Population Health Management

Dr Deepak Dwarakanath
Medical Director/Deputy Chief Executive

Transforming our services - Putting patients first - Valuing our people - Health and wellbeing
Population Health Management

Improving the health of an entire population

It is about improving the physical and mental health outcomes and wellbeing of people, whilst reducing health inequalities within and across a defined population.

It includes action to reduce the occurrence of ill-health, including addressing wider determinants of health, and requires working with communities and partner agencies.
Population Health

Influenced by a wide range of factors and the interactions between them:

- **Local environment** – conditions in which people live and work;
- **Social and economic factors** – education, income and/or unemployment;
- **Lifestyles** – what people eat and drink, whether they smoke, and how much physical activity they do;
- **Access to health care** and other public and private services;
- **Age, sex and genes** make a difference including social networks and the wider society in which people live.
The Quintuple Aim

- Enhance experience of care
- Improve the health and well-being of the population
- Address health and care inequalities
- Reduce per capita cost of health care and improve productivity
- Increase the well-being and engagement of the workforce
Cycle of Ill Health

ILL HEALTH

1/4
Just under a quarter of the working age population in the NECA area is economically inactive

LOWER GROWTH - FEWER JOBS

The North East currently has the highest unemployment rate of all UK regions, at 7.5%

1.6m working days lost per year

WORKLESSNESS

The poor health poverty cycle

95,310 ESA claimants

POOR PRODUCTIVITY

(North Tees and Hartlepool NHS Foundation Trust)

(Report of Commission for Health & Social Care Integration)
Cumbria and the North East

Hospital stays for Alcohol related harm

Smoking Prevalence

Excess weight in adults

Recorded Diabetes

Obese Children (aged 10 - 11)

Better
Similar
Worse
Compared with all areas England
Approximately 21% (7,600) of children live in low income families. Life expectancy for both men and women is lower than the England average.

**Child health**
21.1% (480) of children at Year 6 in school are classified as obese.

The rate of alcohol-specific hospital stays among those under 18 is 75* (rate per 100,000), worse than the average for England.

This represents 32 stays per year. Levels of teenage pregnancy, breastfeeding initiation and smoking at time of delivery are worse than the England average.

**Adult health**
The rate of alcohol-related harm hospital stays is 901*, worse than the average for England. This represents 1,698 stays per year. The rate of self-harm hospital stays is 239*, worse than the average for England. This represents 467 stays per year.

Rates of sexually transmitted infections, people killed and seriously injured on roads and TB are better than England average.

Rates of early deaths from cardiovascular diseases and early deaths from cancer are worse than average.
Approximately 27% (4,800) of children live in low income families. Life expectancy for both men and women is lower than the England average.

Child health
23.3% (260) of children at Year 6 in school are classified as obese, worse than the average for England.

The rate of alcohol-specific hospital stays among those under 18 is 38* (rate per 100,000). This represents 8 stays per year.

Levels of teenage pregnancy, GCSE attainment, breastfeeding initiation and smoking at time of delivery are worse than the England average.

Adult health
The rate of alcohol-related harm hospital stays is 952*, worse than the average for England. This represents 862 stays per year.

The rate of self-harm hospital stays is 230*, worse than the average for England. This represents 205 stays per year.

Estimated levels of adult excess weight, smoking and physical activity are worse than the England average.
Female Life Expectancy at birth: 81 yrs
Male Life Expectancy at birth: 77 yrs

73% of adults who are overweight or obese
6% Adults with Diabetes
27% Drinking alcohol to excess
20% Smokers
13% Experiencing Fuel Poverty
10% Long Term Unemployed
1% Homeless

54% on poor diets
46% Eat 5-a-day fruit and veg
50% of physically active adults
62 deaths each year

321 emergency admissions due to falls in over 65s
...but estimate 1700 undiagnosed

...50% are ‘inactive’
...but 24% experience income deprivation

With impact on childhood obesity
Rough-sleepers impacted by poverty and winter

1 in 5 Adults smoke...
<table>
<thead>
<tr>
<th>Across settings</th>
<th>Continuous care as patients transition from one context to another</th>
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<tr>
<td>Across people</td>
<td>Continuity across the care team, populations, and conditions</td>
</tr>
<tr>
<td>Across data</td>
<td>Continuous and holistic analysis of all types of data</td>
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<tr>
<td>Across time</td>
<td>Continuous, proactive engagements throughout a person’s lifetime</td>
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Working across the full spectrum of where, when and how health happens

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Challenges

Population Health – Key Challenges

- Understanding the population health management agenda to help formulate and shape the strategy that will emerge
- Getting partners on board – public health, primary care networks, mental health and voluntary sector
- Designing the right governance arrangements to facilitate decision making and move towards population health management
- Ensuring stakeholders are appropriately engaged in the decision-making process
- Understand the populations being served and how they compare to other localities
- Ensure data-sharing/access protocols are discussed and ‘on the table’ so that risk stratification and impactability models can succeed
- Rethinking funding, resources and incentive models to facilitate population health management
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**GP Practices and Communities covering Mandale, Victoria, Hardwick, Parkfield, Newtown, Roseworth & Town Centre**

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**GP Practices covering De Bruce, Headland & Harbour, Jesmond, Victoria, Foggy Furze & Burn Valley**
Admissions by Post Code

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GP Practices and Communities covering Eaglescliffe, Mandale, Victoria, Hardwick, Parkfield, Newtown, Roseworth & Town Centre

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GP Practices covering De Bruce, Headland & Harbour, Jesmond, Victoria, Foggy Furze & Burn Valley
Our Combined Priorities

North Tees & Hartlepool NHS Foundation Trust
- Respiratory
- Liver Disease
- Stroke
- Diabetes
- Cardio Vascular

Hartlepool Public Health JSNA
- Cancer
- Liver Disease
- Respiratory
- Diabetes
- Stroke
- Cardio Vascular

Stockton Public Health JSNA
- Cancer
- Cardio Vascular
- Diabetes
- Respiratory
Core capabilities for Population Health Management

Infrastructure

What are the basic building blocks that must be in place?

- Organisational Factors - defined population, shared leadership & decision making structure
- Digitalised care providers and common health and care record
- Integrated data architecture and single version of the truth
- Information Governance that ensures data is shared safely, securely and legally

Intelligence

Opportunities to improve care quality, efficiency and equity

- Supporting capabilities such as advanced analytical tools and software and system wide multi-disciplinary analytical teams, supplemented by specialist skills
- Analyses - to understand health and wellbeing needs of the population, opportunities to improve care, and manage risk
- Interpretation of evidence to identify targeted, high impact interventions

Interventions

Care models focusing on proactive interventions to prevent illness, reduce the risk of hospitalisation and address inequalities

- Care model design - delivery of integrated personalised care and interventions tailored to population needs
- Community well-being - asset based approach, social prescribing and social value projects
- Workforce development - upskilling teams, realigning and creating new roles
Core capabilities for Population Health Management

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South Integrated Care Partnership

Pathway:
- Population Defined
  - Shared Leadership
  - Decision Making Culture

Nodes:
- Infrastructure
- Providers
- TEWV
- NTHFT
- LMC/GPs
- HaST
- Voluntary Sector
- HaSH
- Stockton Public Health
- Hartlepool Public Health

Network:
- Shared Leadership
- Decision Making Culture

Shared Leadership
Decision Making Culture
What We’re Doing Within the Trust

• Public Health Consultant working within the Trust- building a population health focus into all our strategies
• Team/Directorate meetings to raise profile and engage staff
• Aligning HWB Strategy with Population Health – draft Population Health & Wellbeing Strategy
• Identifying providers/charities who provide help and support around our four main priorities
• Scoping planned programme of activities
• Linking with Research & Development to gather meaningful intelligence
• Identified space within both hospitals to host activities for patients/visitors
• Small (very small) amount of capital required to make this a vibrant, attractive area
What We’re Doing With Partners

- Established working group with both Councils’ Directors of Public Health and CCG and partners
- Group is scoping a multi-agency, cross boundary stakeholder event
- Providing Clinician/Consultant contribution to JSNA
- Enabled exploration of data access/sharing protocols/issues/concerns – CCG lead with NECS
- Individual service to service interventions at operational level
- **Need to ensure a joined-up, strategic approach between partners and stakeholders**
Mobilising Communities

Leadership
Decision-Making
Strategy

Population Health Management

Multi-Agency Partnership

Market pressures:
- Financial resources
- Disparate/disconnected working
- Rise in demand
- Increased long-term conditions

Organisational objectives:
- Optimise outcomes and experiences
- Maximise efficiencies
- Provide individualised care at scale
- Integrate care systems

Institutions and Services:
- Local Authority and Social Care
- Pharmacy
- GP and Primary Care
- Hospital
- Community and Mental Health
- Long-Term Care and Rehabilitation
- Education
- Employers
- Faith
- Health
- Care
- Sports
- Retail
- Virtual Health

What We Could Do Within Communities

- Partnership events – Alcohol/Smoking/Activity
- Joint working in GP Practices e.g Diabetes Nurse providing advice and guidance
- Voluntary sector & Social Prescribing
- ‘Health Check Pop-up Shop’ – High Street location
- Supermarket Healthwise sessions
- Fitness/Physio – Park Run
- Community focused Health & Social Care Events
Things to think about......

Data?

How can we mobilise communities?

What kind of interventions can we put in place?

Who else can help us deliver interventions?

Explore data and scope interventions

Develop ‘Health Check’ Area (NTH & UHH)

Respiratory & Liver Disease focus

Trust-wide

GP/Trust joint working e.g Diabetes

‘Pop-up Health Check Shop’

GP Engagement Sessions

Partnership
Population Health: Liver Project

Jane Metcalf, NTH
Mark Hudson, NUTH
Ian Nicholson, Dominic Rowley et al, NECS
Nick Timlin, Rishika Sinha, H+S CCG

Transforming our services - Putting patients first - Valuing our people - Health and wellbeing
Population health

• Aims to improve physical and mental health outcomes, promote wellbeing and reduce health inequalities across an entire population
• Fits DoH and Long term plan agendas
• Uses data already available to identify target population
• Can be distilled down to manageable project within parameters
Population health: liver disease

- Only rising cause of death in young people
- Avg age of liver death is 54 years
- Main causes lifestyle: alcohol, obesity, HCV

Figure 1: Standardised UK mortality rate data from the WHO-HFA database was normalised to 100% in 1970 and subsequent trends plotted using SPSS (analysis September 2013, Nick Sheron)
Liver project: Trust/CCG: 3 levels

• **Whole population** - engaging with policy makers, service and retail industry, local authority and public health, through the Integrated Care System / Partnerships

• **Local communities** – at GP practice level, ward level or other smaller units, or targeted areas with high levels of particular demographic or lifestyle risk factors or prison populations for example – considered at the Integrated Care Community level

• **Individuals** - identified at GP practice level for targeted personalised interventions which could be lifestyle or health – Practice level risk stratification
Target interventions (NICE)

• Identify **populations at risk** of developing liver disease.
  – This group would be targeted for lifestyle interventions to prevent liver disease e.g. exercise, healthy towns, reduce fast food outlets, promote healthy eating, reduce sugar intake, needle exchange and education.

• Identify those likely to have **currently unrecognised** liver disease.
  – Targeted screening for the presence of undiagnosed liver disease e.g. liver bus/elastography, trained nurse/associate physicians/GPs

• Those with **diagnosed advanced** liver disease.
  – Manage proactively e.g. by an admission/crisis avoidance specialist team or specialist nurse/advanced practitioner.
  – Propose that this includes use of tools to recognise when referral for transplant palliative care is appropriate.
• Age 18-75
• Risks:
  – raised BMI
  – raised BP
  – statins
  – ALT>40
  – T2DM

Tees: at Risk Population

Undiagnosed Population
593,000

ALT > 40 or Type 2 Diabetes
62,000

At Risk
42,000

Lifestyle
257,000

Aged 18-75
424,000

Diagnosed Population
3,300

Primary care Nov 2018
Secondary care Jun 2018
Patients registered with Tees GPs

\(^1\)Lifestyle
Obese (BMI >30)
High Blood Pressure (last systolic ≥130)
Statins prescribed in last 15 months
Tees: Potentially Undiagnosed

At Risk
42,000

Potentially Undiagnosed
450

Alcohol or Substance Abuse
35,000

Diagnosed Population
3,300

Liver Function
8,400

Liver Function
4,300

Primary care Nov 2018
Secondary care Jun 2018
Patients registered with Tees GPs

2Liver Function
Albumin <35 and bilirubin ≥17
ALT >40 and bilirubin ≥17
Platelet count <150
Diagnosis of thrombocytopenia
At single practice level (9 500 popl)

- Take out
  - Already diagnosed
- Add in
  - Substance abuse
  - Abnormal synthetic liver function
Possible undiagnosed decompensated cirrhosis

- 2 practices, population 28,855, 20 cases
  - Mean age 53.9 yrs (29-74)
  - Mean BMI 31.4 (22-45)
  - Mean ALT 80 (range up to 240)
  - Mean bilirubin 21 (max 37), 2 low albumin
- Patients reviewed and being referred to OP
  - 9 significant alcohol abuse
  - 1 haemachromatosis
  - 1 fatty liver/cardio-myopathy
Next steps

- GP registrars to look at 450 at risk
- Proof of concept to engage stakeholders
- Move to next stages of project
  - Screen 42 000
  - Engage on whole population issues
  - Engage with patients

THINK BIG, START SMALL, MOVE FAST