Virtual Outpatients

Moving to virtual outpatient appointments in appropriate cases, the NHS in the West Midlands could

- Generate productivity gains of up to **£5.34m GVA** for the West Midlands' economy
- Save patients travelling and parking costs ranging from **£325k to £973k** per annum
- Reduce CO2 emissions by **177,845 to 533,535 kg CO2**.

Mental Health Support

Providing support to individuals in the Black Country with mental health conditions such as stress and anxiety, helping them stay in or return to work, could add to the local economy

- **£6.2m** from supporting unemployed individuals back into employment
- **£3.2m** from employed individuals having to take less time off work due to their mental health condition.

Introduction, method and key findings

Study scope

The intention of the project was analyse the wider economic impact of all publicly-funded health and social care activities, alongside an assessment of informal care provide by local citizens.

For the baseline phase we were able to access data on:

- primary care
- wider NHS services
- public health and
- adult social care (excluding self-funders).

Only limited data on children's social care has been received so this is currently excluded for the analysis, as are ambulance services.

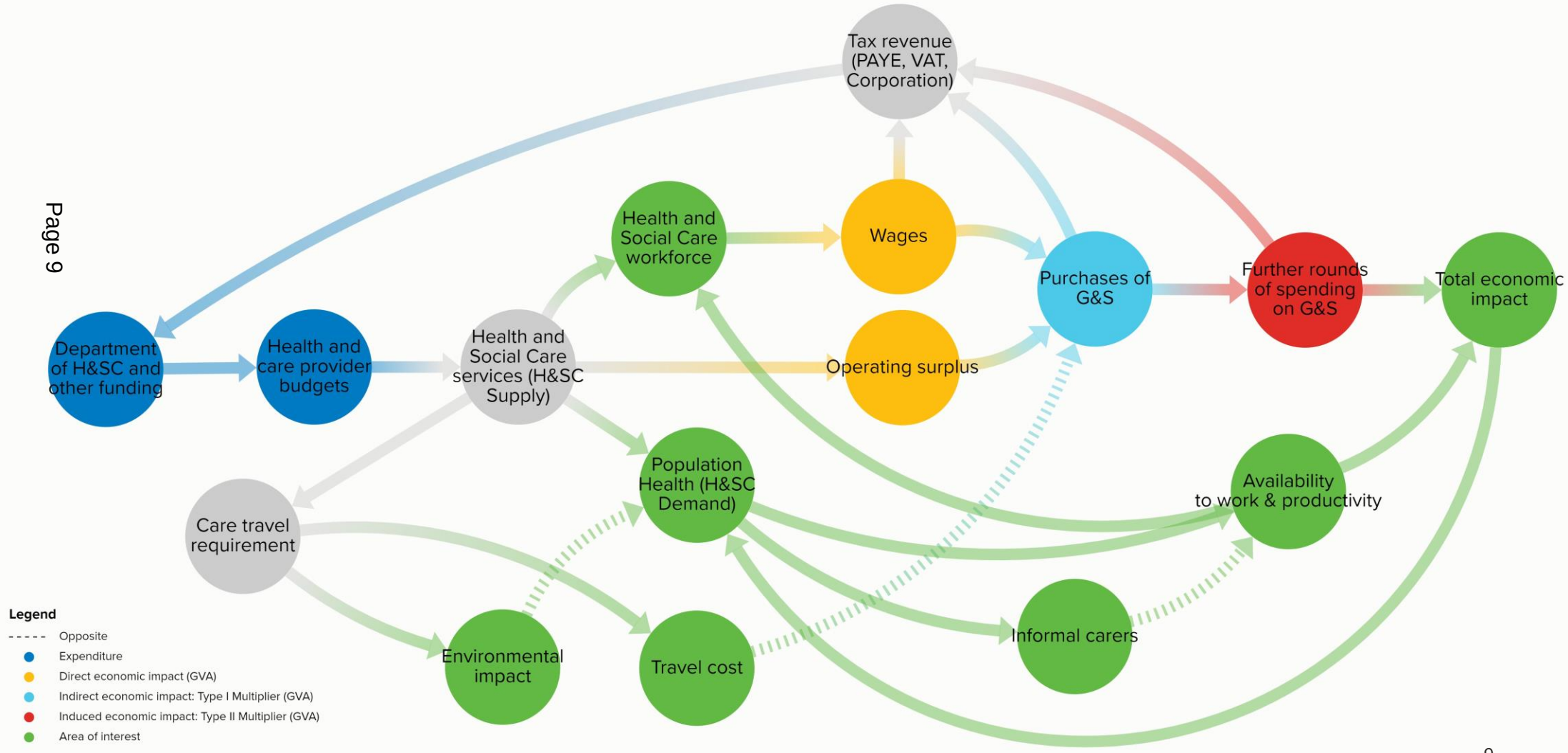
Wider local authority spending was not included within the agreed scope.

Our analysis includes:

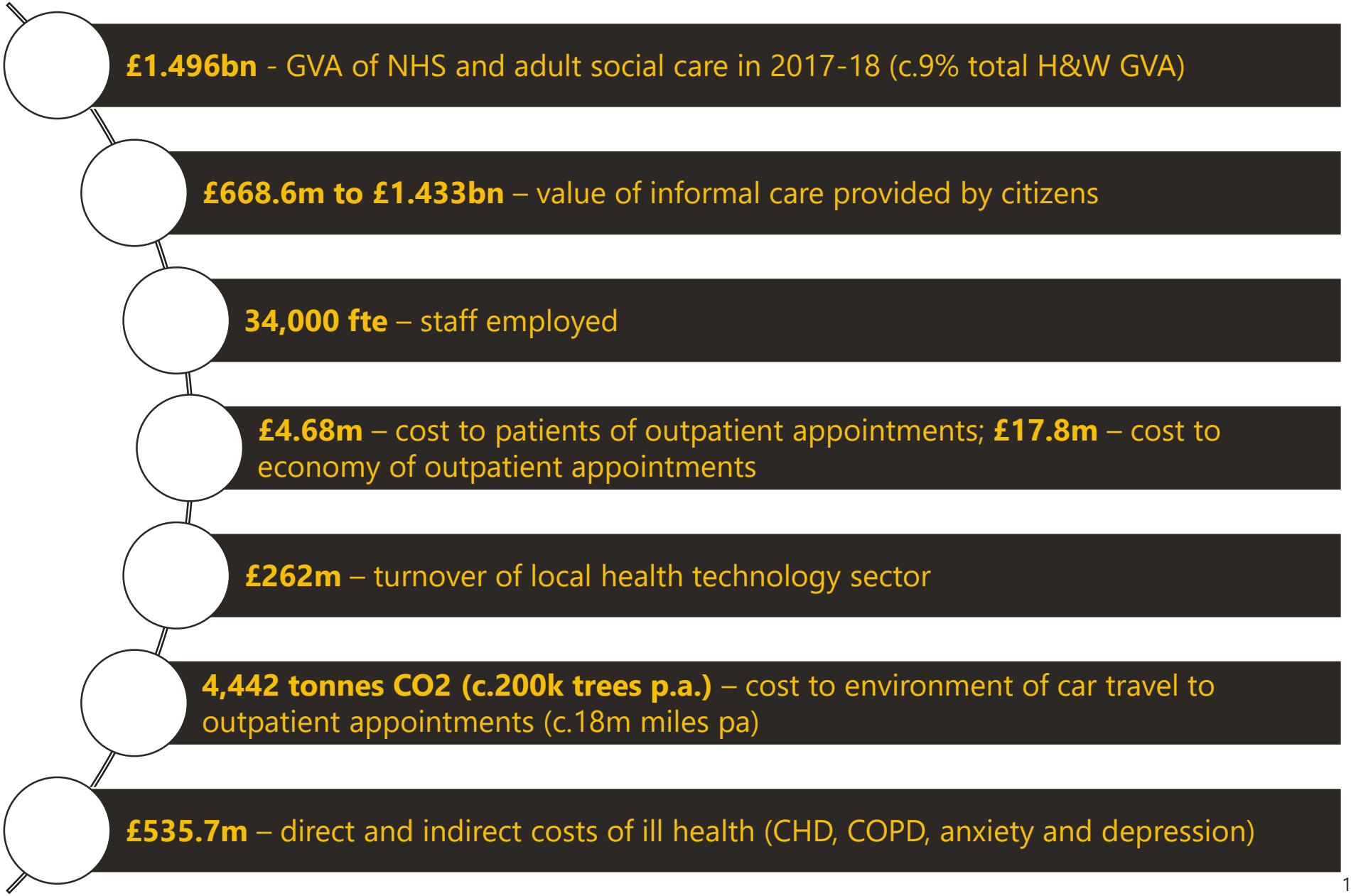
- Total expenditure by relevant organisations
- Gross value added resulting from that expenditure
- Employment (broken down by age, to include vacancy levels)
- Productivity
- Value of informal care
- Financial impact of current models of provision on citizens
- Impact of current models of care on the environment (including pollution)
- Economic impact of ill health (CHD, COPD and mental health)

Study logic

The diagram below illustrates the logic of our analysis. Detail of the methods and assumptions used can be found in the appendices.



Key findings



Health and care in context – key features of the local economy

Overview

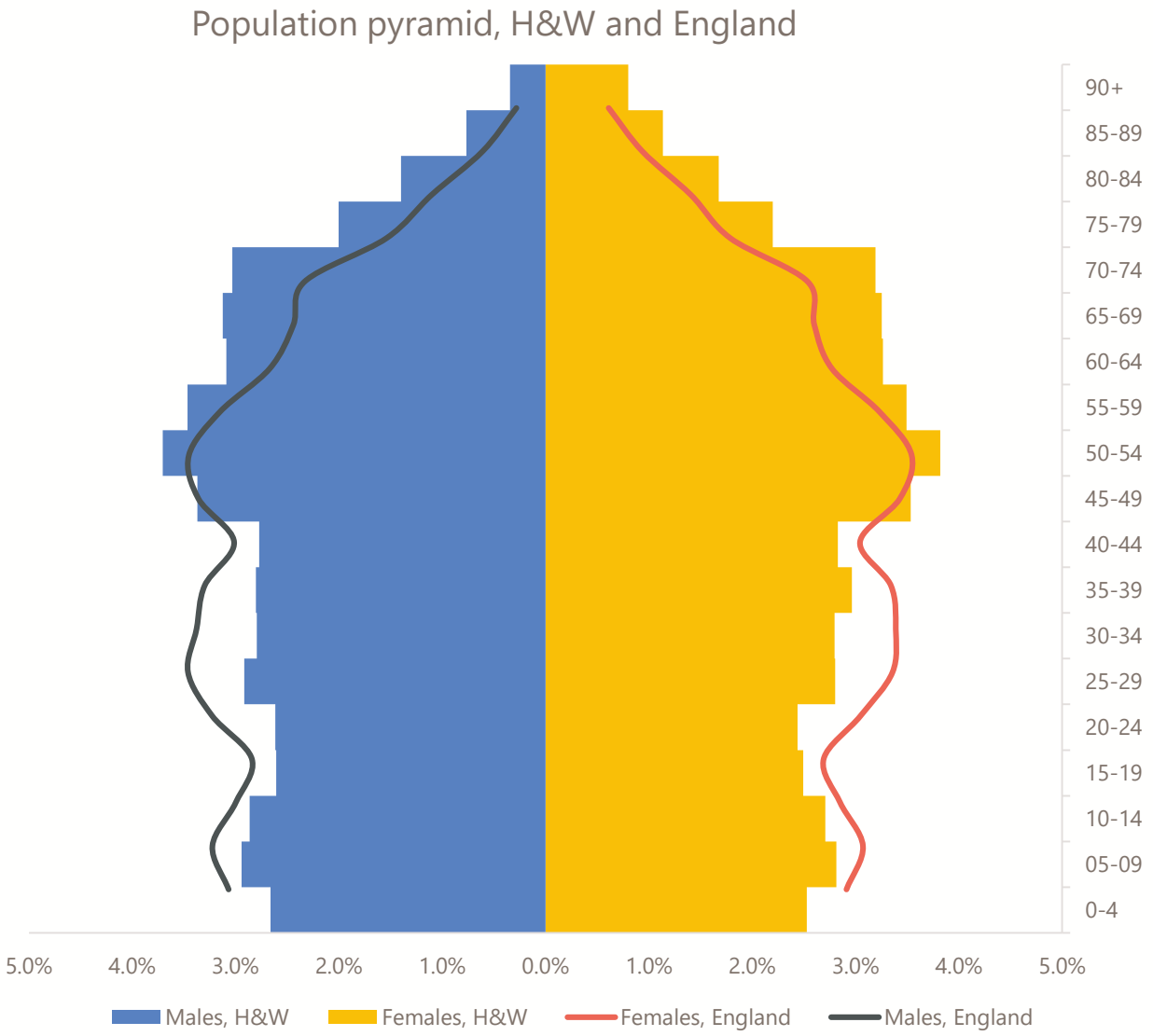
Population profile

Population (2018):

Herefordshire: 192,107

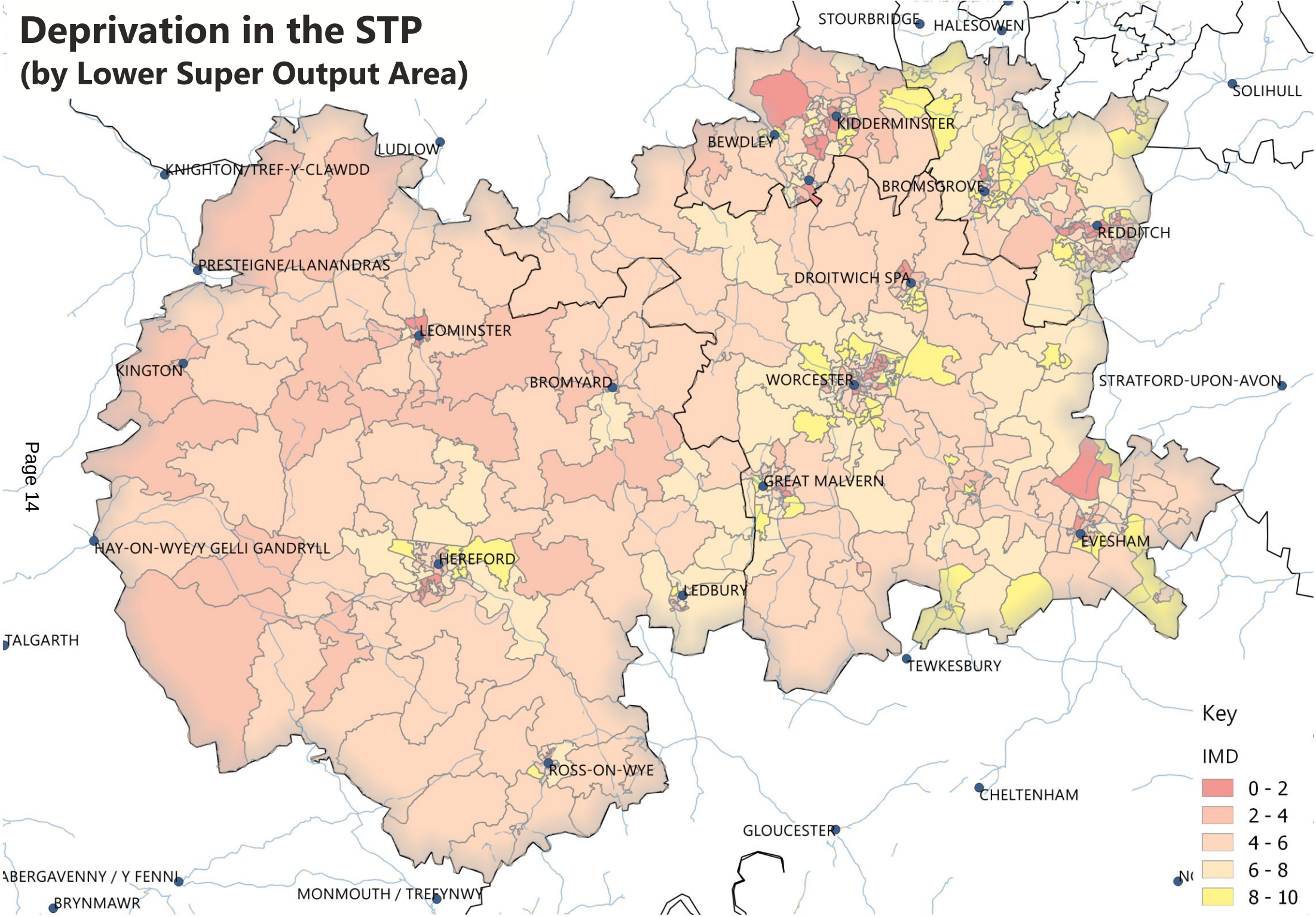
Worcestershire: 592,097

Region	Pop. Density, people/ km^2
Herefordshire	88
Worcestershire	340
West Midlands (region)	454
England	430



ONS Population estimates - local authority
ONS annual population survey

Deprivation in the STP
(by Lower Super Output Area)



*1 – most deprived area, 10 – least deprived

Employment and qualifications

Herefordshire

In employment: 80.3%

Unemployment: 2.5%

Worcestershire:

In employment: 78.7%

Unemployment: 3.7%

Qualifications:

	Herefordshire (%)	Worcestershire (%)	West Mids (%)
NVQ4 And Above	36.4%	36.3%	33.1%
NVQ3 And Above	54.4%	56%	51.9%
NVQ2 And Above	72.8%	76%	70.4%
NVQ1 And Above	83%	85.7%	81.4%
Other Qualifications	8%	7%	8.3%
No Qualifications	9%	7.2%	10.3%

ONS annual population survey - % are for those of the resident population aged 16-64

Employment by industry (2017)

Herefordshire

Total number in employment: 90,000

Industry	Number in employment	% of total in employment
Health	13,000	14.4%
Manufacturing	12,000	13.3%
Agriculture, forestry & fishing	11,000	12.2%
Retail	9,000	10.0%
Accommodation & food services	7,000	7.8%
Education	6,000	6.7%

ONS Business Register and Employment Survey
Employment numbers include employees plus the number of working owners (sole traders, sole proprietors or partners)

Worcestershire

Total number in employment: 275,000

Industry	Number in employment	% of total in employment
Health	35,000	12.7%
Manufacturing	33,000	12.0%
Retail	24,000	8.8%
Business administration & support services	22,000	8.0%
Education	21,000	7.6%
Transportation & Storage	20,000	7.3%
Accommodation & Food Service Activities	20,000	7.3%

Economic performance

Regional economic performance (GVA - 2017):

- Herefordshire: £3.9bn
- Worcestershire: £13.3bn
- **STP Total: £17.2bn**
- West Midlands: £133.7bn

Median earnings by place of residence (Gross Weekly Pay - 2018):

- Herefordshire: £486.20
- Worcestershire: £536.60
- **STP Average: £511.40**
- West Midlands: £536.60

Regional productivity (GVA per hour worked - 2017):

- Herefordshire: £23.80
- Worcestershire: £29.30
- **STP Average: £26.55**
- West Midlands average: £29.80

Median earnings by place of work (Gross weekly pay - 2018)

- Herefordshire: £461.10
- Worcestershire: £498.30
- **STP Average: £479.70**
- West Midlands: £536.60

ONS Regional GVA (Income Approach) / ONS Sub regional productivity / ONS annual survey of hours and earnings

Air pollution profile

Compared with benchmark: Better | Similar | Worse | Not compared

Quintiles: Best | | | | Worst | Not applicable

Recent trends: – Could not be calculated | Increasing / Getting worse | Increasing / Getting better | Decreasing / Getting worse | Decreasing / Getting better | No significant change | Increasing | Decreasing

Indicator	Period		England	West Midlands region	Birmingham	Coventry	Dudley	Herefordshire	Sandwell	Shropshire	Solihull	Staffordshire	Stoke-on-Trent	Telford and Wrekin	Walsall	Warwickshire	Wolverhampton	Worcestershire
Fraction of mortality attributable to particulate air pollution	2017		5.1	4.9	5.6	5.5	5.0	4.1	5.7	3.7	5.4	4.5	4.4	4.1	5.5	5.0	4.9	4.5
The percentage of the population exposed to road, rail and air transport noise of 65dB(A) or more, during the daytime	2016		5.5	4.4	5.5	2.5	5.5	3.0	6.6	1.7	3.3	4.2	5.5	1.2	6.0	3.6	5.3	4.1
The percentage of the population exposed to road, rail and air transport noise of 55 dB(A) or more during the night-time	2016		8.5	8.1	10.2	4.9	7.3	4.3	15.0	2.6	10.0	7.9	6.9	2.8	10.5	7.9	7.2	7.5
Air pollution: fine particulate matter	2016		9.3	9.6	10.9	10.7	9.9	7.2	11.2	7.0	10.4	9.1	8.9	7.9	10.9	9.7	9.9	8.6
Access to Healthy Assets & Hazards Index	2016		21.2	14.7	25.9	5.1	11.9	13.4	57.7	10.9	1.4	4.8	0.0	1.0	29.4	4.8	28.0	5.4
Proportion of population living within AQMAs (%)	2017		0.2*	0.6*	100*	100*	100*	0.3	100*	0.5	-	0.7*	100*	-	100*	22.4*	100*	0.3*
Percentage of adults walking for travel at least three days per week	2016/17		22.9	19.0	25.5	22.5	16.8	16.2	21.1	15.8	15.3	14.8	17.6	13.8	20.3	18.0	20.7	17.5
Percentage of adults cycling for travel at least three days per week	2016/17		3.3	2.2	2.5	4.3	1.1	1.6	1.3	5.0	2.4	1.6	0.9	0.8	1.9	2.3	1.1	2.3

Digital economy

Bioscience and health technology sector statistics

Analysis of trends in the UK life science industry, covering the Biopharma and Med Tech sectors, using three main economic measures:

- Employment
- Turnover
- Number of businesses

The **Core Biopharma** (pharmaceuticals) and **Core Med Tech** (single use consumables, hospital equipment, digital health) sectors contain businesses involved in the discovery, development and marketing of therapeutics, and medical devices respectively.

The Core sectors are supported by two Service & Supply sectors that supply materials, equipment and specialist services.

Note - the data **does not include not-for-profit organisations, public funded institutions such as the NHS or universities.** To be included the business must have a legal entity in the UK; is a private limited company and have 20% of their total UK turnover derived from one or more of the segments

Bioscience and health technology sector national overview

The Core Biopharma sector contributes the largest turnover to the industry at £33.4bn (45% of the industry).

The Core Med Tech sector is the largest in terms of employment and number of businesses, with a total employment of 97,600 (39% of the industry) and 2,730 businesses (45% of the industry).

Digital health is the largest segment within the Core Med Tech sector with 11,100 employees (4.5% of the industry).

When analysing regional employment data between 2009 and 2018, Core Med Tech has seen increases in all regions of England except a large decrease in the West Midlands (due to a movement of businesses to other UK regions and restructuring as a result of acquisition of businesses by overseas owners).

The West Midlands is the only region to see decreases in the Biopharma and Med Tech Service & Supply.

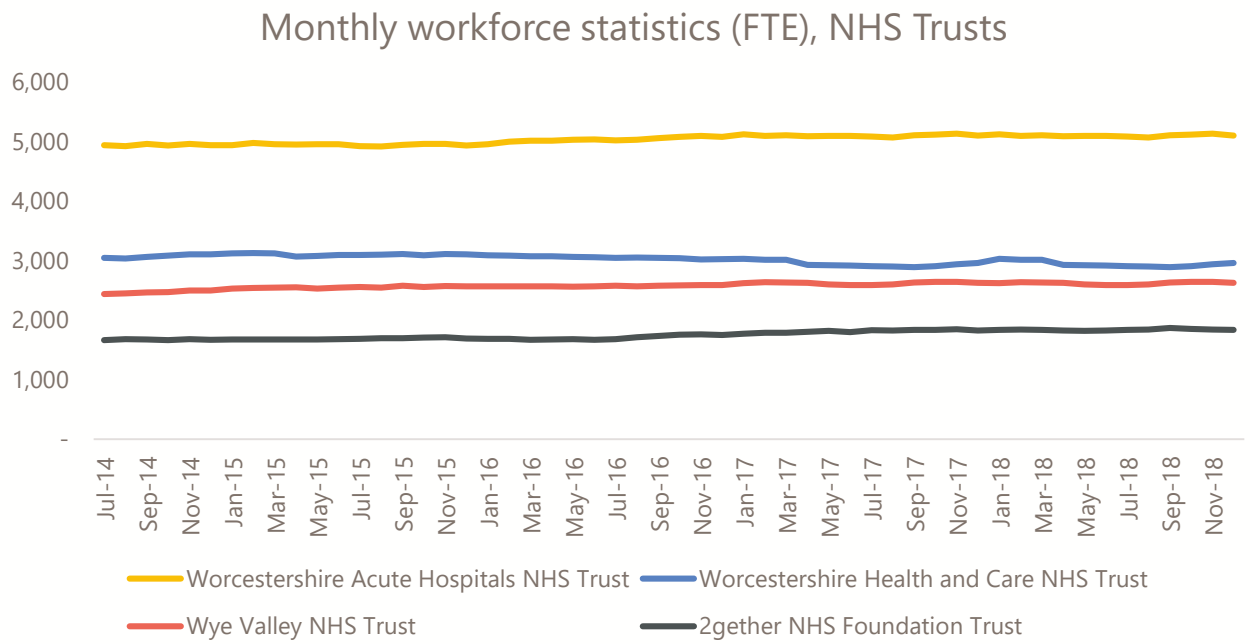
Biotechnology and Health technology sector comparison

	Herefordshire & Worcestershire			Norfolk & Waveney			Cornwall		
Sector	**Estimated Employees**	**Estimated Turnover (000)**	**No. of Private Businesses**	**Estimated Employees**	**Estimated Turnover (000)**	**No. of Private Businesses**	**Estimated Employees**	**Estimated Turnover (000)**	**No. of Private Businesses**
Biopharmaceuticals – Core	0	£0	0	343	£132,008	8	3	£175	1
Biopharmaceuticals – Service and Supply	120	£15,200	4	549	£366,930	10	55	£4,300	5
Medical Technology – Core	1443	£210,450	48	371	£384,510	25	443	£69,650	13
Medical Technology – Service and Supply	320	£37,050	20	80	£9,975	8	126	£16,650	6
Grand Total	**1883**	**£262,700**	**72**	**1343**	**£893,423**	**51**	**627**	**£90,775**	**25**
Digital health Segment	**59**	**£6,575**	**5**	**13**	**£553**	**3**	**3**	**£175**	**1**

Biotechnology and Health technology Sector Statistics 2018 - publicly available businesses dataset.
Totals shown were estimated by taking the mid-points of the employment and turnover bands provided.

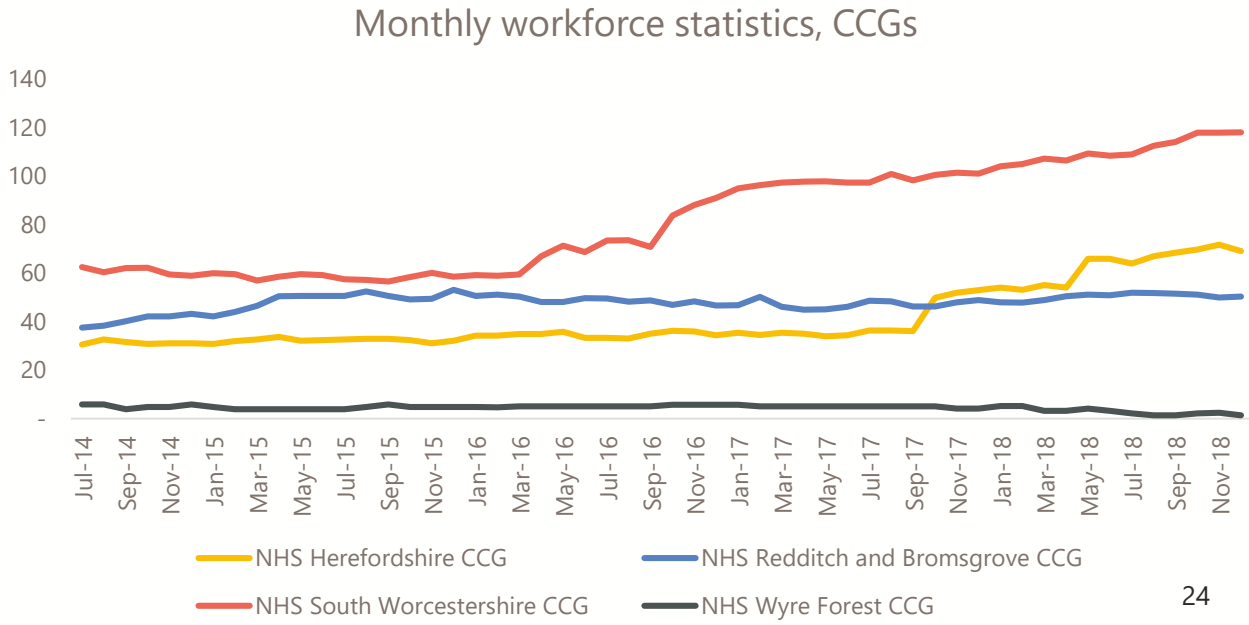
Health and care workforce

NHS workforce



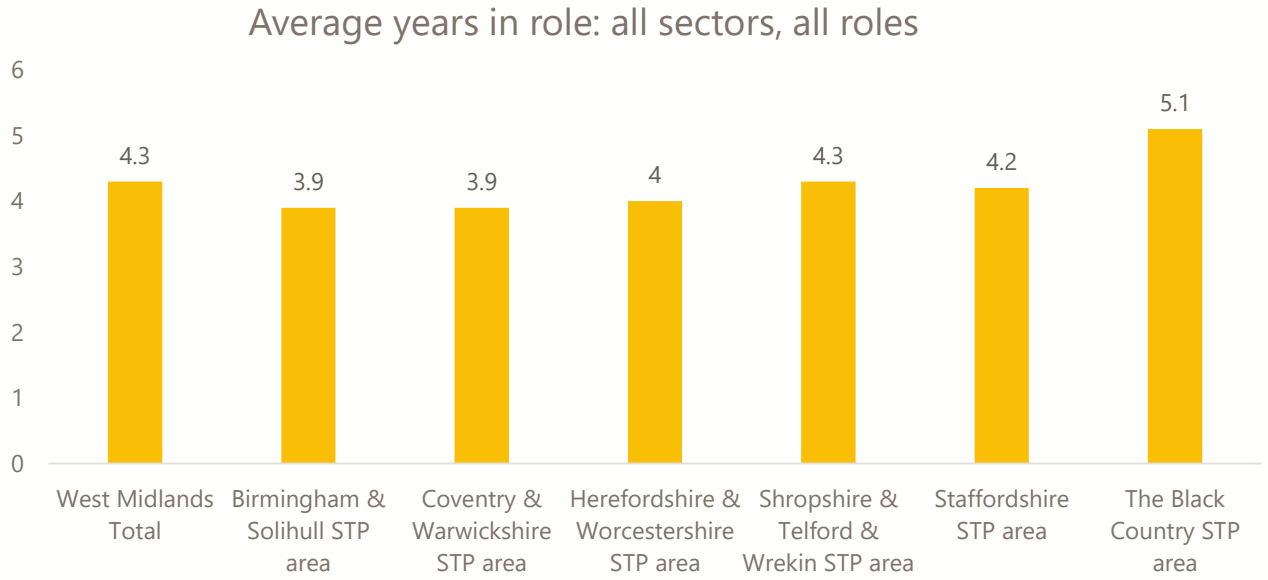
- There are total **12,700 FTE** in NHS CCGs and Trusts (excluding West Midlands Ambulance Trust but including 2gether Foundation Trust).
- Worcestershire Acute Hospital NHS Trust has the highest number of FTE.

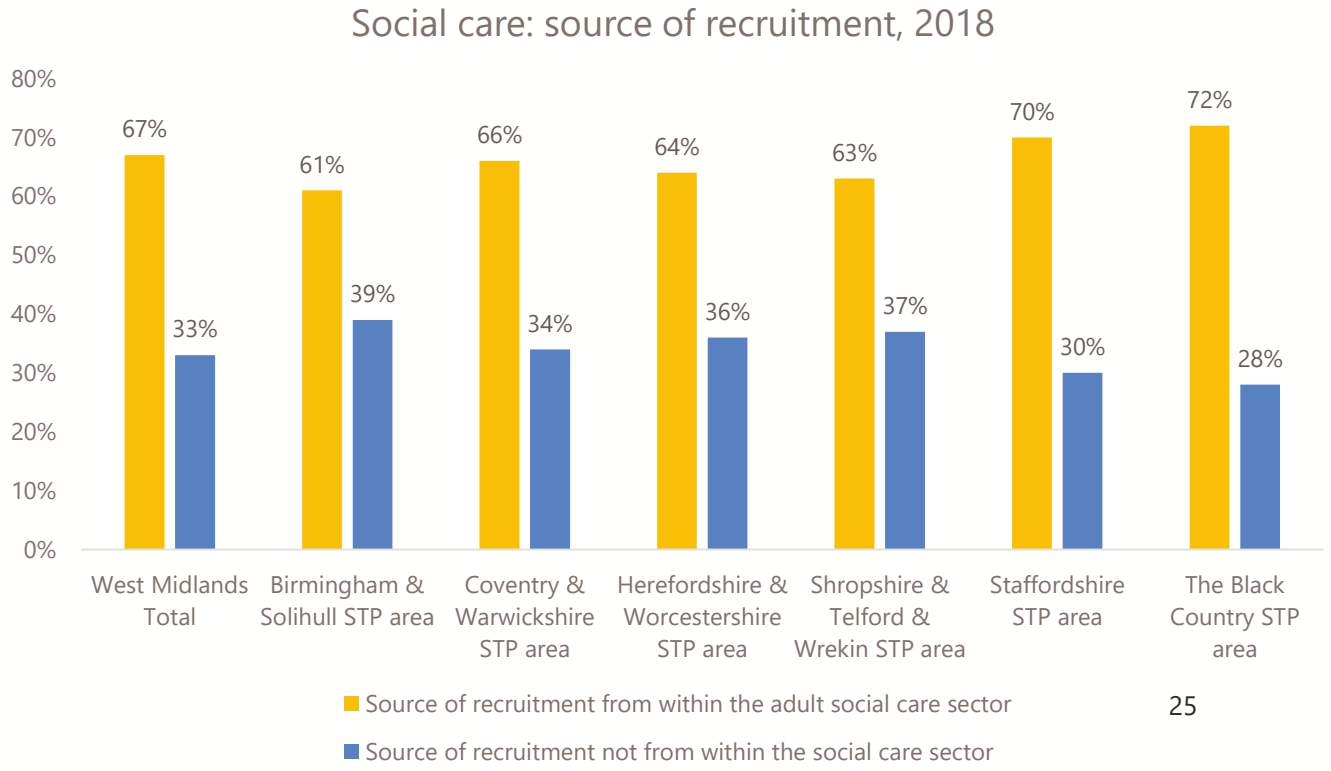
- Changes in CCG employee numbers are affected by structural changes in CCG organisation.



Social Care workforce

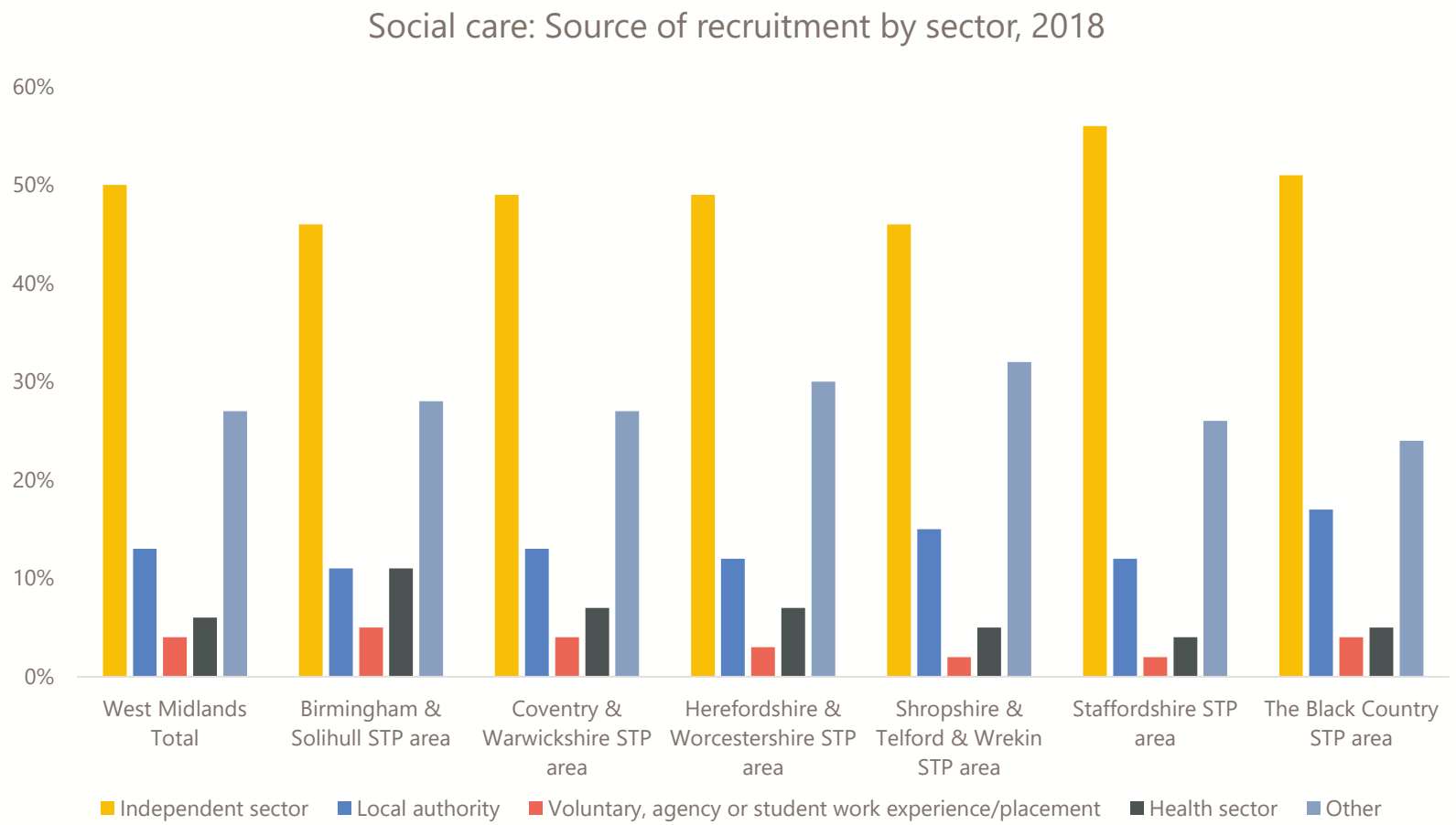
- Adult social care in H&W accounts for **20,000 jobs** in 2017/18:
  - Direct Care: 14,500
  - Regulated professions: 1,100
  - Managerial: 1,700
  - Other: 2,900
- Average number of years in role is 4 years, lower than the West Midlands average but higher than Birmingham & Solihull and Coventry & Warwickshire STPs
- 64% of Adult social care employees came from within the sector. This is lower than in Staffordshire and Black Country STPs.





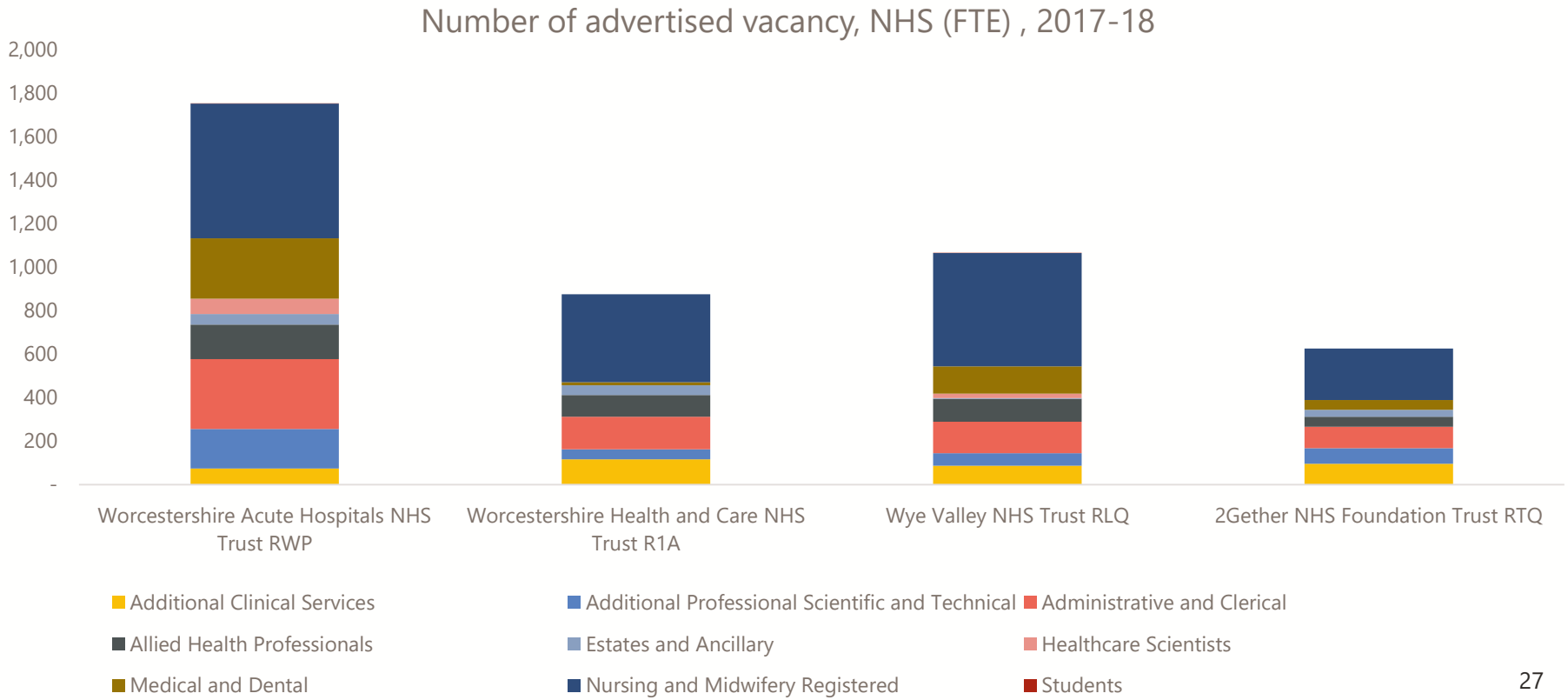
Social Care workforce

- Within all job roles and all sectors, the share of people who came from independent sector is slightly lower than in West Midlands and some other STPs;
- A high proportion of care workers came from voluntary, agency or student work experience (21% of all workers compared to 11% in West Midlands);
- A high proportion of regulated professions came from voluntary, agency or student work experience (11% of all workers compared to average 7% in West Midlands);



NHS vacancies

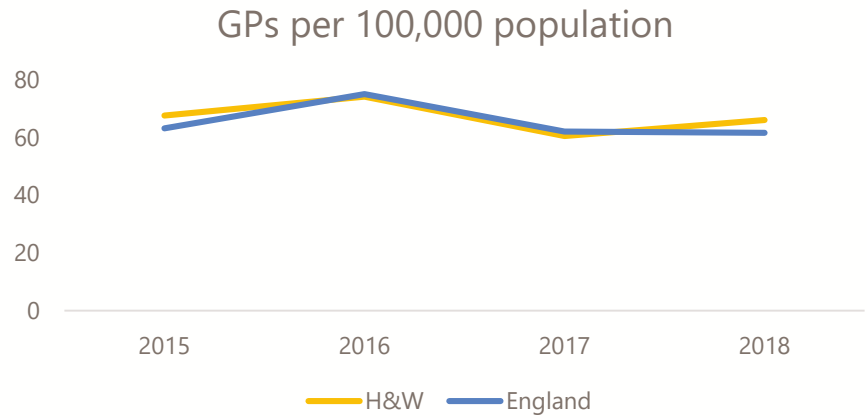
- Reported vacancy rates for 2018/19 were: WAHT - 11%; WHCT - 9%; WVT – 7%; 2gether FT - 10%.
- In 2017/18 financial year, there were total 4,315 vacancies advertised across 4 providers: WAHT (1751.2 FTE), WHCT (874.4 FTE), WVT (1064.4) and 2gether FT (625 FTE). The implied turnover rate of 33% does not align with organisational reports and does not allow, for example, for re-adverstisements.
- Most of the jobs were advertised for Nursing and Midwifery area of work (roughly 42% of overall FTE advertised). WAHT is characterised by relatively high proportion of Medical and Dental jobs advertised (16%) compared to WHCT (2%) and WVT (12%).



Primary Care vacancies

- Number of GPs per 100,000 population in 2019 is higher than the average for England but time trends are similar
- Wyre Forest has the higher number of GPs per 100,000 population
- In May 2019, number of GP vacancies was higher than in December 2018

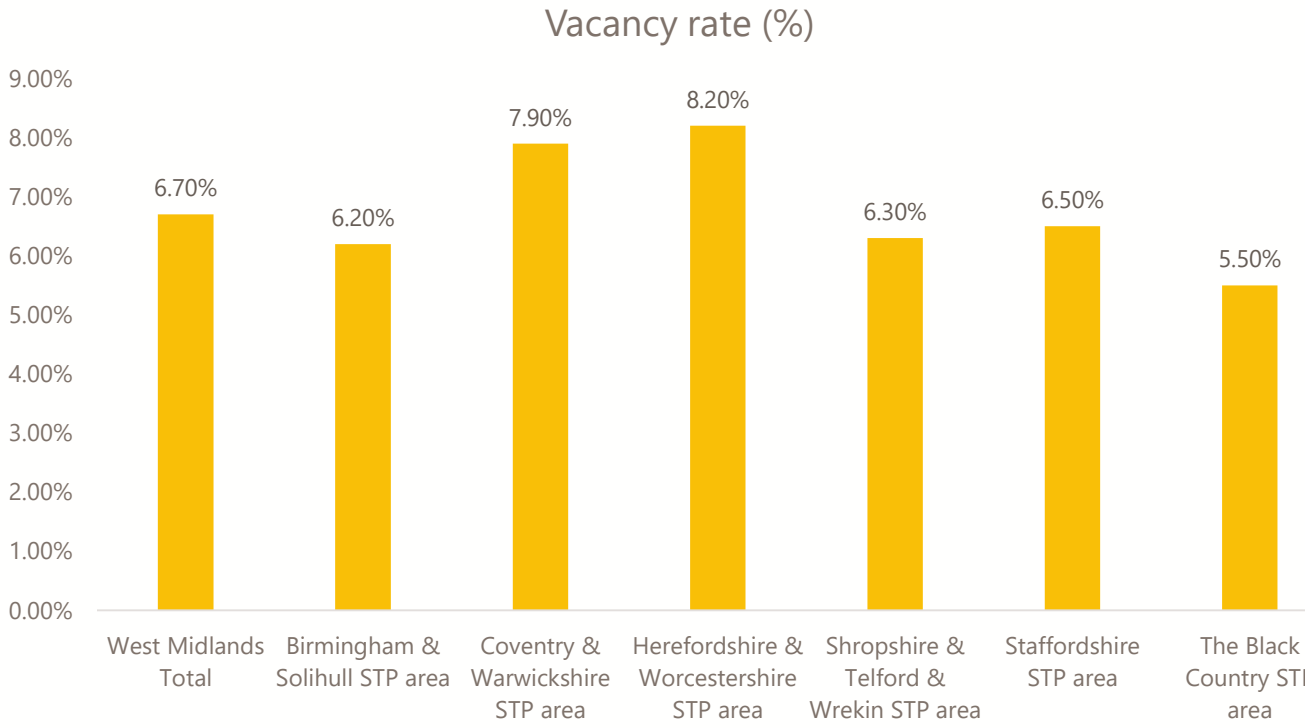
CCG	GPs FTE per 100,000 population
Herefordshire CCG	51
South Worcestershire CCG	61
Wyre Forest CCG	64
Redditch and Bromsgrove CCG	54
England	57

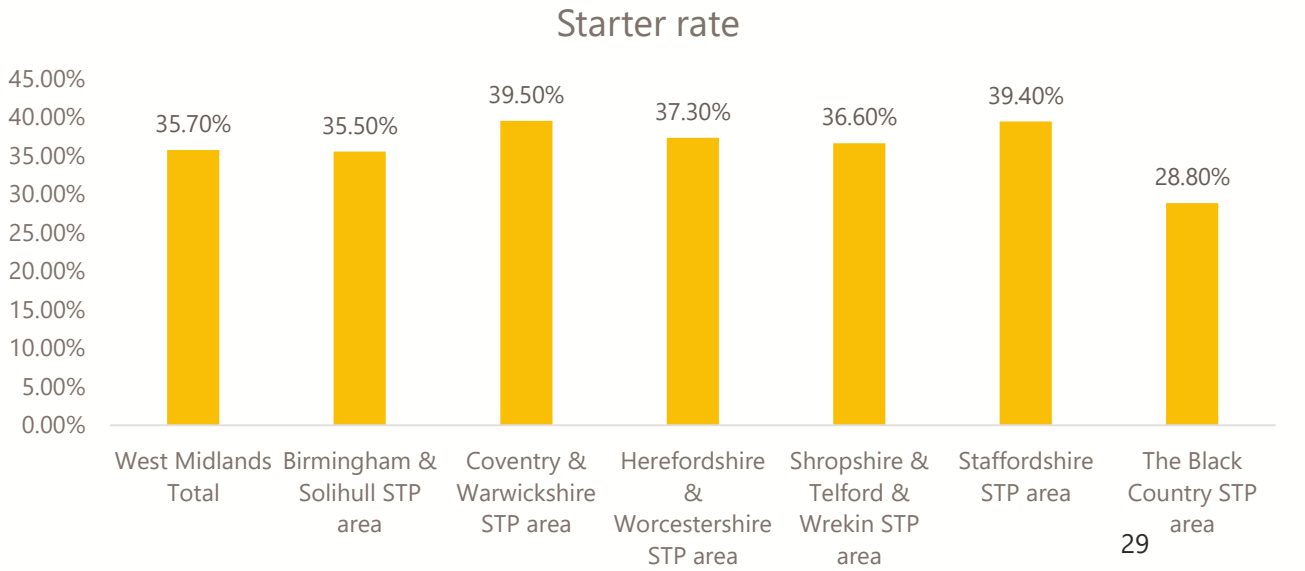


	Number of vacancies, FTE					
	GPs		RGNs		Practice Managers	
	Dec-18	May-19	Dec-18	May-19	Dec-18	May-19
Herefordshire CCG	6.36	9.24	2.76	2.95	0	1
Redditch and Bromsgrove CCG	3.08	3.76	4.63	1.43	0	0
South Worcestershire CCG	4.21	8.09	1.91	2.39	1	0
Wyre Forest CCG	2.84	2.84	1.72	0.52	0	0
STP Total	**16.49**	**23.93**	**11.01**	**7.29**	**1**	**1**

Social Care vacancies

- The vacancy rate is the highest in the West Midlands (8.2% compared to average 6.7%).
- The stability Index for social care posts in the independent sector in Herefordshire and Worcestershire (proportion of workers who were in post in March 2017 and are still in post in March 2018) is slightly lower than the average for West Midlands (72% and 73%, respectively) and is the lowest in the region.
- The starter rate (rate of those directly employed in last 12 months by all employees) is higher than in most of the West Midlands STP areas and is slightly higher than the average for West Midlands

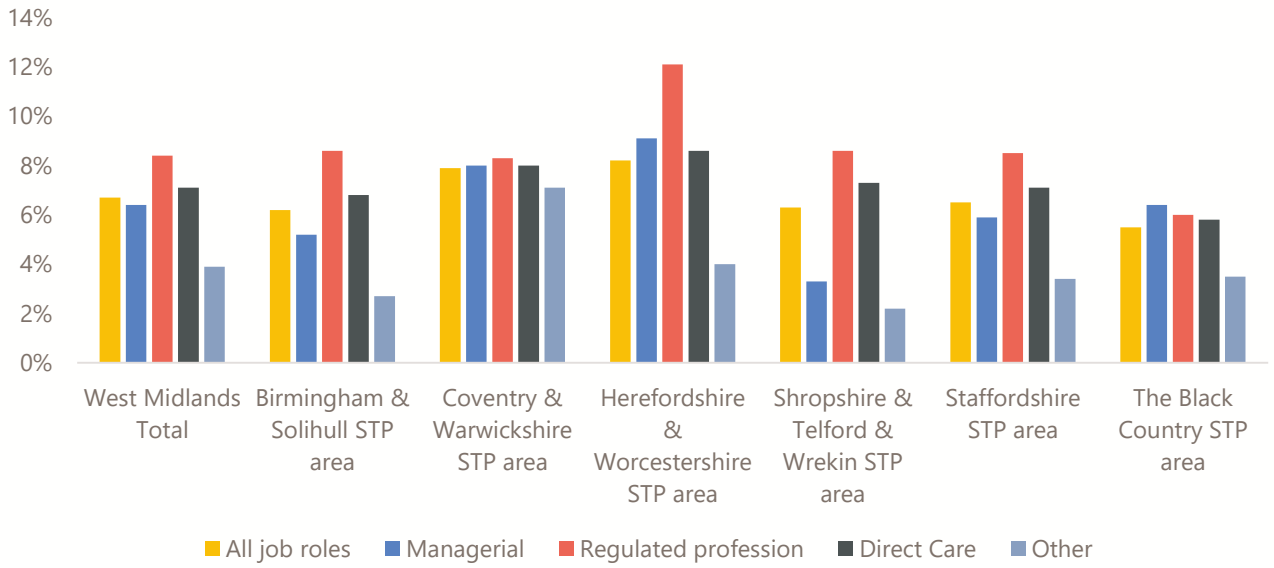




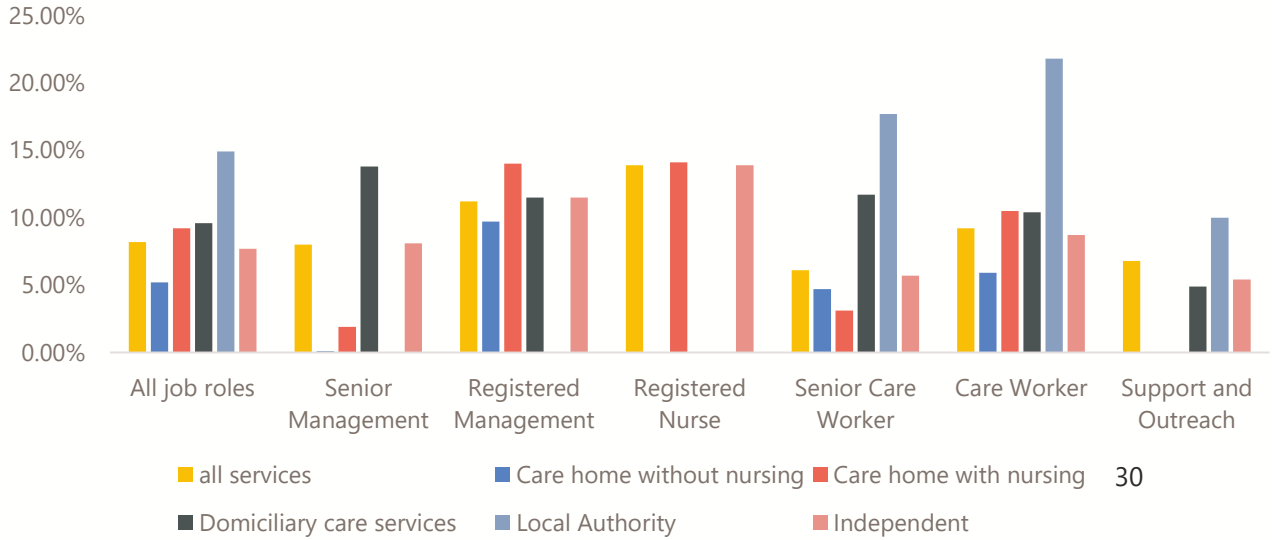
Social Care vacancies

- Data on some vacancy rates was missed due to number of employees being less than 25.
- The STP is characterised by higher vacancy rates compared to other STPs across most of job group roles.
- Regulated professionals has the highest vacancy rates which accounts for 12%.
- Local authority sector has higher vacancy rates compared to other sectors for all job groups and specifically senior care worker and care worker.

Social care vacancy rates by job group role and STP geographical area, 2017/18

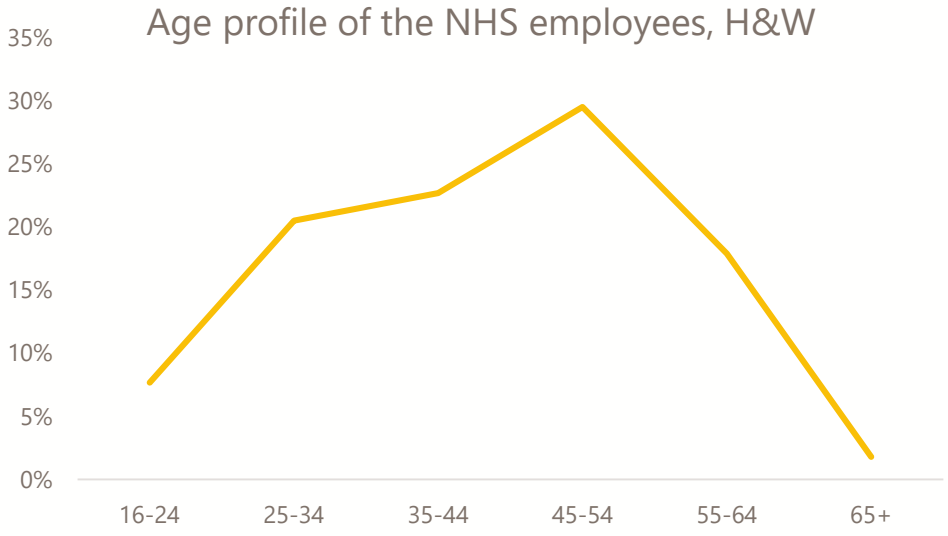


Vacancy rate by selected job role, care service and sector, H&W, 2017/18



NHS workforce age profile

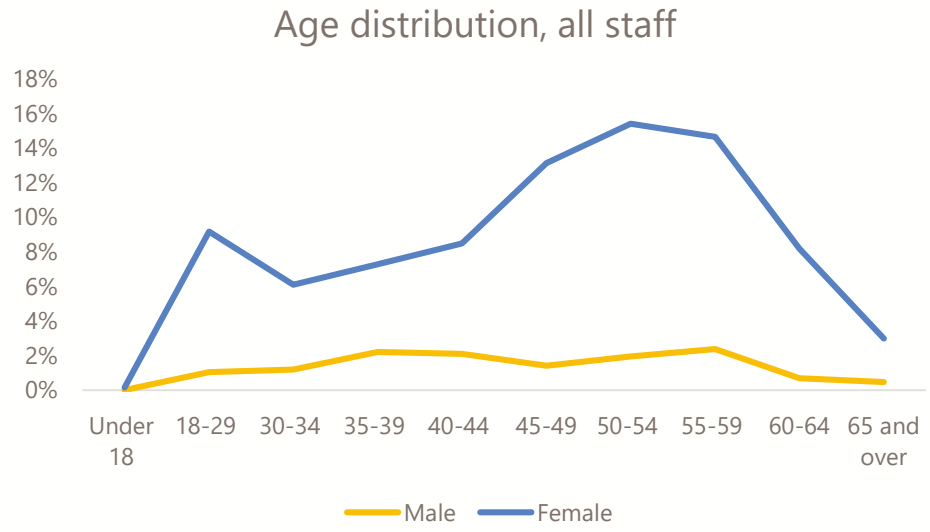
- The largest single proportion of employees in STP provider trusts are aged 45-54
- WHCT has the highest proportion of employees aged 55 and over (25.1%)
- WAHT has the highest proportion of employees aged 30 and less (22.4%) and the lowest proportion of employees aged 55 and over (15.8%)

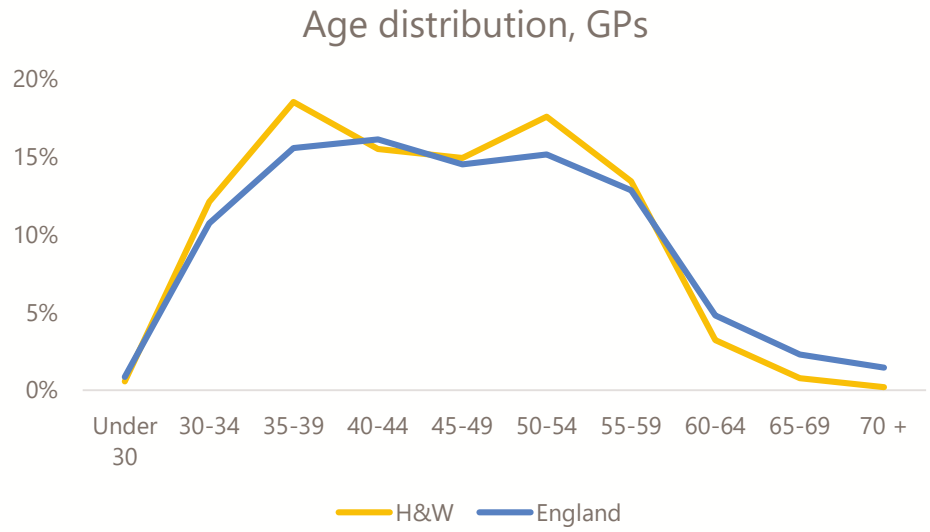


	<30 (<35 for Worcestershire Acute)		>55	
	n	%	n	%
2gether NHS Foundation Trust	39	11.1%	64	18.3%
Worcestershire health and care NHS Trust	745	19.4%	965	25.1%
Worcestershire Acute Hospitals NHS Trust	1191	22.4%	843	15.8%
Wye Valley NHS Trust	832	22.1%	716	19.0%

Primary Care workforce age profile

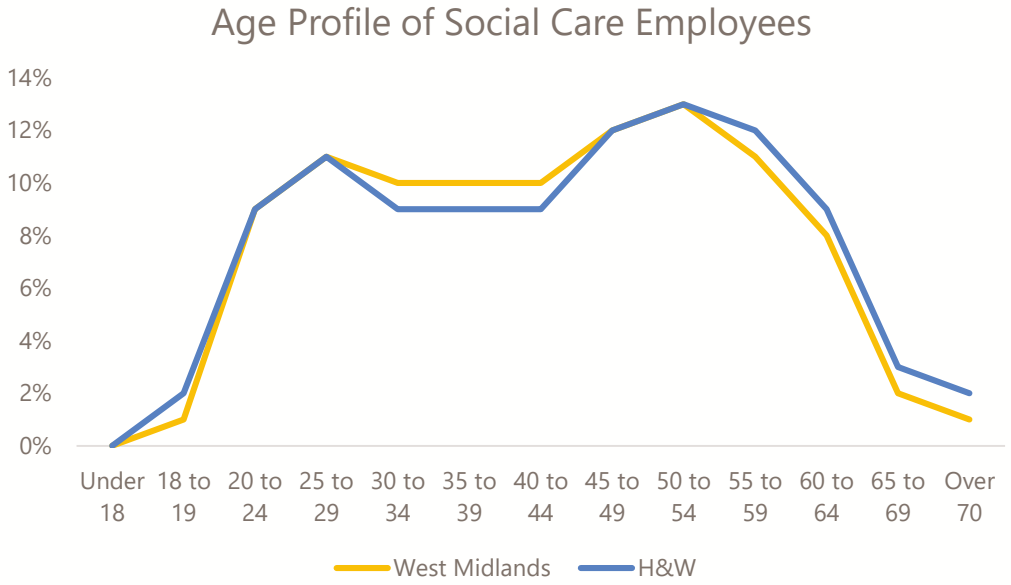
- There are 2,771 primary care employees in the STP, 529 of which are GPs.
- The age-gender profile is characterised by a high proportion of women aged 45-59 and low proportion of men aged 50-60.
- On average, STP GPs have a similar age profile to England (44.7 and 44.8, respectively).
- In September 2017, the proportion of GPs aged 55 and over was 18.1% in the region compared to 22.7% in England.

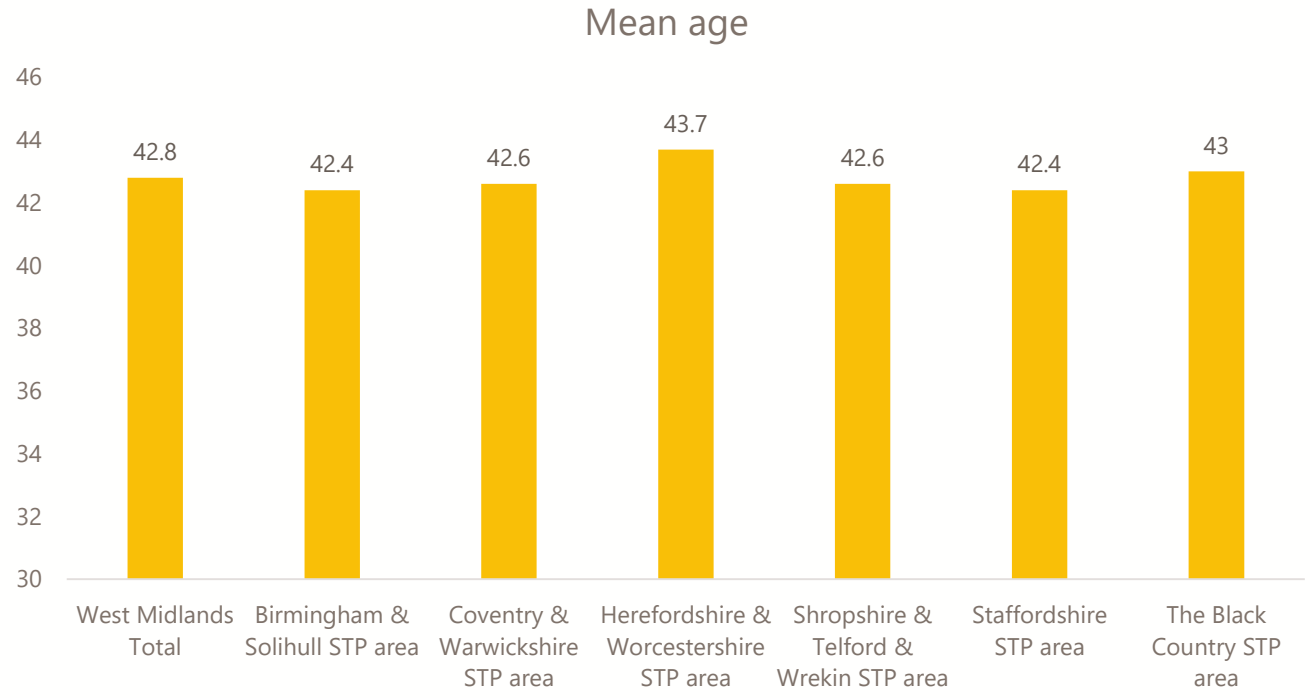




Social Care workforce age profile

The age profile of employees in Adult Social Care (all job roles) is similar to other STP profiles and the total for the West Midlands.





The mean age is slightly higher than in other regions (43.7 years) and the proportion of people aged 25-49 is slightly lower than those for West Midlands

NHS and social care salary profile

- The gross value added of the local economy is affected by salary levels for those who live and or work in the area.
- The median earnings for jobs based in Herefordshire & Worcestershire STP is £479.70 per week or £24,944 per year.
    - 35% NHS staff and 70% of social care staff earn less than the STP median
- The median salary in West Midlands is £536.60 per week or £27,903 per year, which is 12% higher compared to STP mean basic pay.
    - 57% NHS staff and 72% of social care staff earn less than the West Midlands median
- Annual mean basic pay for organisations across UK is £31,866 (2018-19 financial year)

Baseline health and care analysis

The economic impact of health and care provision

The economic impact of health and care provision

£1.496bn - GVA of NHS, adult social care & public health in 2017-18 (c.9% total GVA)

Total NHS GVA

Using the income model of GVA calculation, the GVA of the NHS in the STP is **£1.176 bn**.

In addition:

- There is spending on goods and services of **£706.7m** that generates additional value in other sectors.
- The c.11,000 local NHS employees help generate a further **3,754 local jobs in other sectors**.

Adult Social Care and Public Health

Using the expenditure model, the GVA of adult social care and public health spending in the STP is **£273.1m** and **£47.8m,** respectively. The c.16,000 local employees help generate a further **7,326 local jobs in other sectors.**

Informal Care

The economic value of the informal care provided by local citizens is estimated to be between **£668m** and **£1.432bn** annually.

NHS economic value 2017-18

GVA was calculated based on the income approach. The total amount of wages being paid by NHS organisations in 2017-17 was c.£875m. To calculate GVA to the local economy, wages were adjusted by an estimate of the number of NHS employees who live in the STP area. After adjustment, this resulted in direct GVA of £722.2m. The total regional GVA in H&W STP economy is £17.1 billion, so the direct NHS GVA accounted for 4.2% of the overall GVA. Total impact of the NHS (including indirect and induced effects) is £1.176 billion which accounts for 6.8% of regional GVA.

Total GVA of NHS services resulted in £32 per hour worked productivity, which is higher than the average productivity for Herefordshire and Worcestershire (£26.55) and the West Midlands (£29.80).

Wages (unadjusted)	**£m**	**%**
CCGs	7.0	1%
Trust	771.6	88%
Primary Care	96.6	11%
Total	**875.2**	

GVA	**£m**	**%**
Surplus/Deficit	13.3	2%
Wages (adj.)	708.9	98%
Total	**722.2**	

	Multiplier	**GVA (£m)**
Direct impact		722.2
Indirect impact (additional income resulted in increase of production)		413.5
Direct & Indirect GVA	1.57	1135.7
Induced impact (additional income resulted in increase of employees' spend)		40.6
Total GVA impact (Direct, Indirect & Induced)	**1.63**	**1176.3**

NHS expenditure on goods and services

- The top 12 sectors the NHS purchases from are presented below. NHS organisations across the STP (excluding primary care) accounted for £706.7m in expenditure.
- 24% of these purchases (£169.6 m) are from the pharmaceutical sector and 17% (£120.1 m) are from human health services. Altogether, these two sectors accounted for 41% of purchases.

	Value (£m)	Share	Cumulative share
Basic pharmaceutical products and pharmaceutical preparations	169.6	24%	24%
Human health services	120.1	17%	41%
Computer, electronic and optical products	84.8	12%	53%
Employment services	21.2	3%	56%
Scientific research and development services	21.2	3%	59%
Architectural and engineering services; technical testing and analysis services	21.2	3%	62%
Legal services	21.2	3%	65%
Land transport services and transport services via pipelines, excluding rail transport	21.2	3%	68%
Real estate services, excluding on a fee or contract basis and imputed rent	14.1	2%	70%
Residential Care & Social Work Activities	14.1	2%	72%
Computer programming, consultancy and related services	14.1	2%	74%
Waste collection, treatment and disposal services; materials recovery services	14.1	2%	76%
Other	169.6	24%	100%
Total	**706.7**	**100%**	

NHS additional jobs

Roughly 11,000 H&W residents were employed by the NHS. GVA, calculated previously, increases the production in other industries which result in increase in FTE jobs across the region (indirect impact). Additional GVA also supports further economic activity by the spending of those employed by the NHS. Combined these factors support an additional 3754 FTE jobs.

Total impact of the NHS is 15152 FTE for the residents, which is 6.9% of total FTE across Herefordshire and Worcestershire STP.

	Multiplier	Employment
Total H&W employees		11397.5
Indirect impact (additional income resulted in increase of production)		3407.9
Direct & Indirect employment	1.29	14805.5
Induced impact (additional income resulted in increase of employees' spend)		346.5
Total GVA impact (Direct, Indirect & Induced)	1.32	15152

Adult Social Care economic value

The total expenditure of the adult social care sector is approximately £238.6m which resulted in direct GVA accounted for £143.3m (0.8% of regional GVA). Total impact of social care (including indirect and induced effects) is £273.11m which accounts for 1.6% of regional GVA.

£m	Expenditure	GVA
Herefordshire, County of	£52	£31.32
Worcestershire	£186.6	£111.96
Total	£238.6	**£143.28**

	Multiplier	GVA (£m)
Direct impact		£143.28
Indirect impact (additional income resulted in increase of production)	1.84	£121.4
Direct & Indirect GVA		£264.68
Induced impact (additional income resulted in increase of employees' spend)		£8.43
Total GVA impact (Direct, Indirect & Induced)	1.90	**£273.11**

Adult social care expenditure on goods and services

- The top 12 sectors the Adult social care purchases from are presented below. Adult Social care expenditure (excluding self-funders) across the STP accounted for £238.6m in expenditure.
- Residential & Social Work Activities, Food products, Accommodation services and Food serving services account for more than half of all purchases.

	Value (£m)	Share	Cumulative share
Residential Care & Social Work Activities	£76.4	32%	32%
Food products	£21.5	9%	41%
Accommodation services	£16.7	7%	48%
Food and beverage serving services	£14.3	6%	54%
Employment services	£11.9	5%	59%
Entertainment servcies	£7.2	3%	62%
Electricity, gas and construction	£7.2	3%	65%
Office administrative services	£7.2	3%	68%
Computer, electronic and optical products	£7.2	3%	71%
Land transport services, excluding rail transport	£7.2	3%	74%
Computer programming, consultancy and related services	£4.8	2%	76%
Eduation services	£4.8	2%	78%
Other	£52.5	22%	100%
Total	**£238.8**	**100%**	

Adult Social Care additional jobs

Roughly 16,000 H&W residents were employed in the adult social sector. GVA, calculated previously, increases the production in other industries generating and additional 7,094 FTE jobs. Additional GVA also supports further economic activity by the spending of those employed by the social care sector and it resulted in roughly 232 more jobs.

Total impact of the adult social care is 23,527 FTE for the residents, which is 10% of total FTE across Herefordshire and Worcestershire STP.

	Multiplier	Employment
Total H&W employees		16200
Indirect impact (additional income resulted in increase of production)		7094.84
Direct & Indirect employment	1. 43	23294.84
Induced impact (additional income resulted in increase of employees' spend)		232.05
Total GVA impact (Direct, Indirect & Induced)	1. 45	23526.89

Public health economic value

The total expenditure of the adult social care sector is approximately £46m which resulted in direct GVA accounted for £27.3m (0.15% of regional GVA). Total impact of public health spend (including indirect and induced effects) is £47.8m which accounts for 0.27% of regional GVA.

	Expenditure (£m)	GVA (£m)
Herefordshire, County of	10	5.70
Worcestershire	36.0	21.60
Total		27.30

	Multiplier	GVA (£m)
Direct impact		27.3
Indirect impact	1.74	20.4
Induced impact		0.1
Total impact	1.75	**47.8**

Value of informal care

In addition to public sector investment in health and care services, local citizens provide care for their friends, relatives and neighbours. That care can be given an economic value, on top of its value to those who give and receive it. We have estimated the annual value of informal care across the STP in two ways:

£668.6m p.a.

The opportunity cost of the **leisure time** foregone by informal carers.

£1,432.9m p.a.

The cost of replacing informal care with **funded home care**.

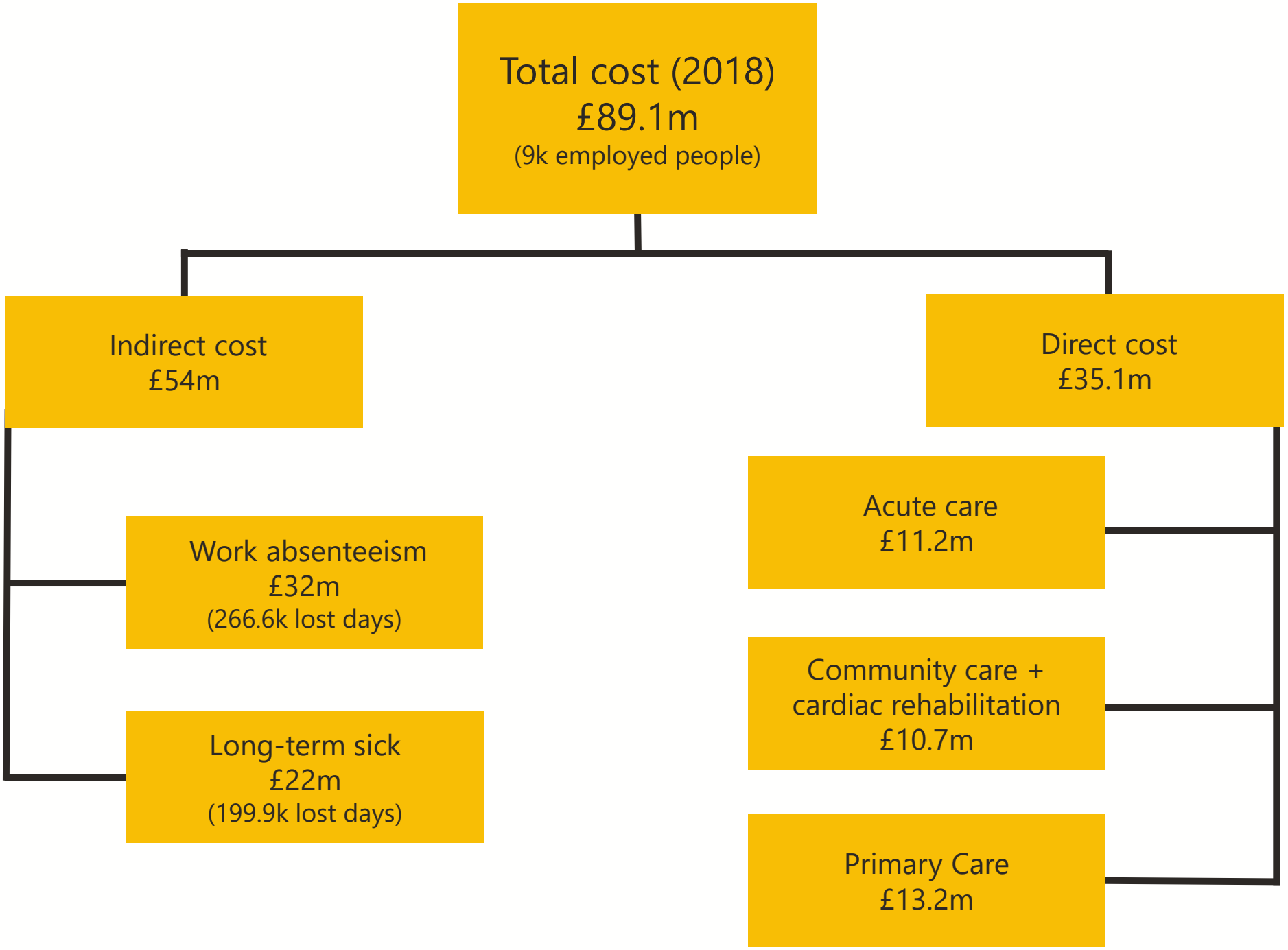
The home care estimate is comparable to total NHS spend in the STP. Tables on the following slide provide a breakdown of these values by geography and employment status.

Value of informal care

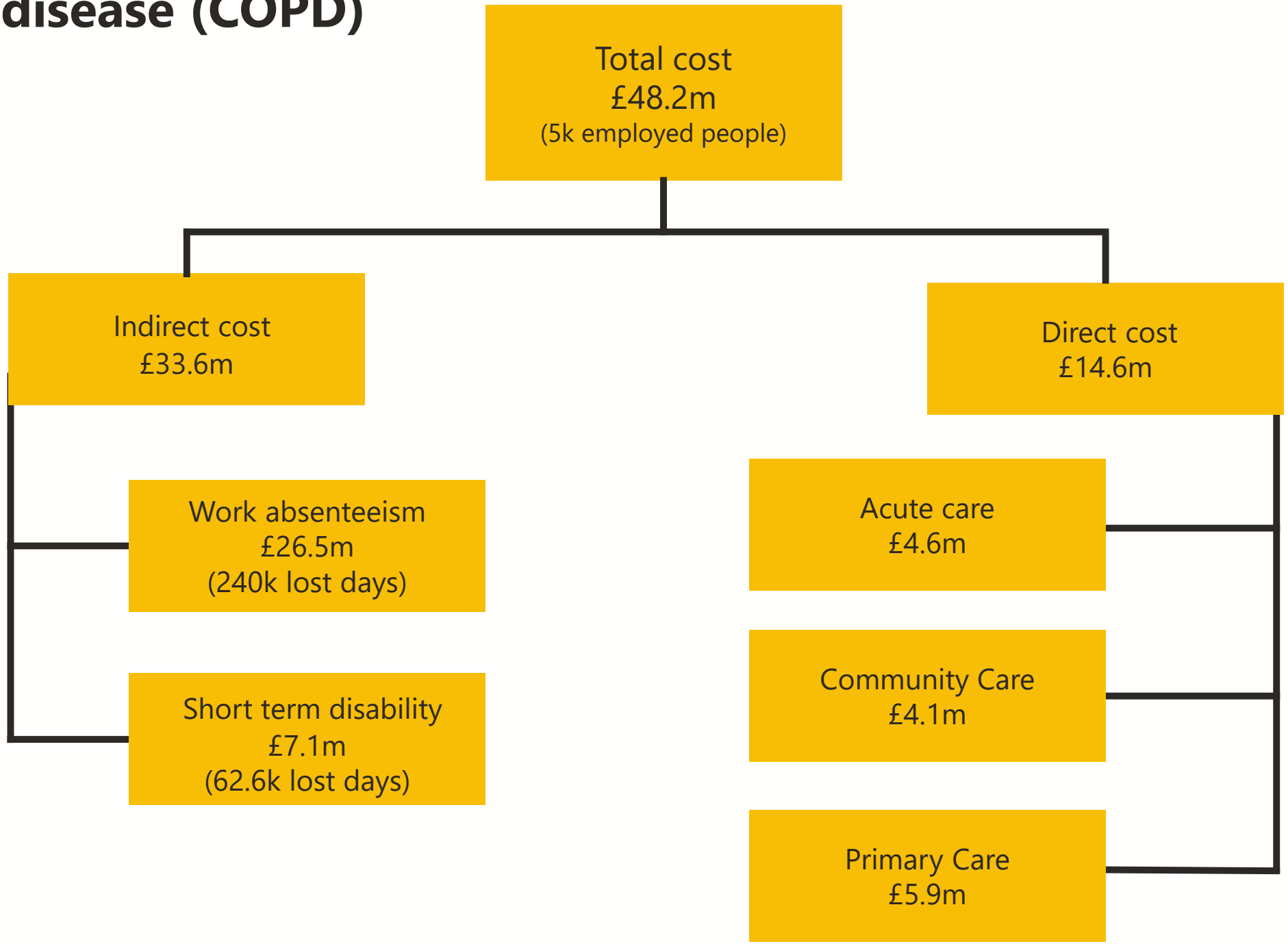
		Employed	Unemployed	Economically inactive - seeking work	Economically inactive - not seeking work	Total
Leisure Time Model (£m p.a.)	**Herefordshire**	119.5	3.0	7.8	26.9	**157.2**
	Worcestershire	350.0	12.8	46.6	102.0	**511.4**
	Bromsgrove	58.0	1.9	9.4	19.8	89.0
	Malvern Hills	43.1	1.7	6.5	13.6	64.9
	Redditch	53.8	2.4	6.3	13.3	75.9
	Worcester	59.7	1.9	8.2	17.2	86.9
	Wychavon	77.0	2.7	6.2	14.2	100.1
	Wyre Forest	58.5	2.2	10.0	23.9	94.7
Home Care Model (£m p.a.)	**Herefordshire**	223.6	5.6	14.6	50.4	**294.3**
	Worcestershire	779.2	28.5	103.7	227.2	**1138.6**
	Bromsgrove	129.0	4.2	20.9	44.1	198.2
	Malvern Hills	96.0	3.7	14.4	30.3	144.5
	Redditch	119.8	5.4	14.1	29.6	168.9
	Worcester	132.8	4.1	18.2	38.3	193.5
	Wychavon	171.4	6.1	13.8	31.6	222.8
	Wyre Forest	130.2	5.0	22.4	53.2	210.8

The economic impact of ill health – some examples

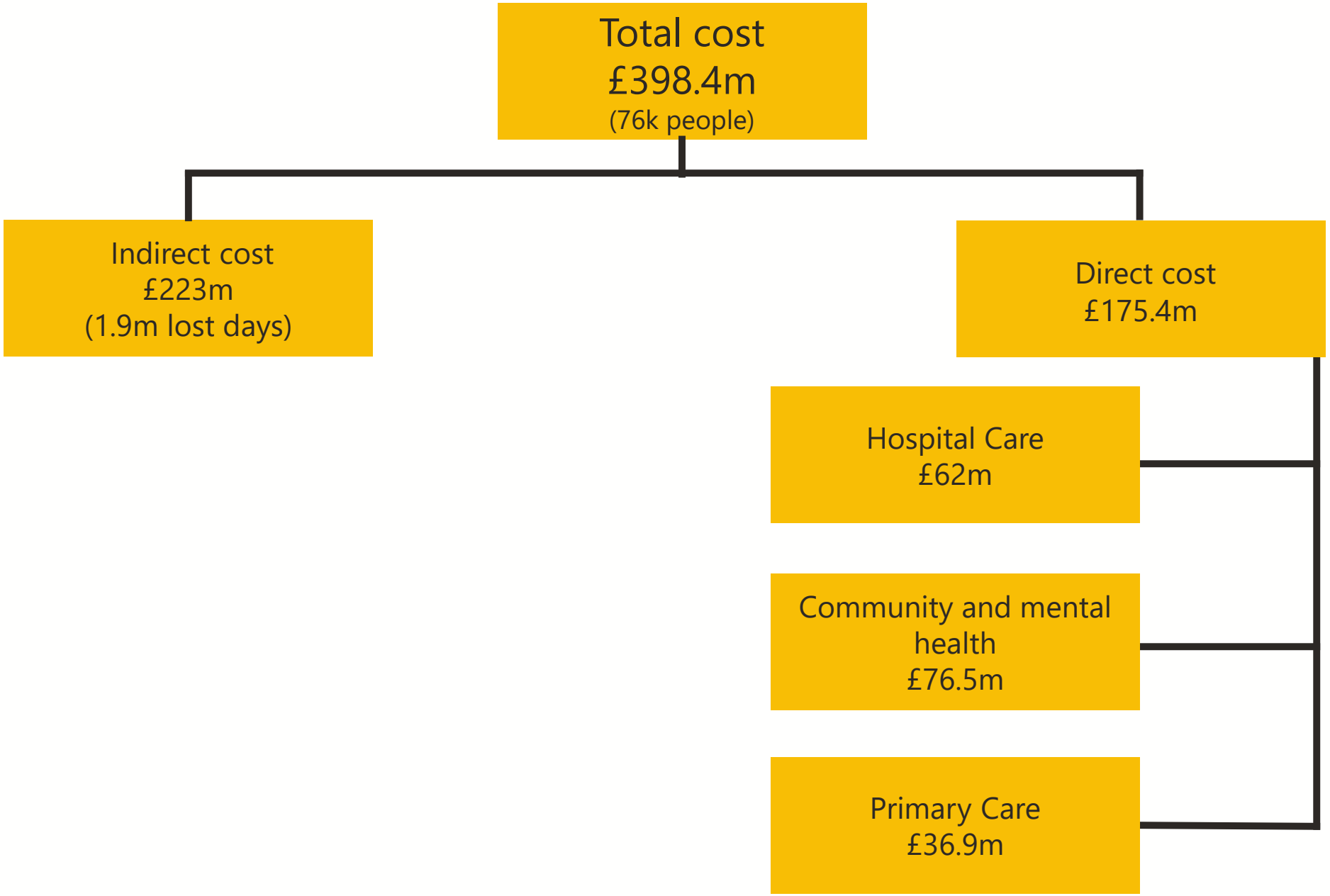
Economic impact of coronary heart disease (CHD)



Economic impact of chronic obstructive pulmonary disease (COPD)

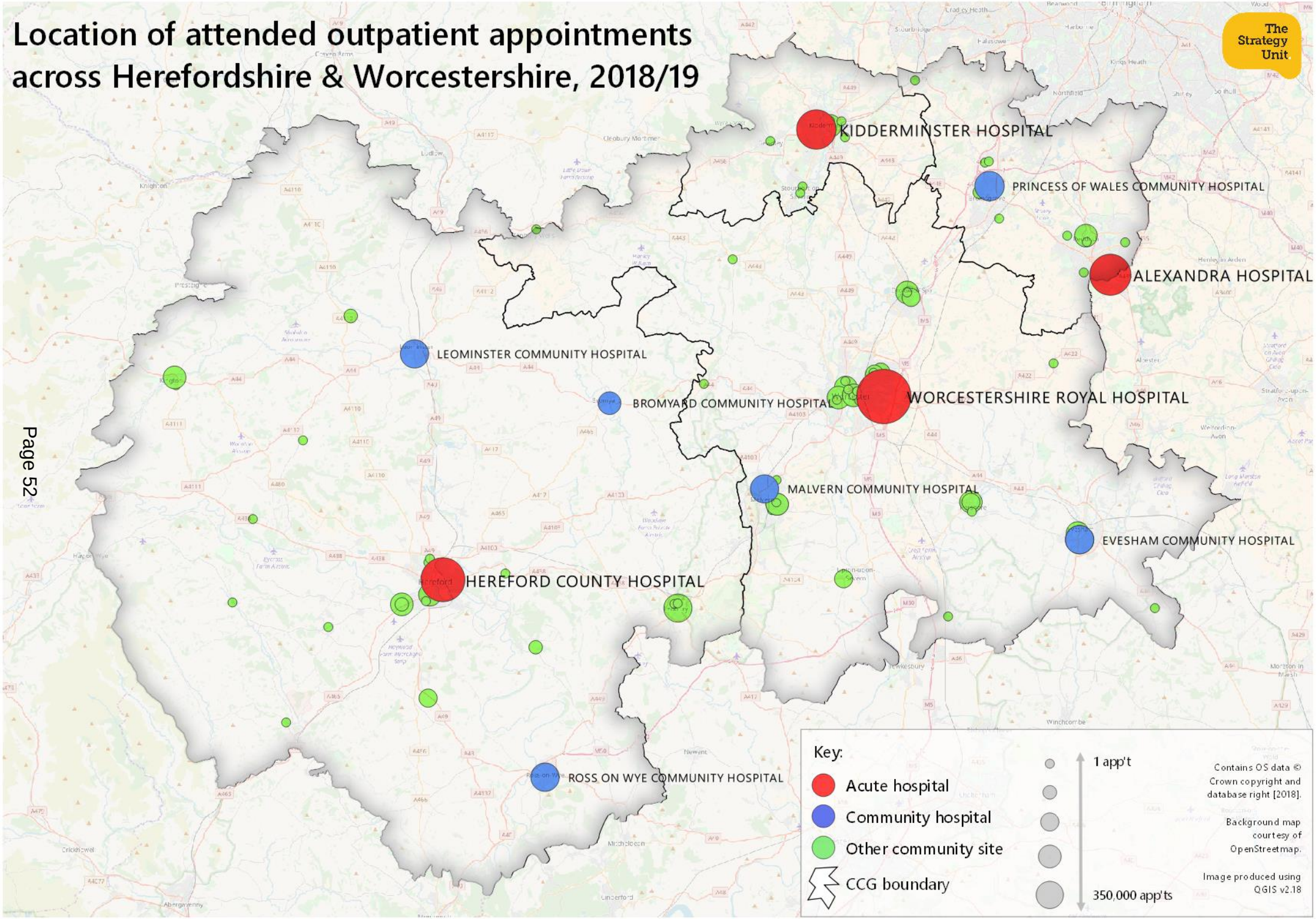


Economic impact of anxiety and depression



The economic and environmental impact of the current model of outpatient care

Location of attended outpatient appointments across Herefordshire & Worcestershire, 2018/19



Patient cost of attending outpatient appointments

Travel time analysis has been used to obtain the travel times and distances associated with outpatient activity. Based on this the costs incurred by patients in attending appointments has been estimated at £4.68m.

Category	Cost
Car travel	£2,369,044
Parking	£998,022
Public Transport	£1,315,165
Total	**£4,682,231**

Economic cost of attending outpatient appointments

The cost to the economy of employed individuals attending outpatient appointments has been estimated by calculating the duration of time an individual spends absent from work. The results indicate that the total economic impact of patients attending outpatient appointments who are of working age and are in employment is estimated to be £17.81m – 83% of this impact results from travelling to appointments and waiting to be seen.

Time Spent	GVA Loss	%
Travel	£6,765,388	38%
Waiting	£7,949,341	45%
Being Seen	£3,099,158	17%
Total	**£17,813,887**	**100%**

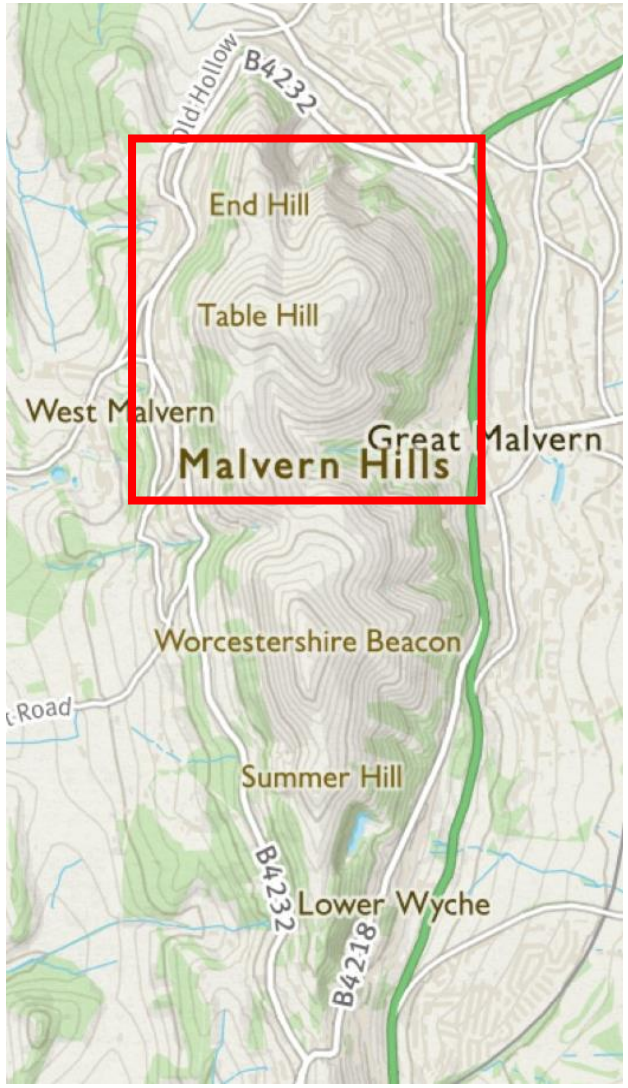
Environmental impact of attending outpatient appointments

4,442 tonnes of CO2 is emitted by cars as a result of travel requirements for outpatient appointments in Herefordshire and Worcestershire.

The carbon sequestration to neutralise this impact would require an additional c.200,000 trees per year – equivalent to planting a 288 acre forest each year (a 1.2km square).

Actual impact will be higher due to the impact of other modes of travel (e.g. It is estimated that an additional 16% of appointments are attended by public transport).

Mode of Transport	Number of Miles	CO2 Emissions (Tonnes)
Car/Taxi	18,452,265	4,442



Opportunities to increase social and economic value

Identifying future opportunities

The purpose of the above analysis is to:

- Establish a baseline for the wider impact of the NHS and adult social care within the local economy;
- Generate ideas about how that impact might be increased through local partners working in partnership; and
- Enable the potential impact of those ideas to be assessed.

The following 2 slides provide an overview of the range of opportunities that could be considered. Initial discussion with the steering group highlighted particular interest in opportunities relating to:

- The environment
- Housing and homelessness
- Mental health, especially in children and young people
- Rural services/community hubs
- The use of digital technology.

Identifying future opportunities

Building a skilled local workforce

- Nurturing health and care career aspirations in local schools
- Focusing recruitment on the local population
- Advancing the skills of local employees

Procuring from local businesses

- Preferring local suppliers
- Seeking added social value from contracts
- Adding contract conditions re: local employment or investment

Adapting models of care

- Ensuring that care models proactively target reducing inequalities
- Enabling informal carers and those with mental health or long-term conditions to remain in or get back in to employment

Realising greater value from physical assets

- Developing 'One Public Estate', co-locating services wherever possible
- Exploring opportunities for the use of public estate/facilities by community groups
- Looking at options for developing surplus land/buildings (e.g. for housing)

Influencing the health impact of system partners

- Local planning policies
- Employers' health and wellbeing policies
- Higher and Further Education alignment with local needs

Widening workforce participation

1. Targeting positions for local people
2. Understanding local demographics and opportunities
3. Creating pre-employment programmes, work placements and volunteer work experience

Building the future workforce

1. Engaging young people and supporting career development
2. Increasing the number and types of apprenticeships

Adopting sustainable practices within the NHS

1. Developing leadership and staff buy-in for environmental sustainability

Influencing sustainable practices in the community

1. Helping shape community environments and behaviours and influencing local suppliers

Being a good employer

1. Supporting health and wellbeing of staff
2. Supporting fair pay and conditions of employment
3. Supporting professional development and career progression

Shifting more spend locally

1. Building local capacity and supporting local supply chains

Embedding social value into purchasing decisions

1. Prioritising and monitoring social value
2. Building organisational capability and capacity for social value

Expanding community access to NHS property

1. Enabling local groups and businesses to use NHS estates

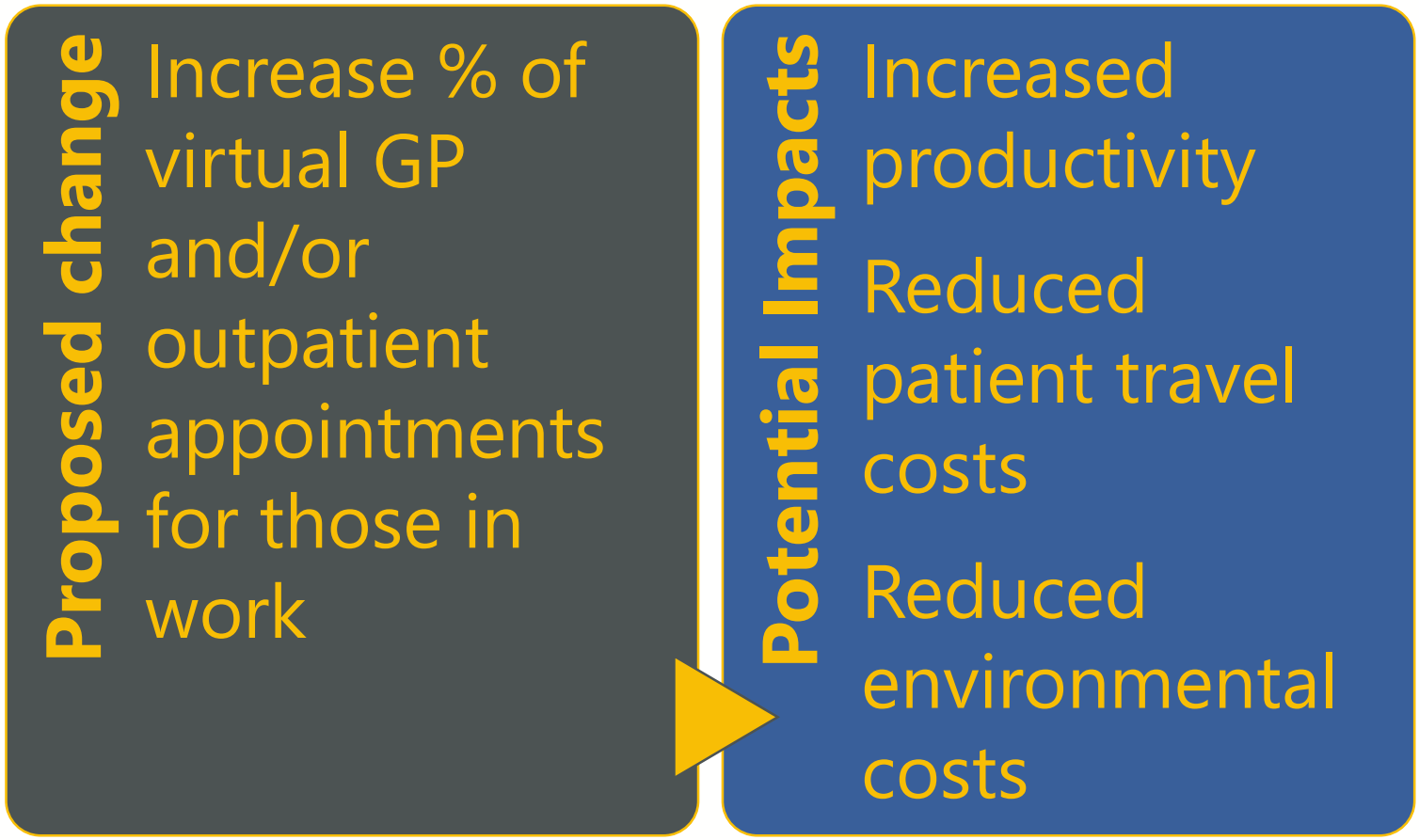
Converting and selling estate for community benefit

1. Supporting access to affordable housing or housing for key workers using NHS estate
2. Working in partnership across a place to maximise the wider value of NHS estates
3. Developing accessible community green spaces

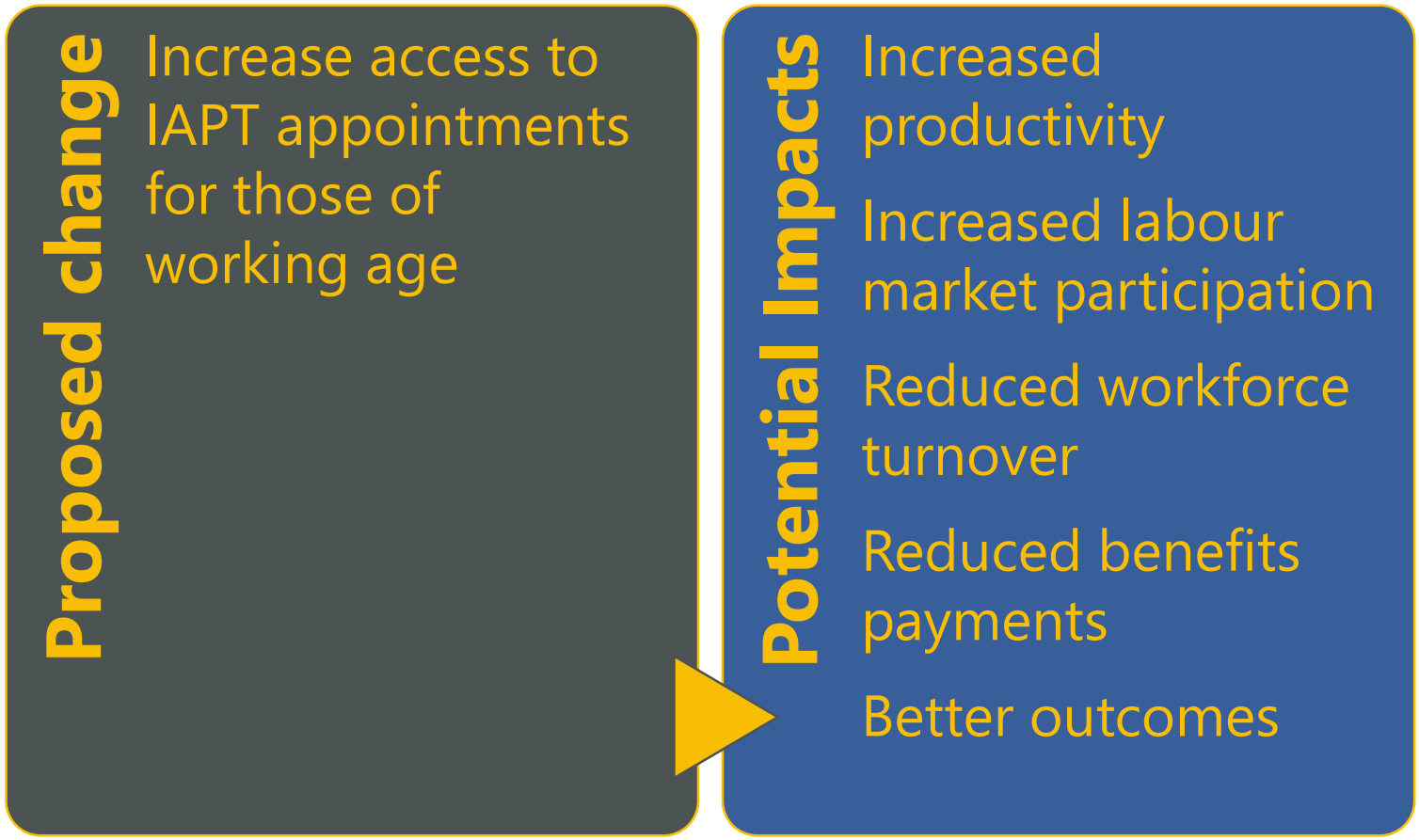
Identifying future opportunities

- The aim is to model the potential impact of two or three relatively narrow changes (depending on their complexity).
- This will involve the identification of a specific service change (e.g. moving a % of outpatient appointments to virtual provision) and the modelling of relevant economic and environmental impact (and any associated changes in NHS/social care costs).
- The STP is asked to propose a number of potential schemes that can then be subject to a feasibility assessment before the modelling is undertaken.
- To assist with this process, the following two slides:
  - Set out the high-level logic of previous modelling topics, to provide a guide to what may be feasible; and
  - Offer an initial set of example schemes for the STP's consideration. These are not intended be to exclusive of additional suggestions.

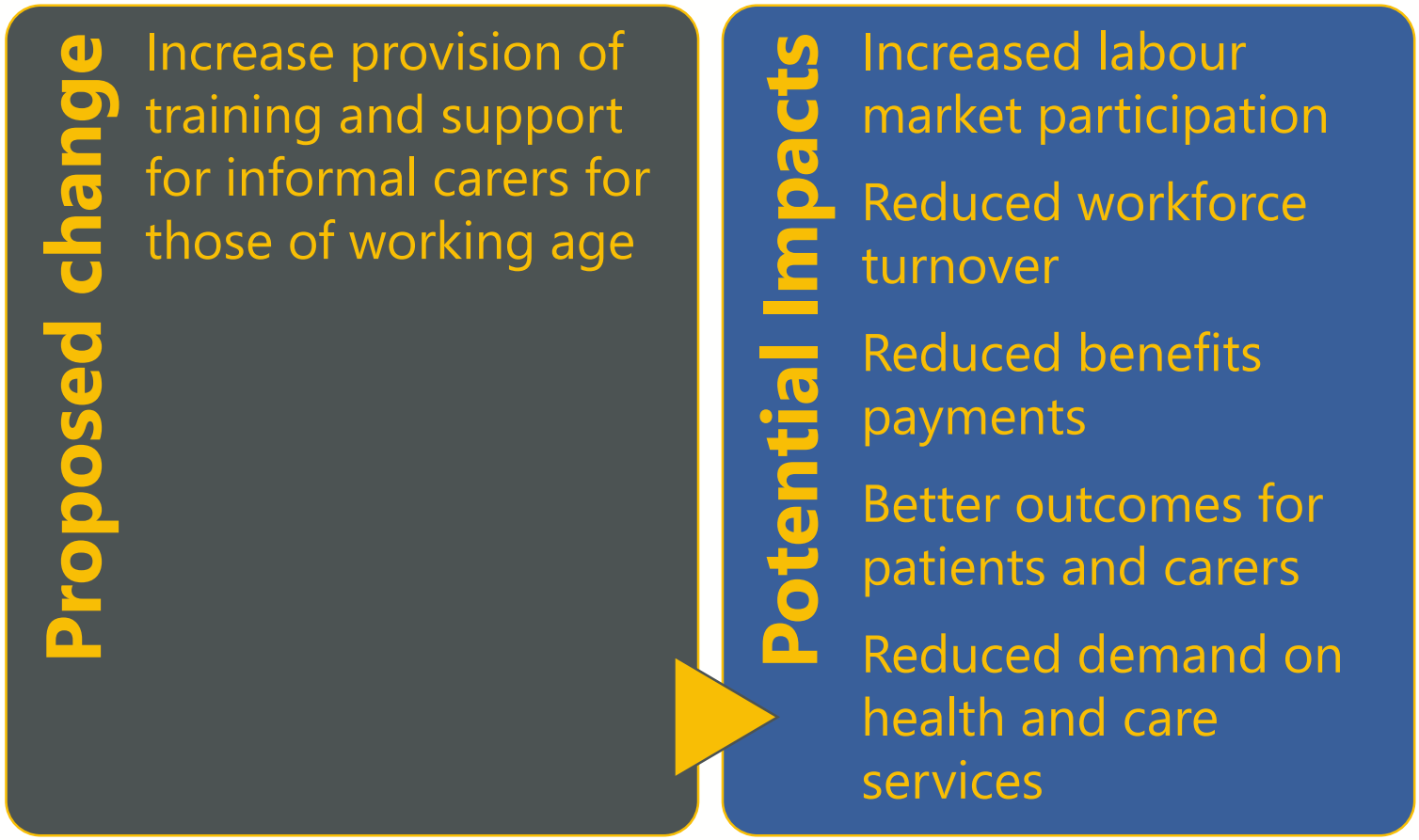
Example high-level modelling logic



Example high-level modelling logic



Example high-level modelling logic



Potential schemes for modelling 1

	Nature of scheme	Public sector costs	Potential benefits
1.	**Digital Anchors** GP practices or public sector community hubs act as 'anchor tenants' for bringing 5G or fibre services to local communities	• Set-up costs (e.g. 5G mast, extension of fibre network) • Communication, training & support for staff/citizens	• Supports digital/virtual elements of care models (e.g. remote consultation/monitoring, access to advice/guidance & shared care records, remote imaging/diagnostics) • Cheaper/better access to high-speed connection for local citizens & businesses • Reduced isolation either from access to online communities or increased activity in community hubs • Increased productivity, reduced travel/environmental costs • Market opportunities for digital technology providers/developers
2.	**Virtual appointments** Proportion of GP and/or outpatient appointments shifted from face-to-face to virtual (e.g. phone/video consultation, potentially AI supported/led)	• Equipment • Training and support • Digital/AI solution development	• Increased productivity • Reduced patient travel costs • Reduced environmental costs (and associated health impact) • Reduced demand on clinical time • Freeing up outpatient suite capacity for alternative uses • Market opportunities for digital/AI technology providers/developers

[1] http://theconversation.com/how-a-rural-community-built-south-africas-first-isp-owned-and-run-by-a-cooperative-87448; https://www.wired.com/story/opinion-small-towns-gigabit-broadband-success/; https://www.internetsociety.org/projects/w4c/

Potential schemes for modelling 2

	Nature of scheme	Public sector costs	Potential benefits
3.	**Health and care career aspirations** Programme of activities in/for schools/colleges linked to new routes into medical/nursing careers	• Workforce • Resources for use by teaching staff (incl. digital) • Establishing new roles/training routes	• Addressing health/care workforce shortages & development of new roles/routes to training • Increasing median pay/GVA across H&W & reducing inequalities • Improving health literacy/lifestyle choices & reducing demand on services • Supports STEM agenda/NMiTE[1]
4.	**Volunteering**[2] Increased investment in promoting and supporting volunteers in health and care services	• Recruitment and management of volunteers • Funding for local VCS organisations	• Reduced isolation/improved health outcomes for volunteers and those cared for • Supports long-term unemployed/those working towards return to work
5.	**Promoting prevention** Increased investment in prevention activities (e.g. promoting smoking cessation, physical activity, mental resilience)	• Public campaigns • Targeted initiatives • Commitment to whole-system approach (e.g. action on wider determinants such as housing, planning, education)	• Reduced direct and indirect costs of ill health • Reduced demand • Increased productivity from reduced absenteeism/presenteeism

1. https://nmite.ac.uk/; https://www.stem.org.uk/stem-ambassadors/

2. https://www.longtermplan.nhs.uk/online-version/chapter-4-nhs-staff-will-get-the-backing-they-need/8-volunteers/; https://www.england.nhs.uk/participation/get-involved/volunteering/; https://www.helpforce.community/

Potential schemes for modelling 3

	Nature of scheme	Public sector costs	Potential benefits
6.	**Early intervention on adverse childhood experience (ACE)**[1]	• Implementation of REACh[2] programme • Expansion of primary care mental health (incl. new roles) • Support for parents and families • Programmes to building resilience in children	• Improved health, education & criminal justice outcomes[3] • Reduced inequalities • Better employment opportunities • Increased productivity
7.	**Coordinated community contacts** A more holistic approach to visits by/appointments with community nurses, home care workers, mental health services, etc.	• Time for collaborative working • Development of new roles/ extension of role competencies	• More efficient use of resource • Fewer separate appointments/increased productivity for those in work • Seamless patient experience • Reduced travel costs/environmental impact

1. https://www.rcpch.ac.uk/resources/adverse-childhood-experiences-consultation-response; https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/712718/REACh-implementation-pack-pilot-evaluation-final-report.pdf; https://www.parliament.uk/business/committees/committees-a-z/commons-select/science-and-technology-committee/inquiries/parliament-2017/evidence-based-early-years-intervention-17-19/

2. https://www.lancashirecare.nhs.uk/media/Innovation/REACh%20Infographic.pdf

3. An ACE survey with adults in Wales found that compared to people with no ACEs, those with 4 or more ACEs are more likely to have been in prison; develop heart disease; frequently visit the GP; develop type 2 diabetes; have committed violence in the last 12 months; have health-harming behaviours (high-risk drinking, smoking, drug use). http://www.healthscotland.scot/population-groups/children/adverse-childhood-experiences-aces/overview-of-aces

Next steps

Next Steps

1. A final report modelling the impact of the agreed potential changes will be submitted during October.
2. The STP will then be able to consider, with wider partners, any changes it wishes to explore further.
3. Health Foundation *Building healthier communities* suggests that systems –
    - Develop metrics and evaluate practices to understand the impact of different interventions
    - Establish clear and visible leadership to embed anchor practices within organisational and system strategies
    - Enable staff to act on a collective vision for enhancing community health and wellbeing
    - Support the sharing and spread of ideas through networks
    - Engage proactively with communities to ensure that anchor strategies meet local needs and to maximise impact on narrowing inequalities
4. This is novel work, aligned to *The NHS Long Term Plan*, so consideration should also be given to promoting the resulting activities and their benefits nationally.

Appendices

Appendix 1 - method

Gross value added (NHS)

1. Gross value added (GVA) is the measure of the value of goods and services produced in an area, industry or sector of an economy.
2. Direct GVA of the NHS is calculated via 'income method' as the sum of the NHS surplus/deficit and the NHS salaries paid by CCGs, trusts and primary care
3. Indirect and induced GVA has also been estimated**. Indirect GVA** is the effect of the economic activity resulting from the spending on the purchase of goods and services. In addition, this spending again supports further economic activity, which generates income for Herefordshire and Worcestershire workers and residents. This is called **induced GVA.** To calculate the indirect and induced GVA, multipliers were derived based on the national input-output table.
4. Purchase of the good and services within the NHS resulted **in additional output** for other industries. This estimation is based on the national input-output table.

Gross value added (Social Care)

1. GVA of the adult social care sector was estimated via the expenditure method due to data limitations. Using income or output method was not possible as the data on expenditure, wages and outputs are not available for private and voluntary sectors of social care provision.
2. The total expenditure of the adult social care in Herefordshire & Worcestershire was adjusted by GVA ratio to estimate the GVA of the sector.
3. Similarly to the NHS analysis, multipliers were derived from the input-output table to calculate indirect and induced GVA effects.

Informal care

- The provision of unpaid care by people aged 16 and over was taken from Census 2011. To adjust the numbers for the population changes, proportions from Census 2011 was applied to the 2018 population estimates for each group (employed, unemployed, economically inactive);
- The number of hours of unpaid care provided per week in Herefordshire & Worcestershire has been calculated by multiplying the mid-point of the time categories (9.5 hours; 34.5 hours and 66 hours) by the number of individuals in each category;
- Two different methods were used to estimate the value of informal care in Herefordshire & Worcestershire STP:

    1. Value of lost leisure time considers informal care as an opportunity cost. Value of leisure time shows the value of time a person is using for leisure purposes. The number of hours of unpaid care provided was multiplied by the hourly cost of leisure time. 1 hour of leisure was estimated as £10.2.
    2. Value of informal care can also be calculated based on the cost of home care. The number of hours of unpaid care provided was multiplied by the unit cost of one hour of home care provided. Cost of 1 home care was £22.71 for Worcestershire and £19.01 for Herefordshire.

Economic impact of ill health (CHD/COPD)

Two types of economic cost of ill health were considered:

1. Direct health costs. This is the sum of A&E attendances, Inpatient admissions, Outpatient appointments, GP contacts, community care contacts and prescription costs.
    - Total cost of A&E attendances, Inpatient admissions and Outpatient appointments was obtained from SUS data;
    - Average number of GP contacts and community care contacts was obtained from secondary sources and multiplied by the unit cost of a contact. The same was done for prescription costs;
2. Indirect economic costs: losses in productivity. It can be the result of short-term disability (temporary leave of absence due to disability) or work absenteeism (e.g. sick leave).
    - Prevalence of disease for the total population of the Herefordshire & Worcestershire STP area was disaggregated by age based on the national data;
    - The number of people with the disease in the working age group was adjusted by the employment rate to identify number of employed people having the disease;
    - The number of people was multiplied by the average days lost due to disease;
    - Total productivity lost was calculated as the number of days lost multiplied by the average cost of a working day in the region.

Economic impact of anxiety and depression

Two types of economic cost of the ill health were considered:

1. Direct health costs. This is the sum of GP contacts, community care contacts, hospital care, cost of mental health teams and prescription costs.
    - Average number of GP contacts and community care contacts was obtained from secondary sources and multiplied by the unit cost of a contact. The same was done for prescription costs;
    - Average cost of three month of hospital care and mental health team was obtained from secondary sources;
2. Indirect economic costs: losses in productivity.
    - Prevalence of anxiety and depression for the total population of the Herefordshire & Worcestershire STP area was disaggregated by age based on the national data;
    - The number of people with the disease in the working age group was adjusted by the employment rate to identify number of employed people suffering from the depression;
    - The number of people was multiplied by the average days lost due to illness;
    - Total productivity lost was calculated as the number of days lost multiplied by the average cost of a working day in the region.

Appendix 2 - assumptions

Gross value added analysis assumptions

Category	Assumption	Source
NHS organisations income and expenditure		CCG National Accounts; Trusts National Accounts
Population estimates	2gether Foundation Trust and West Midlands Ambulance Trust operate outside H&W. The share of income and expenditure in the local economy is calculated based on population estimates	ONS, National Accounts
Patients treated outside H&W	As the estimation for the local economy is needed, the financial indicators of organisations were adjusted by the number of patients treated in H&W but residing outside the area	SUS data
Primary care expenditure	Operating expenditure is available on NHS Digital. Total cost of primary care salaries was calculated as number of employees multiplied by the average salary	NHS Digital, NHS England
Input-output table	National level distribution of purchases by the sector was assumed.	ONS
Adult social care expenditure		SALT and ASCFR
GVA turnover ratio	0.6	The Economic Value of the Adult Social Care sector - Wales
% of employees living outside H&W	81% (for all jobs and sectors)	Census 2011

Informal care analysis assumptions

Category	Assumption	Source
Value of informal care provided by local authority	Individual for each local authority. Assumed that the level of informal care has not change since 2011	UK Census 2011
Number of employed, unemployed and economically active people	Individual for each local authority	Office for National Statistics, Labour market profile by local authority (Nomis), 2018
Cost of leisure time	£10.20 in 2018 prices using GDP deflator	Department of Transport (2013)
Cost of 1 hour of home care by local authority	Worcestershire: £22.71 per hour Herefordshire: £19.09 per hour	NHS Digital: Adult Social Care Activity and Finance: England 2017-18

Impact of ill health analysis assumptions

Category	Assumption	Source
Prevalence rates of COPD and CHD	COPD: 2% CHD: 3.43 %	NHS Digital: Quality and Outcomes Framework 2017-18
Age distribution of COPD morbidity	National estimates: prevalence of COPD by age and sex	British Lung Foundation
Age distribution of CHD morbidity	National estimates: prevalence of CHD by age and sex	NHS Digital, Office for National Statistics: Health Survey for England 2017
Employment rate	Average for Herefordshire and Worcestershire STP	Office for National Statistics, Labour market profile by local authority (Nomis)
Daily and hourly pay rate	Average for Herefordshire and Worcestershire STP	Office for National Statistics, Labour market profile by local authority (Nomis)
Average number of days lost due to COPD	12.6 days short-term disability, 387 hours work absenteeism (per year)	Patel, J. G., Coutinho, A. D., Lunacsek, O. E., & Dalal, A. A. (2018). COPD affects worker productivity and health care costs. International journal of chronic obstructive pulmonary disease, 13, 2301.
Average number of days lost due to CHD	22 days short-term disability, 250 hours work absenteeism (per year)	Song, X., Quek, R. G., Gandra, S. R., Cappell, K. A., Fowler, R., & Cong, Z. (2015). Productivity loss and indirect costs associated with cardiovascular events and related clinical procedures. BMC health services research, 15(1), 245.

Impact of ill health analysis Assumptions

Category	Assumption	Source
Cost of GP appointments	£30 per 10 min appointment	Unit Costs of Health and Social Care 2018 (PSSRU)
Cost of community care	£42 per 1 hour nursing time	Unit Costs of Health and Social Care 2018 (PSSRU)
Cost of cardiac rehabilitation	£627.67 per programme completed	Luengo-Fernandez, R., Leal, J., Gray, A., Petersen, S., & Rayner, M. (2006). Cost of cardiovascular diseases in the United Kingdom. Heart, 92(10), 1384-1389.
Cost of prescription	£8.80 per prescription	Gov.uk
Cost of A&E, Inpatient and Outpatient care	Total for disease for all patients	SUS data
Average number of GP appointments due to illness	16.14 per year	Transition between hospital and community care for patients with coronary heart disease: New South Wales and Victoria
Average number of community care contacts due to illness	60% of all patients need 16 hours per week	British Heart Foundation: Cardiovascular Disease Statistics (2014)
Number of patients completed cardiac rehabilitation	30% of all patients completed a programme	Jackson A. M. et al. A qualitative study exploring why people do not participate in cardiac rehabilitation and coronary heart disease self-help groups, and their rehabilitation experience without these resources.
Number of prescriptions	20 per case	British Heart Foundation: Cardiovascular Disease Statistics (2014)

Impact of ill health analysis assumptions

Category	Assumption	Source
Cost of GP appointments	£30 per 10 min appointment	Unit Costs of Health and Social Care 2018 (PSSRU)
Cost of community care	£42 per 1 hour nursing time	Unit Costs of Health and Social Care 2018 (PSSRU)
Cost of prescription	£8.80 per prescription	Gov.uk
Cost of A&E, Inpatient and Outpatient care	Total for disease for all patients	SUS data
Average number of GP appointments due to illness	12 per year	Stafford, M., Steventon, A., Thorlby, R., Fisher, R., Turton, C., & Deeny, S. (2018). Briefing: Understanding the health care needs of people with multiple health conditions. The Health Foundation, London.
Average number of community care contacts due to illness	30% of all patients need 10 hours per week	Stafford, M., Steventon, A., Thorlby, R., Fisher, R., Turton, C., & Deeny, S. (2018). Briefing: Understanding the health care needs of people with multiple health conditions. The Health Foundation, London.
Number of prescriptions	14 per case	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4559259/

Impact of ill health analysis assumptions

Category	Assumption	Source
Prevalence rates of anxiety and depression	13%	Public Health England
Age distribution of anxiety and depression	National estimates: prevalence of depression and anxiety by age and sex	King's Fund. Paying the price: The cost of mental health care in England to 2026
Employment rate	Average for Herefordshire and Worcestershire STP	Office for National Statistics, Labour market profile by local authority (Nomis)
Daily and hourly pay rate	Average for Herefordshire and Worcestershire STP	Office for National Statistics, Labour market profile by local authority (Nomis)
Average number of days lost due to anxiety and depression	25.8 days lost	Health and Safety Executive (HSE)

Impact of ill health analysis assumptions

Category	Assumption	Source
Cost of GP appointments	£30 per 10 min appointment	Unit Costs of Health and Social Care 2018 (PSSRU)
Cost of community care	£42 per 1 hour nursing time	Unit Costs of Health and Social Care 2018 (PSSRU)
Cost of prescription	£8.80 per prescription	Gov.uk
Cost of hospital care	£153 on average for three months	McMahon, E. M., Buszewicz, M., Griffin, M., Beecham, J., Bonin, E. M., Rost, F., ... & King, M. (2012). Chronic and recurrent depression in primary care: socio-demographic features, morbidity, and costs.
Average number of GP appointments due to illness	12.1 contacts per year	
Average number of community care contacts due to illness	7.5 contacts in the year	
Cost of mental health team	£105 on average for three months	
Average number of prescriptions	11.8	

Travel cost assumptions

Category	Assumption	Source
Average car on road MPG, adjusted for proportion of petrol/diesel cars	46.3	The Society of Motor Manufacturers and Traders (2018)
% Diesel Cars	40%	Department for Transport (2019)
% Petrol Cars	60%	Department for Transport (2019)
Average Diesel Price (West Midlands)	134 p/Litre	AA Fuel Price Report (May 2019)
Average Petrol Price (West Midlands)	128.6 p/Litre	AA Fuel Price Report (May 2019)
Average parking cost (West Midlands)	£2.00 per hour	DoH: NHS car-parking management: environment and sustainability (2015)
Bus fare	£4.60 (day saver), free if over working age	National Express West Midlands
Full-time Employment Rate	74% (37.2 hours/week)	ONS: Regional labour market statistics in the UK: (July 2019)
Part Time Employment Rate	27% (16.3 hours/week)	ONS: Regional labour market statistics in the UK: (July 2019)

Travel cost assumptions continued

Category	Assumption	Source
Waiting Time in Hospital	51.3 mins	NHS outpatient survey; NHS guidance on arrival times
Average GVA per hour worked (Herefordshire & Worcestershire)	£26.10/hour	ONS: Regional and sub-regional productivity in the UK: (February 2019)
Duration of Appointment	20 mins	NHS guidance on duration of appointment
Proportion of appointments taken when patient is out of work (annual leave/sickness absence/out of hours)	12%	NHS data on out of hours provision
Average Rail Cost	£5.65	Office of Rail and Road (2019)
Rail to Bus/Coach Ratio	1:4	Department for transport (2018) - WMids

Environmental assumptions

Mode of Transport	Number of Miles	CO2 Emissions (Tonnes)
Average CO2 emissions of cars in use (UK)	149.6 g/km	The Society of Motor Manufacturers and Traders (2018)
Bus/Coach Pollution	4.9% of Total Car Emissions	Department for Transport (2018)
Train Pollution	2.9% of Total Car Emissions	Department for Transport (2018)
Rail to Bus/Coach Ratio	1:4	Department for transport (2018) - WMids

Carbon sequestration assumptions - Forestry Research and Engineering: International Journal (2018)

- Number of trees required = Carbon emissions / tree carbon sequestration (22kg/year)
- Acres necessary for those trees = Number of tress / trees per acre (700)

Appendix 3 – potential further research

Impact of ill health

Potential analysis	Support might be needed
Analysis of gender-disaggregated data	
Separate analysis for each CCG where the prevalence rates data is available	
Including and analysing other CVD diagnoses	Assumptions about the number of days lost and 'presenteeism' at work
Including mortality in the model as the factor of future discounted productivity loss	Detailed mortality data or the assumptions about the years of life lost
Including and analysing other respiratory diagnoses	Assumptions about the number of days lost and 'presenteeism' at work

Additional topics

Potential analysis	Support might be needed
Analysis of the economic impact of children's social care and public health	Data on expenditure, income and employee benefits
Analysis of the economic impact all public service expenditure (place-based)	
Social Care GVA analysis: output methodology	Output estimates for adults' and children's social care and public health in H&W
Gender pay gap analysis	
Social Care: Age profile for each job role	
Analysis of children's social care and public health employment	Data on the FTE, age distribution and salaries
Analysis of the economic impact of the employment in the region	

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Herefordshire and Worcestershire STP Economic Impact Study

Phase 2

The Strategy Unit.

west midlands
ACADEMIC HEALTH SCIENCE NETWORK

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Project rationale, scope and key findings

Rationale

Public sector services rarely think of themselves as economic actors, but there is a growing sense of the contribution they can make to local growth. *The NHS Long Term Plan* seeks to support wider social goals, including through the concept of the NHS being an 'anchor institution' in local economies.[1]

Decisions about the way public resources are allocated and service models configured have material socio-economic consequences beyond their impact on individual citizens. If these wider consequences are known and embraced in decision-making, there is potential to derive greater overall benefit from the investment of each public sector pound.

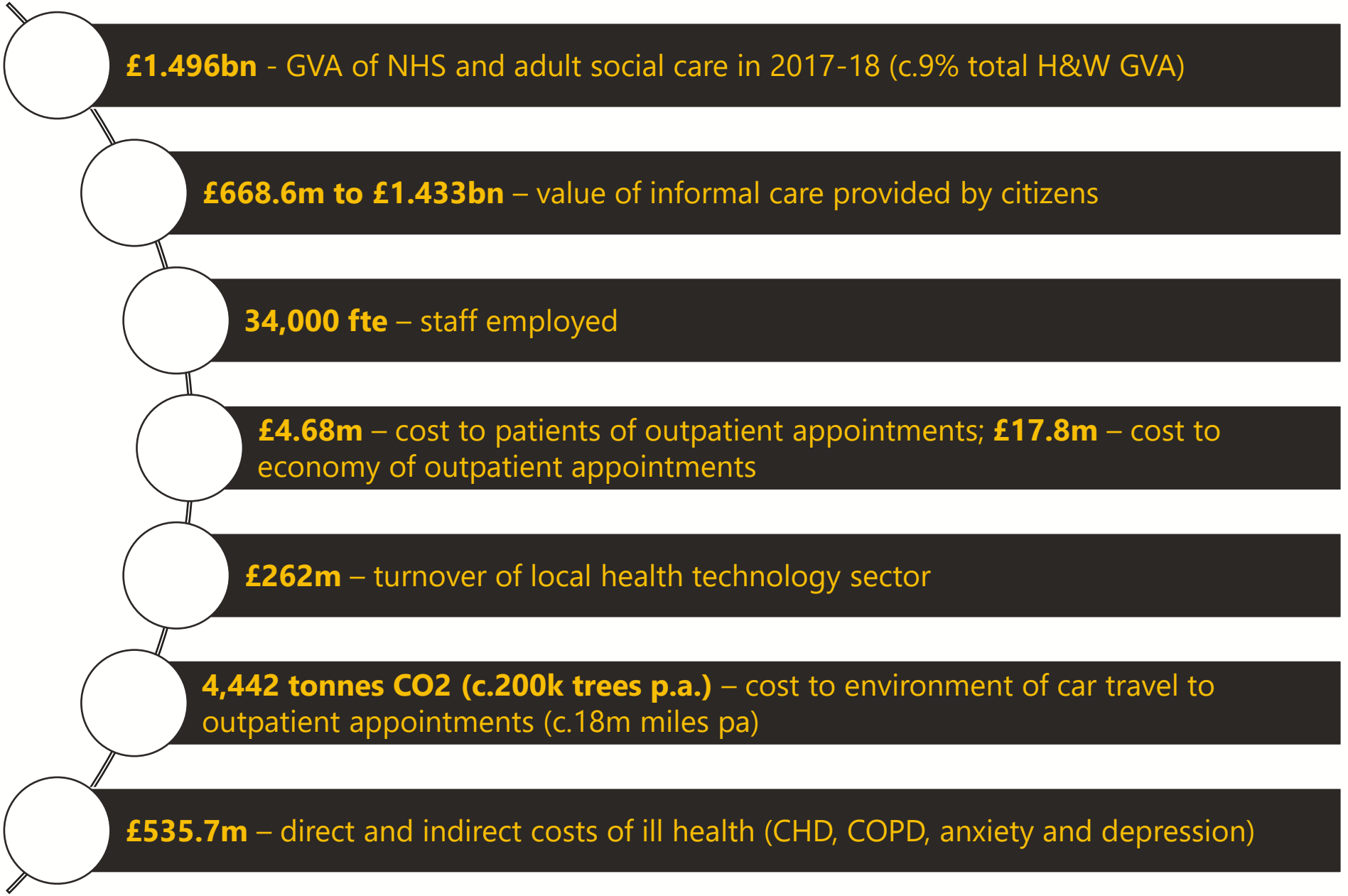
With support from the West Midlands Academic Health Science Network, Herefordshire and Worcestershire STP is seeking understand:

a) Its current impact on the wider local economy; and

b) How that impact might be increased.

1. https://www.longtermplan.nhs.uk/online-version/appendix/

Current impact of the NHS - phase one findings



Scope

The baseline phase of this project analysed the current impact of health and care services on the wider local economy. It was completed in September 2019 with the submission of the full phase 1 report and a summary presentation to the STP Partnership Board.

The second phase of this work is reported here and involved an analysis of two potential initiatives, agreed with the project steering group, that could enhance the STP's wider socio-economic impact. The selected initiatives were:

- **Reducing the adverse impacts of attending face to face hospital outpatient appointments**
- **Realising the benefits of providing increased support to informal carers.**

The initiatives are linked to existing STP priority areas of outpatient transformation and commitment to carers, and the assumptions used in the modelling were either derived from the international evidence base and/or provided by the STP.

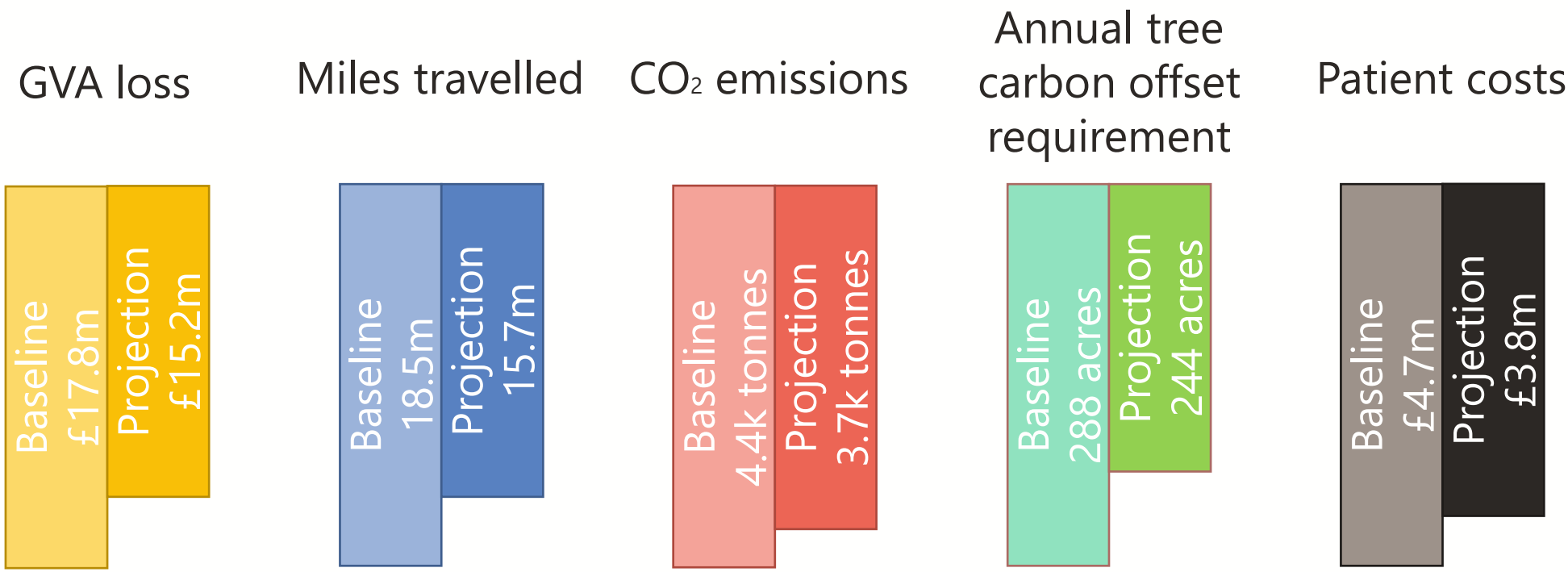
The level of analysis undertaken reflects the desire to establish proof of concept. More detailed work would be required to build a local business case for implementing the initiatives.

Key findings – outpatient transformation

By achieving the LTP ambition of a 30% shift in outpatient appointments by 2024/24, which results from the combination of reducing unnecessary appointments and converting those remaining appointments that do not require face-to-face contact to be delivered virtually, it has been estimated that:

- **GVA can be increased by £2.6m** through reduced absence from work as a result of travelling to, waiting for and attending appointments
- **2.78m less miles** are travelled to attend appointments
- **Carbon emissions are reduced by 671 tonnes**
    - This is the equivalent of the estimated impact of 1000 economy-class return flights from London to New York
- Following this reduction, if outpatient pollution levels remain the same for another 10 years, this will have avoided **869 COPD** cases. This is the equivalent of a **£2,537,857 saving.**

Impact of reducing outpatient appointments - 2023/24



Baseline: 2017/18
Projected: 2023/24

Charts shown are not to scale

Key findings – informal carers support

The initiative is concerned with providing additional information and support services for informal carers of working age. This could include; providing initial information about how to provide effective and productive care, learning how to cope with their caring responsibilities and highlighting where they can access help.

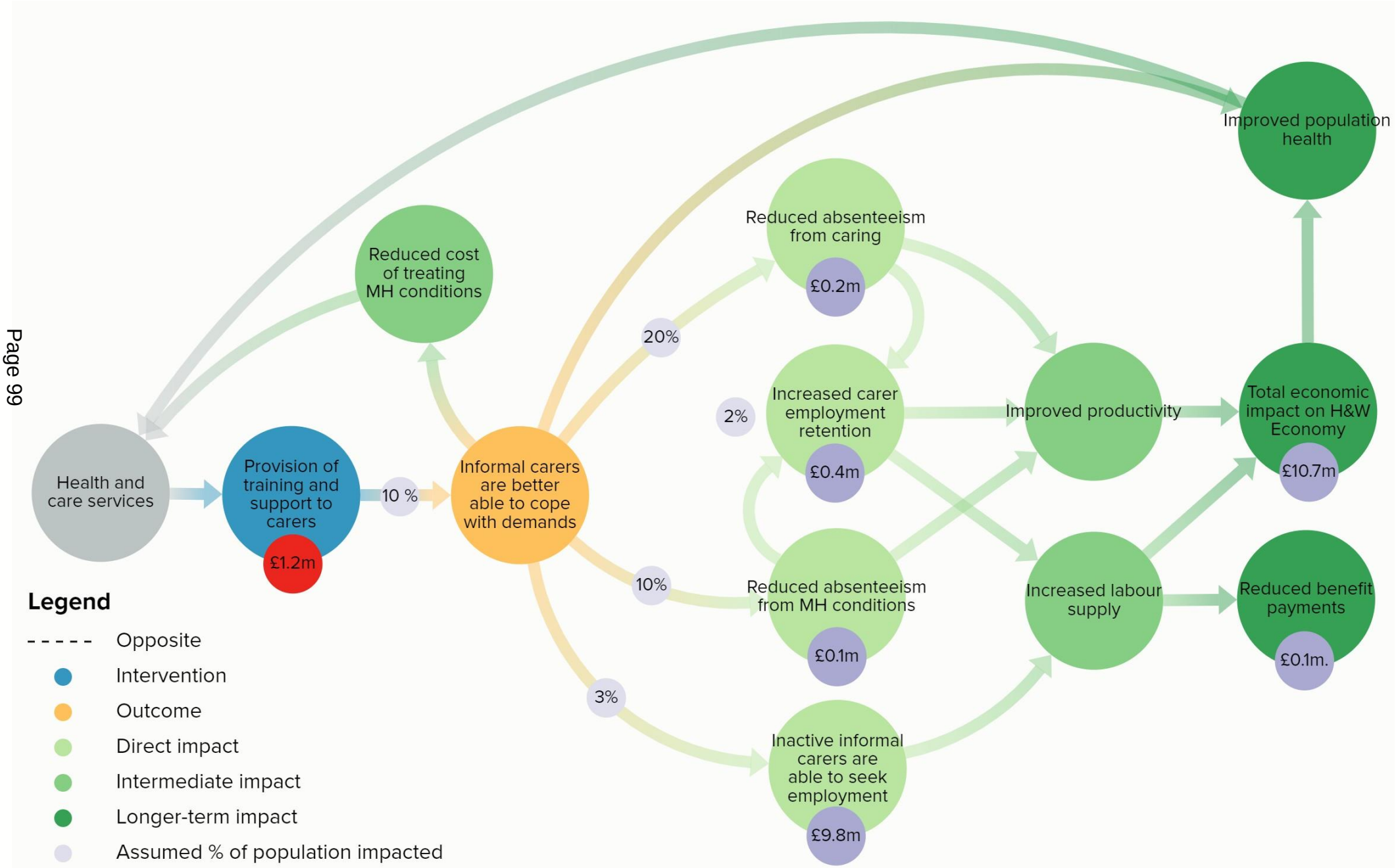
The **value of informal care** provided by citizens in the Herefordshire and Worcestershire was estimated in phase one of the project to be the **equivalent of £1.433bn in 2017/18** (if it was to be replaced with funded home care). This is comparable to total NHS spend in the STP.

Some of this informal care is provided at the expense of other economic activity. Through better planning and support for informal carers, some of these carers could play a greater role in the labour market.

An **investment of £1.2 million** from health and organisations, supporting informal carers could **generate an economic benefit of over £10.7 million**. This is through improved productivity, employee retention and informal carers returning to the labour market. A considerable proportion of this impact is through the filling of hard to fill vacancies.

(It should be noted that in reality, it may not be possible to fill all these vacanies with informal carers. This would decrease the economic impact of the initiative.)

Impact of increased support to informal carers



Reducing the adverse impacts of hospital outpatient appointments

The initiative

Rationale

Outpatient appointments are commonly identified as in need of transformation. There are increasing numbers of appointments, spiralling costs and a considerable number of appointments are cancelled, or patients do not attend. The NHS Long Term Plan highlighted that the model is outdated and unsustainable and it aims to reduce face-to-face appointments by 30% by 2023/24.

Intervention

Avoiding unnecessary outpatient appointments and converting those remaining appointments that do not require face-to-face contact to be delivered virtually.

Impacts

- Reduced environmental impact and potential associated long-term health impact
- Increased economic value from productivity of working-age population
- NHS cost savings/efficiencies
- Reduced patient travel costs

The model

The modelling was made up of two phases to fit with local planning:

1. 30% reduction / shift in selected specialties split across 2019/20 and 2020/21 (15% change each year);
2. 30% reduction / shift in the remaining specialities split across 2021/22, 2022/23 and 2023/24 to align with the wider LTP ambition (10% change each year).

Selected specialities were identified by the STP, based on specialities where pilots for outpatient modernisation had already been proposed in the short term. These were:

- Herefordshire: Dermatology, Urology
- Worcestershire: General Surgery, Gynaecology, Urology, Cardiology, and Respiratory Medicine.

For each time period, the changes were split equally between general reductions in activity and shifts to virtual style appointments. Appointments included in the change have been selected at random, regardless of distance and location.

To ensure the appropriateness of the modelled reduction/shift, the model only included outpatient follow up appointments where no procedure had been carried out.

Model assumptions

1. To predict the number of follow-up no procedure outpatient appointments in 2019 - 2024, an average growth rate for last 5 years was used, adjusted for the number of appointments which were shifted to digital.
2. All trips to outpatient clinics were assumed to be either by car or by public transport (at random)
3. To calculate the volume of avoided COPD cases, the following assumptions were used:
    - Population of Herefordshire & Worcestershire will grow according to the ONS forecast.
    - Prevalence of COPD will grow based on the current changes in the prevalence levels.
    - Each 1 µg/m3 of NO2 increases the risk of COPD by 1.05 times (risk if fully adjusted by demography and health behaviour factors)
    - Each COPD case costs local economy, on average, £2,920 per year, which was calculated in the Phase 1.

Model assumptions (cont.)

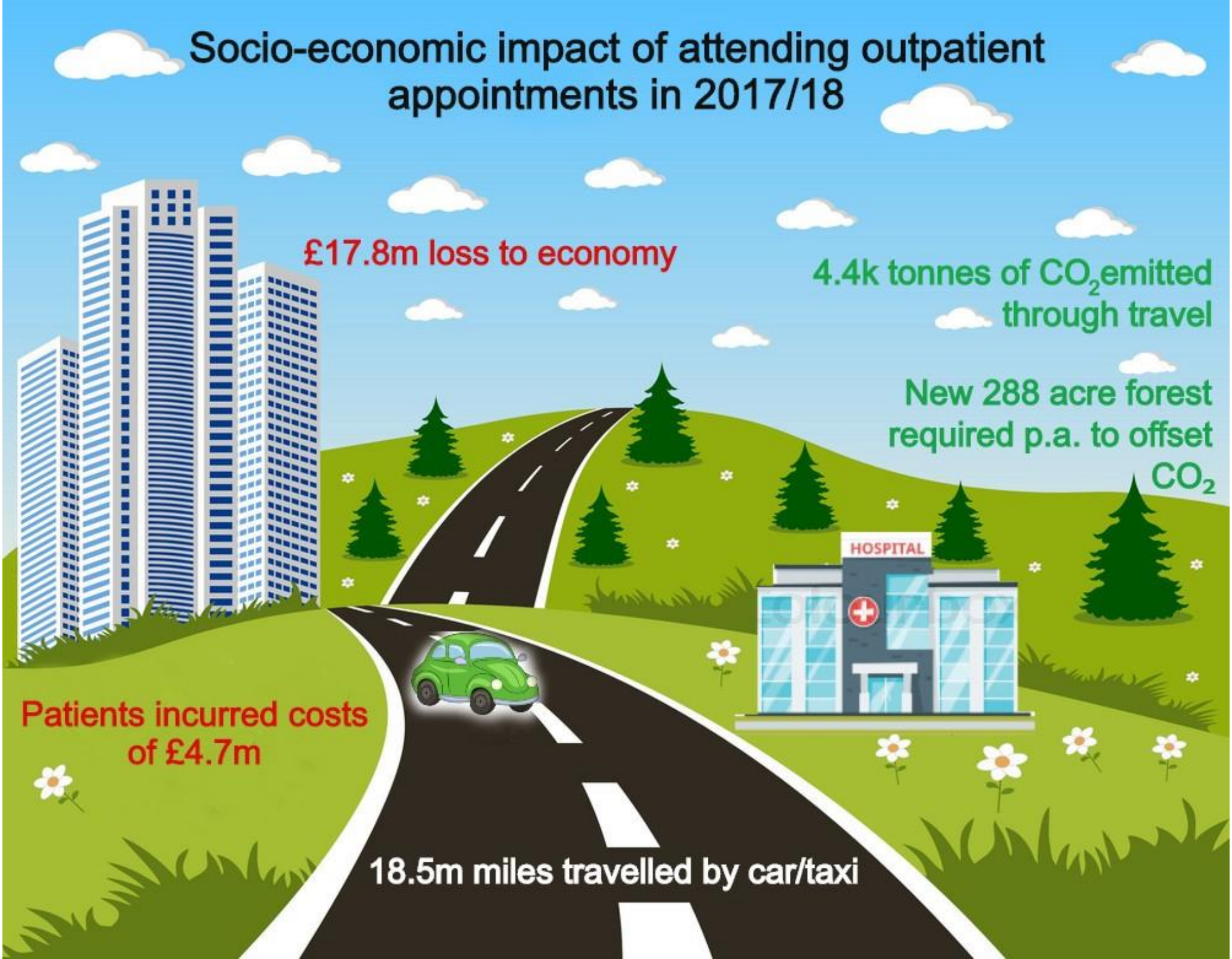
4. To calculate the environmental and economic costs, assumptions from the Phase 1 were used. Economic impacts were not uplifted for inflation.
5. The model only estimates the environmental impact of those appointments attended by car, due to the difficulties in estimating the emissions related to public transport travel. This means, in reality, the environmental impact of a reduction or a shift will be even greater.

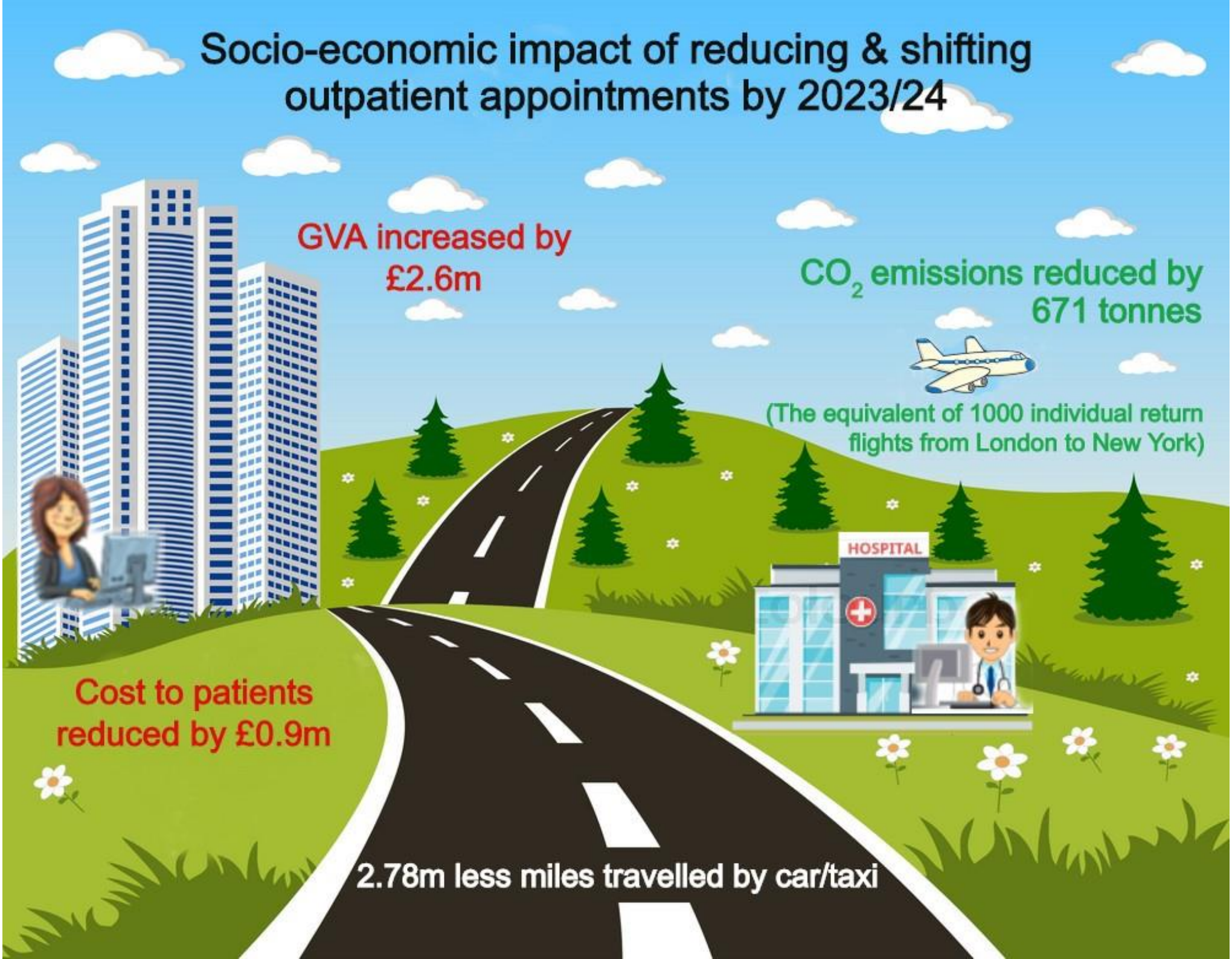
Model assumptions (cont.)

Category	Assumption	Source
Average car on road MPG, adjusted for proportion of petrol/diesel cars	46.3	The Society of Motor Manufacturers and Traders (2018)
% Diesel Cars	40%	Department for Transport (2019)
% Petrol Cars	60%	Department for Transport (2019)
Average Diesel Price (West Midlands)	134 p/Litre	AA Fuel Price Report (May 2019)
Average Petrol Price (West Midlands)	128.6 p/Litre	AA Fuel Price Report (May 2019)
Average parking cost (West Midlands)	£2.00 per hour	DoH: NHS car-parking management: environment and sustainability (2015)
Bus fare	£4.60 (day saver), free if over working age	National Express West Midlands
Full-time Employment Rate	74% (37.2 hours/week)	ONS: Regional labour market statistics in the UK: (July 2019)
Part Time Employment Rate	27% (16.3 hours/week)	ONS: Regional labour market statistics in the UK: (July 2019)

Model assumptions (cont.)

Category	Assumption	Source
Waiting Time in Hospital	51.3 mins	NHS outpatient survey; NHS guidance on arrival times
Average GVA per hour worked (Herefordshire & Worcestershire)	£26.10/hour	ONS: Regional and sub-regional productivity in the UK: (February 2019)
Duration of Appointment	20 mins	NHS guidance on duration of appointment
Proportion of appointments taken when patient is out of work (annual leave/sickness absence/out of hours)	12%	NHS data on out of hours provision
Average Rail Cost	£5.65	Office of Rail and Road (2019)
Rail to Bus/Coach Ratio	1:4	Department for transport (2018) - WMids
Average CO2 emissions of cars in use (UK)	149.6 g/km	The Society of Motor Manufacturers and Traders (2018)
Bus/Coach Pollution	4.9% of Total Car Emissions	Department for Transport (2018)
Train Pollution	2.9% of Total Car Emissions	Department for Transport (2018)
Rail to Bus/Coach Ratio	1:4	Department for transport (2018) – Wmids
Estimated economy-class return flight from London to New York	0.67 tonnes of CO2 per passenger	UN's civil aviation body, the International Civil Aviation Organization (ICAO)


Socio-economic impact of attending outpatient appointments in 2017/18
£17.8m loss to economy
4.4k tonnes of CO_2 emitted through travel
New 288 acre forest required p.a. to offset CO_2
HOSPITAL
Patients incurred costs of £4.7m
18.5m miles travelled by car/taxi


Socio-economic impact of reducing & shifting outpatient appointments by 2023/24
GVA increased by £2.6m
CO_2 emissions reduced by 671 tonnes
(The equivalent of 1000 individual return flights from London to New York)
HOSPITAL
Cost to patients reduced by £0.9m
2.78m less miles travelled by car/taxi

Detailed results

	19/20	20/21	21/22	22/23	23/24	Total
Appointments reduced / shifted (50/50)	5,694	5,153	62,442	59,632	56,949	**189,869**
Distance travelled reduction (car miles)	100,477	102,675	873,139	843,901	868,013	**2,788,205**
CO2 reduction (tonnes)	24.19	24.71	210.17	203.13	208.94	**671.14**
Driving cost reduction	£12,900	£13,182	£112,100	£108,346	£111,442	**£357,971**
Public transport cost reduction	£11,025	£10,644	£97,357	£140,030	£128,684	**£387,739**
GVA increase	£81,872	£81,010	£778,398	£955,298	£704,310	**£2,600,888**
Parking cost / parking income reduction	£4,374	£4,334	£43,697	£55,026	£42,021	**£149,452**
Total	**£110,170**	**£109,170**	**£1,031,553**	**£1,258,700**	**£986,458**	**£3,496,051**

30% ▲ selected specialties

30% ▲ all other specialties

Following this reduction, if outpatient pollution levels remain the same for another 10 years, this will have avoided **869 COPD** cases. This is the equivalent of a **£2,537,857 saving.**

Additional commentary

The analysis provides an analytical framework for assessing the socio-economic impact of transforming outpatient services as well as making them more accessible to patients who are in employment.

It does not represent a complete business case for a service change but does estimate that considerable gains could be made – particularly in terms of productivity, which could be of significant benefit to the local economy, and the environment, which will contribute to a positive health impact overtime.

Whilst it can be seen that there are socio-economic benefits to the local system, and outpatient provider capacity could be reallocated, it should be noted that outpatient providers may also be impacted by the stranded costs of the reduction in outpatient activity, as well as reductions in parking income (where applicable).

Before video consultations are implemented, a Privacy Impact Assessment should be conducted. NHS Digital guidance on the subject can be found here: https://digital.nhs.uk/data-and-information/looking-after-information/data-security-and-information-governance/information-governance-alliance-iga/information-governance-resources/information-governance-and-technology-resources

Realising the benefits of providing increased support to informal carers

Phase one results: Value of informal care

In addition to public sector investment in health and care services, local citizens provide care for their friends, relatives and neighbours. That care can be allocated an economic value, in addition to its direct value to those who give and receive it. We have estimated the annual value of informal care across the STP in two ways:

£668.6m p.a.

The opportunity cost of the **leisure time** foregone by informal carers.

£1,432.9m p.a.

The cost of replacing informal care with **funded home care**.

The home care estimate is comparable to total NHS spend in the STP. Tables on the following slide provide a breakdown of these values by geography and employment status.

The initiative

Rationale

Informal caring responsibilities borne by those who are employed or who are economically inactive but would like to return to work can be detrimental to the health and wellbeing of those carers, leading to increased absence from work.

Intervention

The initiative is concerned with providing additional information and support services for informal carers of working age. This support would be an initial one hour face to face meeting at a GP practice with a family support worker. This could include; providing initial information about how to provide effective and productive care, learning how to cope with their caring responsibilities and highlighting where they can access help. There would then be a number of follow-up sessions with content based on needs of the informal carer.

Impacts

- Increased productivity
- Reduced workforce turnover
- Reduced benefits payments.

The model

The analysis covers two groups of informal carers:

- those in employment
- those not in employment but who would like to return to the labour market.

Impacting each of these groups will positively benefit the local economy.

Re-employing out of work individuals and filling hard to fill vacancies* (HtFV) could increase the level of output in the H&W, as more people will be employed and producing goods or providing services. This filling of HtFV makes up a significant proportion of the economic benefit of the model.

HtFV are defined as vacancies where an employer cannot find applicants with the skills, qualifications or experience to do the required job. This means that the job goes unfilled, and production is lost. Skill-shortage vacancies have proved persistent for a number of occupations over time. For example, recruitment to Machine Operative roles in Construction and Professional roles in the Manufacturing, Business Services, Transport and Communications, and Health and Social Work sectors.

The model assumes that 10% of the informal carer population (identified in phase one of the project) is reached by the intervention to support viability.

* According to UK Employer Skills Survey, Hard to Fill vacancies are those open vacancies which are hard to fill based on the managerial judgement

Model assumptions

Overall number of informal carers was derived from Phase 1 and is accounted for 81,522 people in the region. The other baseline assumptions are following:

Category	Assumption	Source
Percentage of informal carers feeling depressed	7% of working carers; 14% for unemployed carers	Eurocarers: The impact of caregiving on informal carers' mental and physical health
Average duration of absence for caring responsibilities	2 days per year	ACAS
Average number of days lost due to mental health issue	25.8	Labour Force Survey
Cost of 1 day worked in Herefordshire and Worcestershire	£113.28	Nomis – official labour market statistics
Cost to replace an employee	16% of annual salary for low salary employed 20% of annual salary for middle salary employed	Center for American Progress
Value of labour market re-entry	£28,210	Nomis – official labour market statistics
Number of Hard to fill vacancies (HtFV)	3,007	Employer Skill Survey 2017
Value of carers allowance	£64.60 per week	CarersUK
Value of job seeker allowance (JSA)	£57.9 per week (under 25 years old), £73,1 per week (others)	Gov.uk
Number of people claiming JSA	4,034 (including 545 under 25 years old and 3,489 over 25 years old)	ONS

Model assumptions (cont.)

The assumptions about the costs and results of the intervention are presented below

Category	Assumption	Source
1 hour of Family Support worker	£31	Personal Social Services Research Unit (PSSRU 2018)
Number of sessions	3 sessions per year	Assumption based on the intervention design
Duration of session	1 hour	Assumption based on the intervention design
% of carers reached	10%	Assumption based on the intervention design
Waiting time for service	11.3 minutes	GP waiting times
Travel time to service	Travel times to GP practice: from 8 to 10 min based on Local Authority	GP travel times
Impact of support on rate of absence due to caring	20%	Assumptions based on Survey of Carers in Households 2009/10
Impact of support on retention of employed workers	2%	Assumptions based on Survey of Carers in Households 2009/10
Impact of support on rate of absence due to stress and anxiety	10%	Assumptions based on Survey of Carers in Households 2009/10
Impact of support on unemployed and inactive workers	3% of workers re-enter the labour market	Assumptions based on Survey of Carers in Households 2009/10

Model assumptions – sensitivity analysis

	low cost - low impact scenario	base case scenario	high cost - high impact scenario
Percentage of employed carers with stress or anxiety issues	5%	7%	10%
Average duration of absence for common mental health issues (days)	15.8	25.8	35.8
Days missed due to caring responsibilities	1.5	2	5
Travel time to service (min)			
Bromsgrove	6	9	12
Malvern Hills	7	10	13
Redditch	6	9	12
Worcester	5	8	11
Wychavon	7	10	13
Wyre Forest	6	9	12
Herefordshire	7	10	13
Waiting time for service (min)	6.3	11.3	16.3
Impact of support on retention of employed workers	1%	2%	3%
Impact of support on rate of absence due to caring	10%	20%	30%
Impact of support on rate of absence due to stress and anxiety	5%	10%	15%
Impact of support on unemployed and inactive workers	2%	3%	4%
Number of sessions	1	3	5
Duration of session	0.5	1.0	1.5

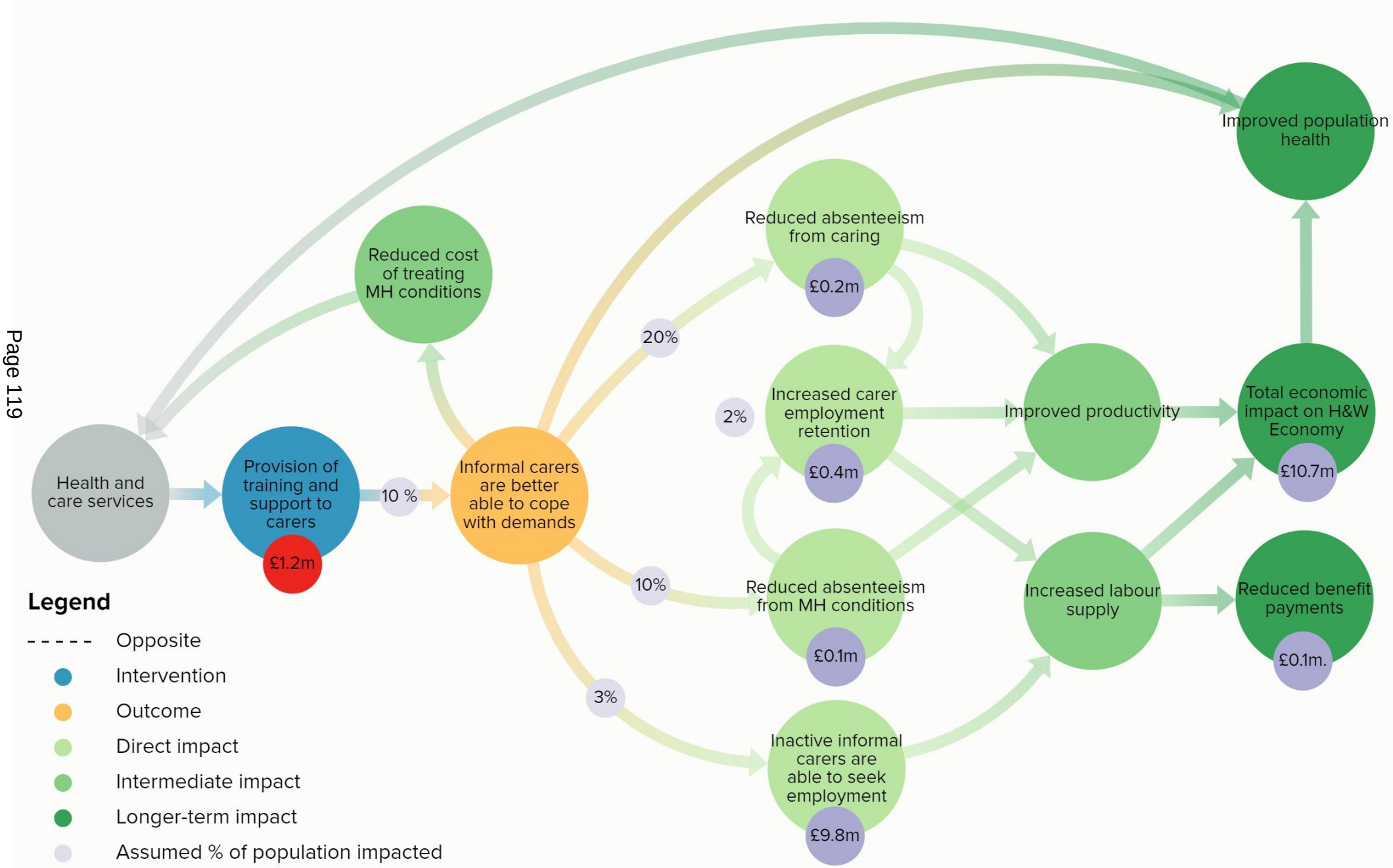
Results: base case scenario

The model and its assumptions estimate that an **investment of £1.2 million** from health and organisations in additional support to just 10% of informal carers could **generate an economic benefit of over £10.7 million**. This is made up of four main economic benefits of the intervention:

- **Out of work participants finding and maintaining employment**. These individuals are assumed to fill HtFV, so could contribute additional output to the local economy. This is equal to **£9.8m** and makes up the largest proportion of the benefit.
- **Employed individuals being supported to stay in employment**, when in the absence of the intervention they would have ended their employment to provide informal care. This is estimated to be worth **£0.4m**.
- **Employed carers spend less time absent from work** due to the support and guidance they receive. This is estimated to be **£0.3m**, with most of this due to a reduction in the absence required to provide informal care.
- The **benefits paid to people who are out of work are reduced**. This has been estimated to be **£0.1m**. The change in benefit payments is not a local economic benefit, but an interesting impact of the intervention.

It should be noted that in reality, it may not be possible to fill all these HtFVs with informal carers. This will decrease the economic impact of the initiative.

Results: base case scenario



Sensitivity analysis results

To consider possible effects of the intervention, one-way sensitivity analysis was conducted. Two additional scenarios were considered: implementing low cost intervention (1 session instead of 3) and high cost intervention (5 sessions instead of 3). Some baseline assumptions were also varied. It was assumed that lower cost intervention will result in low impacts and higher cost intervention will result in higher impacts. Detailed assumptions are presented in the 'Model assumptions' part of the report,

	low cost - low impact scenario	base case scenario	high cost - high impact scenario
Reduced absenteeism from Mental health conditions (£m)	0.04	0.10	0.29
Reduced absenteeism from caring (£m)	0.08	0.22	0.81
Additional GVA produced (£m)	6.55	9.82	13.10
Increased career employment retention (£m)	0.22	0.43	0.65
Reduced benefit payments (£m)	0.08	0.12	0.16
Cost of provision-staff time (£m)	0.13	0.76	1.90
Cost of time spent at service – employed (£m)	0.05	0.28	0.68
Cost of time spent at service – unemployed (£m)	0.03	0.15	0.37
Total cost to STP (£m)	**0.21**	**1.19**	**2.95**
Total impact on H&W economy (£m)	**6.98**	**10.72**	**15.06**

Additional commentary

Compared to the costs of provision, there are significant economic benefits that could result from this intervention. These are:

- employed individuals being supported to stay in employment,
- employed carers spending less time absent from work, and
- economically inactive carers finding and maintaining employment.

Though not modelled here, the intervention could also have long term benefits for the NHS and the quality of life of carers and the cared for (e.g. the physical health of informal carers). Additionally, employment has a beneficial effect on health and wellbeing, which would provide additional long-term benefits to the NHS.

Next steps

Next steps?

What we suggest:

- Use this study and its findings to engage with stakeholders and socialise this way of thinking so that it can start to influence future decision-making for the overall benefit of society.
- Start to build the case for moving towards carbon neutrality by x
- Each of these high level indicative model's are scoping exercises of potential ways forward but do not represent a complete business case for service change. . If the results are appealing, more robust business cases should be developed prior to implementation.
- If selected for implementation, the impact of the initiative(s) should be evaluated and lessons learned for future work.

Further analysis:

- Car-borne OP traffic in terms of accidents; noise pollution and knock on effects etc.
- Environmental impacts of other service configurations that may benefit from transformation e.g. GP appointments
- Impact of introduction of environmentally friendly travel schemes e.g. electric / hybrid vehicles

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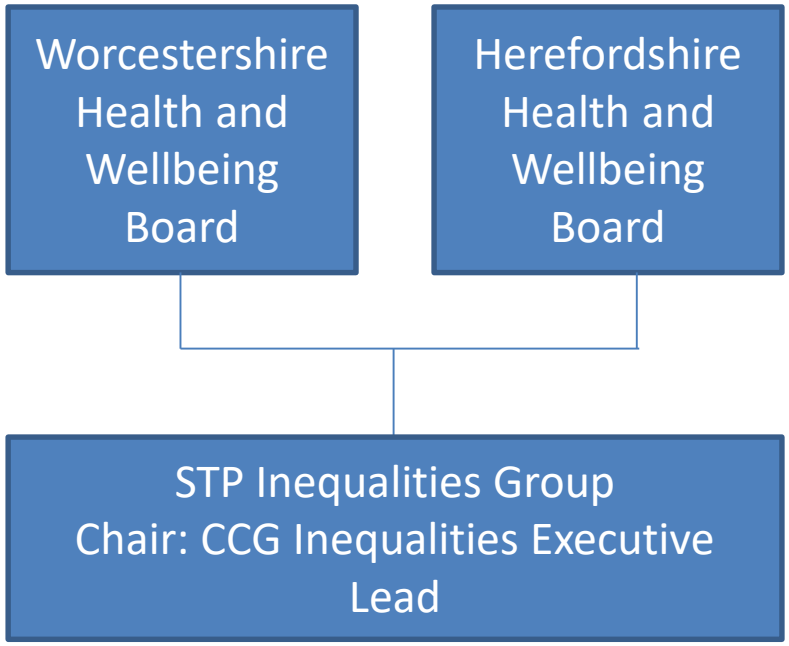
Inequalities in COVID Restoration and Recovery Plans

Herefordshire and Worcestershire STP

Infrastructure supporting Inequalities

A collaborative approach to tackling inequalities is being taken as we restore and recover our services in Herefordshire and Worcestershire (H&W). The STP group will drive the system-wide approach tackling health inequalities as services are recovered and restored. The STP executive lead for inequalities will chair our STP Inequalities Group which will also be supported by both of our Directors of Public Health. The STP Inequalities Group will support the work of the Health and Wellbeing Boards (HWBB) in each county. The HWBBs are currently refreshing their strategies and will align these to focus on inequalities through the restoration and recovery period. Our STP Outcomes Framework is being developed to support a focus on inequalities.



System plans on inequalities

Addressing health inequalities was a key priority across for Herefordshire and Worcestershire STP (H&W) prior to the Covid-19 outbreak. It is widely known that COVID-19 has amplified existing inequalities, with the impact of COVID-19 being disproportionate and therefore a refreshed focus is required.

The three areas of focus are:

- Ensuring those at greatest risk from COVID-19 are protected and supported in the way that is needed.
- Ensuring restoration plans have a focus on inequalities, resulting in services being accessible to those in greatest need.
- Longer term focus, ensuring health inequalities become a key system wide focus when developing plans and services in the future.

Some of the key actions that we are putting in place to underpin these areas of focus through restoration and recovery are:

- Robust mechanisms to record accurate data regarding inequalities across the system.
- Organisation and system leadership with a focus on inequalities (Via our STP Executive, Health Inequalities group and HWBB's).
- Developing the role of anchor organisations to support our staff, linked to our approach to the People Plan.
- Building on existing community development approaches - Talk Communities and Here2Help.
- Ensuring that we seek views that are representative of our population though our system wide engagement work, targeting resources at those facing the greatest inequalities.
- Building on our established STP population health management approach to identify and proactively support vulnerable groups.
- Ensuring a focus on inequalities through restoration and recovery workstreams, through the embedded approach to equality impact and risk assessments and awareness raising.

Prior to the COVID-19 outbreak, H&W STP recognised the need to address health inequalities and this was reflected in the Long Term Plan (LTP). The LTP highlighted priorities for addressing inequalities across many work programmes, detailed on the next slide.

Key inequalities priorities within the LTP

Work programme	Priorities and actions relevant to inequalities
Elective Care	Strengthening Public Health contribution across all work programmes: this will help to address inequalities and target resources.
Cancer	Undertaking a mapping exercise against each cancer screening programme to understand the impact deprivation has on screening uptake. Implementation of a project to increase bowel screening uptake in the 20 most deprived practices across the LTP. *Increasing our focus through PCN's in increasing access to effective support for reducing obesity, alcohol consumption and smoking. Increase uptake of NHS and other health checks, including the focus on earlier of excessive alcohol consumption.*
Mental Health	Development of an integrated wellbeing model, to be embedded within communities and primary care. The successful development and system wide use of this will mean the alignment and integration of social prescribing, lifestyle support and information and advice on wider determinants of mental health.
Children and Young People	Ensuring model of effective Early Help in place across STP. Targeted provision and early intervention for vulnerable groups. Working as an STP to address poverty and deprivation through whole population management approach. Support a local place-based approach to improving health and wellbeing of families. Implement public health approach to reduce the exploitation of young people. *Catch up programmes for imms and vacs.*
Learning Disabilities and Autism	Tackling the underlying factors that increase risk of aspiration pneumonia. More effective use of health and social care provision. Improved care coordination for those with complex or multiple long-term health conditions. Tackle the prevalence of lifestyle factors that increase cancer and obesity. Timely learning of factors that may influence avoidable or amenable deaths and development of plans to address any specific themes. *Prioritise access to flu vaccination and promotion of uptake of annual checks.*

Collaborative approach

Herefordshire and Worcestershire STP are taking a system-wide collaborative approach to tackling inequalities during restoration and recovery, including:

- Promoting the importance of data collection to all health and care professionals and VCS partners. Ensuring that datasets are complete and timely will underpin an understanding of and response to inequalities across the system, as referenced in the Phase 3 letter. Population health profiles for PCNs will raise awareness in Primary Care, in preparation for the expected health inequalities DES in April 2021.
- Developing the role of anchor organisations to act as exemplars in promoting staff health and wellbeing, with our STP workforce being at the vanguard of this. Work will focus around equitable approaches to procurement practices, creating local employment, understanding and overcoming barriers to employment of local people/ use of estate of anchor organisations by local communities.
- Taking a strengths based approach to our community development and engagement work through local initiatives such as Here2Help in Worcestershire and Talk Communities in Herefordshire, working with our VCS.
- Strengthening equality impact and risk assessments (EIRA) on service changes and service redesign. Undertaking impact assessments is helping us to identify key risks to the groups identified when accessing services post-COVID. We now have an agreed STP wide EIRA approach and these are being routinely completed for all work programmes.
- Developing our PHM approach- infrastructure, intelligence and intervention. Better utilising the skills of our BI workforce and developing PHM capability through PHM training for our analysts, enabling better identification of, and proactive support for, vulnerable individuals or groups.

Short-term inequalities priority areas

Utilising the collaborative approach described previously and reflecting on the learning to date during COVID, H&W STP have identified the following short-term priority focus areas:

- **BAME -** All providers are working to identify inequalities and support their staff in these groups. For example, WAHT have developed an occupational risk assessment form for all staff members with priority given to those in high risk groups including BAME colleagues. The form was developed in conjunction with staffside and each form is quality assured by the occupational health department. The Trust has also focused on BAME representation in the Trust and have been successful in establishing a BAME network.
- **Houses of Multiple Occupation (HMO) -** Several outbreaks in H&W have been on farms, which has emphasised the need to focus on HMOs and our Eastern European communities supporting our agricultural sector. A proactive response is being taken to understand where these communities are and to ensuring they have access to information on social distancing, hygiene and access to all services. The response will build on the learning from engaging with other seldom heard communities e.g. the collaborative approach to supporting rough sleepers and homeless people during COVID-19.
- **Preventative programmes –** plans to accelerate preventative programmes which proactively engage those at greatest risk of poor health outcomes; including more accessible flu vaccinations, better targeting of long-term condition prevention and management programmes such as obesity reduction programmes and health checks for people with learning disabilities. General practice to use the capacity released through modified QOF requirements to develop priority lists for preventative support & longer term conditions management e.g. health checks, obesity & hypertension, smoking cessation, diabetes, respiratory, alcohol misuse.
- **Wider determinants** – consolidate learning from before and during COVID to inform our approach to addressing the wider determinants of health across H&W; employment, housing, fuel poverty, food poverty, unstable employment, vulnerable families, mental heath and wellbeing and children development/education.

Risks and challenges

There are risks and challenges associated with progressing the plans and priorities as identified in the previous slides. These risks are outlined in the table below:

Risk	Mitigation against the risk
Limited resource and capacity across the system.	• Identification of an Inequalities Executive Lead for each organisation. • Focus on inequalities through the Health and Wellbeing Boards and STP Inequalities Group. This will provide infrastructure to support and enable delivery and actions will be prioritised through this route. • Leadership from Health and Wellbeing Boards, with refreshed strategic approach, will provide strategic focus across the system.
Specialist nature of the work around inequalities.	• System-wide focus through restoration plans and ongoing development and delivery. • Our STP Equality Impact Assessment process facilitate consideration of inequalities in service redesign, supported by our established STP Equalities Advisory Group. Building a PHM approach including BI PHM training and development to ensure analysts utilise and promote this way of working.
Restoration and recovery of services exacerbates inequalities.	• Our focussed leadership and system wide EIRA process will be alert to this risk. • We have recently received a specially commissioned report from MLCSU on Digital Exclusion, enabling us to highlight our population most at risk and an evidence review with recommendations on how to promote a digitally inclusive approach.
Further outbreaks of COVID-19.	• Building awareness of the importance of proactive identification of inequalities and tailoring of interventions to ensure inequalities are not further exacerbated and risk factors mitigated.

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