The Future of Health Research
& The Nightingale: What next?
27 November 2019
Welcome

Christina Cornwell
Sally Zlotowitz

#NestaHealthResearch
OBJECTIVES

● Discuss and capture views on Nesta’s Nightingale proposals
● Showcase examples & develop thinking about future research to address the wider determinants of health
● Identify research priorities and hopes from the frontline of research and practice
● Encourage interdisciplinary and inter-sector collaborations
Who’s here?
How should it feel?

- Informative
- Interactive
- Inclusive

Please help us with this
Overview

12:30 Welcome
12:45 What’s at stake?
13:00 Introduction to Nesta & The Nightingale
13:20 Discussion
13:55 Break
14:05 Bringing the proposals to life
15:00 Visioning the future
16:10 Next steps and getting involved
16:25 Thank you & reflections
What’s at stake?

Complete exercise 1 on your own on your personal ‘table mat’

Share your stories as a group & introduce yourselves
Introduction to Nesta & The Nightingale
Nesta is the UK’s innovation foundation. We bring bold ideas to life to change the world for good.
A focus on real-world solutions
A focus on evidence
A focus on new innovation methods
A focus on evidence-based innovations to improve health and well-being

“People Powered Health”
The Biomedical Bubble

James Wilsdon
The Biomedical Bubble

Why UK research and innovation needs a greater diversity of priorities, politics, places and people

Richard Jones and James Wilsdon
July 2018
Questions of balance

- Between disciplines
- “Pure” vs “Applied”
- Undirected vs goal/mission-driven
- Between different “goals” or “missions”
- Across support for different economic sectors
- Across the regions and nations of the UK

- What is the right balance between health research and research in support of other strategic goals?
- What is the right priority to attach to the pharmaceutical and biotech industries, compared to other industrial sectors?
- Within the envelope of health research, what is the right balance between biomedical life sciences and other approaches to improving health?

Source: Academy of Medical Sciences (2016) Improving the health of the public by 2040
New drugs per $billion R&D (log scale)

- FDA tightens regulations post thalidomide
- FDA clears backlog following PDUFA regulations and perhaps relaxes on HIV drugs
- First wave of biotech
- Increase in 'orphans' plus 'targeted' cancer drugs

8.4% per year decrease in new drugs per $billion R&D
Regional concentration of health related research funding

>90% funding in these 19 cities
55% goes to London, Cambridge, Oxford

Research spending £ millions


- Charity
- Government
- Research councils
The Nightingale
We want to see...

Much greater proportion of R&D spend on addressing the root causes of health and well being

Source: Social Determinants of Health – University Wisconsin Population Health Institute
We want to see...

<table>
<thead>
<tr>
<th>From:</th>
<th>To:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measurement</td>
<td>Experimentation</td>
</tr>
<tr>
<td>Interventions to address isolated risk factors</td>
<td>Interventions to address complex systems</td>
</tr>
<tr>
<td>Randomised Control Trials as default</td>
<td>Rigorous evaluation and learning techniques designed for complex social interventions</td>
</tr>
<tr>
<td>Research on/for communities</td>
<td>Research with communities</td>
</tr>
<tr>
<td>Research by public health specialists</td>
<td>R&amp;D by transdisciplinary teams:</td>
</tr>
<tr>
<td>Undervalued (VCSE) expertise in participatory research and community development</td>
<td>- public health, behavioural and social scientists</td>
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<td></td>
<td>- community developers and community members</td>
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<td></td>
<td>- design, data and digital</td>
</tr>
<tr>
<td></td>
<td>- health, education and other practitioners</td>
</tr>
</tbody>
</table>
We want to see...

A highly-networked and distributed organisation with the profile, leadership and coordination needed to accelerate progress at scale.
SHAPE

- **Horizon scanning**
  - Key challenges and goals
  - New innovation and research methods
  - Emerging solutions

- **Best practice R&D**
  - Transdisciplinary
  - Participatory
  - Experimental approaches & evaluation methods for complex interventions

- **Partnerships with communities**
  - Coproduction of priorities & approaches
  - Scale up best practices from participatory research & community development
SUPPORT

- Building networks and collaborations
  - Share ideas, knowledge & expertise
  - Support capacity building

- R&D funder
  - Collaborating centres and other R&D organisations
  - Potential investment in sustainable test-beds
SHARE

● Evidence hub
  Collect, synthesise & disseminate evidence
  Develop tools & actionable insights for decision makers - based on behavioural science

● Promote and implement solutions
  Promote evidence-based solutions
  Champion health in all policies approaches & ambitious long-term goals
INVEST BIG!
Discussion

In pairs discuss the questions on the whole group table mat

Join as a group to discuss the questions & write some themes onto the table mat

Feedback key points to wider group
Break
Bringing the proposals to life

Professor Kate Pickett - ActEarly

Professor Rob Copeland - Advanced Well-being Research Centre

Southampton Collective
ActEarly: a City Collaboratory approach to early promotion of good health and wellbeing
## Health summary for Bradford

The chart below shows how the health of people in this area compares with the rest of England. This area’s result for each indicator is shown as a circle. The average rate for England is shown by the black line, which is always at the centre of the chart. The range of results for all local areas in England is shown as a grey bar. A red circle means that this area is significantly worse than England for that indicator; however, a green circle may still indicate an important public health problem.

<table>
<thead>
<tr>
<th>Domain</th>
<th>Indicator</th>
<th>Local No Per Year</th>
<th>Local value</th>
<th>England Worst</th>
<th>25th Percentile</th>
<th>England Range</th>
<th>75th Percentile</th>
<th>England Best</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child poverty</td>
<td>deprivation</td>
<td>238,172</td>
<td>46.2</td>
<td>20.4</td>
<td>63.6</td>
<td></td>
<td>37.9</td>
<td>0.0</td>
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<tr>
<td>Child poverty</td>
<td>children in poverty (under 16s)</td>
<td>29,225</td>
<td>23.9</td>
<td>7.2</td>
<td>37.9</td>
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<td>5.0</td>
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<tr>
<td>Child poverty</td>
<td>statutory homelessness</td>
<td>346</td>
<td>1.7</td>
<td>2.0</td>
<td>2.3</td>
<td></td>
<td>2.5</td>
<td>0.0</td>
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<tr>
<td>Child poverty</td>
<td>GCSE achieved (A*-C inc. Eng &amp; Maths)</td>
<td>2,545</td>
<td>44.0</td>
<td>14.0</td>
<td>56.8</td>
<td></td>
<td>35.4</td>
<td>7.9</td>
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<td>Child poverty</td>
<td>violent crime (violence offences)</td>
<td>5,955</td>
<td>11.4</td>
<td>11.1</td>
<td>27.6</td>
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<td>Child poverty</td>
<td>long term unemployment</td>
<td>5,293</td>
<td>16.1</td>
<td>7.1</td>
<td>23.5</td>
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<td>0.9</td>
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<td>Child poverty</td>
<td>smoking status at time of delivery</td>
<td>1,258</td>
<td>15.8</td>
<td>12.0</td>
<td>27.5</td>
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<td>1.9</td>
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<td>Child poverty</td>
<td>breastfeeding initiation</td>
<td>5,408</td>
<td>69.8</td>
<td>73.9</td>
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<td></td>
<td></td>
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<tr>
<td>Child poverty</td>
<td>cleft children (Year 6)</td>
<td>1,330</td>
<td>22.3</td>
<td>19.1</td>
<td>27.1</td>
<td></td>
<td></td>
<td>9.4</td>
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<tr>
<td>Child poverty</td>
<td>alcohol-specific hospital stays (under 10)†</td>
<td>45.0</td>
<td>32.5</td>
<td>40.1</td>
<td>105.6</td>
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<td>11.2</td>
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<tr>
<td>Child poverty</td>
<td>under 10 conceptions</td>
<td>299</td>
<td>27.9</td>
<td>24.3</td>
<td>44.0</td>
<td></td>
<td></td>
<td>7.6</td>
</tr>
<tr>
<td>Child poverty</td>
<td>smoking prevalence</td>
<td>n/a</td>
<td>22.6</td>
<td>16.4</td>
<td>30.0</td>
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<td></td>
<td>9.0</td>
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<tr>
<td>Adult health</td>
<td>obesity (Year 6)</td>
<td>275</td>
<td>53.6</td>
<td>56.0</td>
<td>43.5</td>
<td></td>
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<td>69.7</td>
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<tr>
<td>Adult health</td>
<td>obesity (Year 19)</td>
<td>n/a</td>
<td>26.7</td>
<td>23.0</td>
<td>35.2</td>
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<td></td>
<td>11.2</td>
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<tr>
<td>Adult health</td>
<td>excess weight in adults</td>
<td>808</td>
<td>67.7</td>
<td>63.8</td>
<td>75.9</td>
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<td>45.9</td>
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<tr>
<td>Adult health</td>
<td>incidence of malignant melanoma†</td>
<td>48.3</td>
<td>12.2</td>
<td>18.4</td>
<td>38.0</td>
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<td>4.8</td>
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<tr>
<td>Adult health</td>
<td>hospital stays for self-harm</td>
<td>1,420</td>
<td>261.7</td>
<td>203.2</td>
<td>662.7</td>
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<td>60.9</td>
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<tr>
<td>Adult health</td>
<td>hospital stays for alcohol-related harm†</td>
<td>3,700</td>
<td>787</td>
<td>645</td>
<td>1,231</td>
<td></td>
<td></td>
<td>366</td>
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<tr>
<td>Adult health</td>
<td>prevalence of opiate and/or crack use</td>
<td>4,441</td>
<td>13.1</td>
<td>8.4</td>
<td>35.0</td>
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<td></td>
<td>1.4</td>
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<tr>
<td>Adult health</td>
<td>recorded diabetes</td>
<td>33,280</td>
<td>7.8</td>
<td>6.2</td>
<td>9.0</td>
<td></td>
<td></td>
<td>3.4</td>
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<tr>
<td>Adult health</td>
<td>incidence of TB†</td>
<td>167.3</td>
<td>31.9</td>
<td>14.8</td>
<td>113.7</td>
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<td></td>
<td>0.0</td>
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<tr>
<td>Adult health</td>
<td>new STI (sex Chlamydia aged under 25)</td>
<td>1,466</td>
<td>441</td>
<td>382</td>
<td>3,369</td>
<td></td>
<td></td>
<td>172</td>
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<tr>
<td>Adult health</td>
<td>hip fractures in people aged 85 and over</td>
<td>424</td>
<td>532</td>
<td>580</td>
<td>838</td>
<td></td>
<td></td>
<td>354</td>
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<tr>
<td>Adult health</td>
<td>excess winter deaths (three year)</td>
<td>209.7</td>
<td>22.1</td>
<td>17.4</td>
<td>34.3</td>
<td></td>
<td></td>
<td>3.9</td>
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<tr>
<td>Adult health</td>
<td>life expectancy at birth (Male)</td>
<td>n/a</td>
<td>77.7</td>
<td>79.4</td>
<td>74.3</td>
<td></td>
<td></td>
<td>83.0</td>
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<tr>
<td>Adult health</td>
<td>life expectancy at birth (Female)</td>
<td>n/a</td>
<td>51.4</td>
<td>83.1</td>
<td>60.0</td>
<td></td>
<td></td>
<td>88.4</td>
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<tr>
<td>Adult health</td>
<td>infant mortality</td>
<td>46</td>
<td>5.6</td>
<td>4.0</td>
<td>7.6</td>
<td></td>
<td></td>
<td>1.1</td>
</tr>
<tr>
<td>Adult health</td>
<td>smoking-related death</td>
<td>625</td>
<td>353.7</td>
<td>266.7</td>
<td>471.6</td>
<td></td>
<td></td>
<td>167.4</td>
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<tr>
<td>Adult health</td>
<td>suicide rate</td>
<td>51</td>
<td>10.8</td>
<td>8.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under 75 mortality rate: cardiovascular</td>
<td>360</td>
<td>106.4</td>
<td>76.2</td>
<td>137.0</td>
<td></td>
<td></td>
<td>37.1</td>
<td></td>
</tr>
<tr>
<td>Under 75 mortality rate: cancer</td>
<td>543</td>
<td>151.1</td>
<td>144.4</td>
<td>202.9</td>
<td></td>
<td></td>
<td>104.0</td>
<td></td>
</tr>
<tr>
<td>Killed and seriously injured on roads</td>
<td>209</td>
<td>38.9</td>
<td>39.7</td>
<td>119.6</td>
<td></td>
<td></td>
<td>7.8</td>
<td></td>
</tr>
</tbody>
</table>

*Please note: Some of the data is not available (n/a).
• Describe health and ill-health and their causes
• Design and evaluate interventions to promote health
• Provide a model for integrating research into practice
Novel cohorts
Connected Bradford data tapestry

Small area data - PHE
- Mental Health and Wellbeing
- Health
- Crime
- Child development
- Health related behaviour

Linked local data
- Primary Care
- Secondary Care
- Social Care
- Education
- Crime
- Benefits
- Housing
- Environment

Citizen Science
- Our Voice
- Participatory mapping
- Open Space
- RADAR Mobile Phone Sensor Data
- WeVideo
- Loyalty Card Data
- Fast food outlets

Cohort data
- Born in Bradford
- Genes and Health
- BiB4All
- Biology
- Behaviour
- Social

Consumer Data

GOVERNANCE - CURATION - DATA SCIENCE - MONITORING - EVALUATION -
Born in Bradford Research Programme:
McEachan (Director) | Wright (Chief Investigator)

**APPLIED HEALTH RESEARCH**
- Better Start Bradford Innovation Hub: Dickerson
- City CCG Inequalities Research Unit: Dickerson
- JU:MP Sport England Research: Barber Delivery: Burkhardt

**RESEARCH ANALYTICS AND CITY OF RESEARCH DATA INFRASTRUCTURE: MASON**
- BiB Family Cohort 12,500 families Waiblinger
- BiB4All Research data linkage for all pregnant mums: Bridges
- BiBBS 5000 Better Start families: Dickerson/Bridges

**EU research: Helix, Athlete Yang**

**Connected Bradford: 700,000 linked records: Sohal**

**Early Life and Prevention (Yorkshire and Humber ARC)**
McEachan | Pickett (Research manager: – Cartwright)

**NIHR Applied Research Collaboration (ARC): Bridges**
- Healthy Weight: Yang
- Healthy Schools: Mon-Willi
- System Change: Sohal
- Minority Ethnic Health
- Oral Day: Marsh-ma
- The Best Start Bywater
- Health Inequality Prady

**Linked Bradford Council Projects**
- Creative People and Places: Barber
- Bradford Clean Air Zone: McEachan
- Obesity Trail-blazer: Dogra

**ACT EARLY: WEST**
- Healthy Places
- Healthy Schools
- Healthy Live-lihoo ds
- Co-produc -tion
- Citizen Science
- Evaluat-io n
ActEarly: a City Collaboratory approach to early promotion of good health and wellbeing
Whole system approach

Healthy Places
- Healthy Streets
- Clean Air Strategy
- School Super zones
- Park Redesign
- Traffic calming
- Gamification
- Housing advice
- Incredible edibles
- Fast-food outlets

Healthy Learning
- Active travel
- Free school meals
- Healthy vending machines
- Sing Up
- Glasses for Classes
- Immersive technology
- ABRACADABRA
- #50thingstodobeforeyou’re5
- Enhanced learning locations

Healthy Livelihoods
- Early education & care
- Welfare advice
- Universal basic income
- Participatory budgeting
Pollution
Traffic
Green space
Inactive travel
Sedentary days
Fast food outlets
Unhealthy school meals
Physical activity
Attainment
Mental Health
Obesity
World domination
Diabetes and Tooth Decay

Child development and attainment
Winifred Robinson tracks the lives of the 14,000 families taking part in Born in Bradford.

28 mins | 14 Dec 2018

Academic achievement and child health
Winifred Robinson reports on the Born in Bradford research involving thousands of babies.

28 mins | 30 Jun 2017

Support for new mothers
Winifred Robinson reports on the lives of thousands of families being tracked in Bradford.

28 mins | 23 May 2016

Air pollution and child health
Winifred Robinson follows health research into the lives of thousands of Bradford babies.

28 mins | 16 May 2014
The Determinants of Health (1992) Dahlgren and Whitehead
Born in Bradford: can a research study change a city?

Email us: borninbradford@bthft.nhs.uk
How Amsterdam is reducing child obesity

By Dominic Hurst

BBC News

02 April 2018 | Health

Why kids in Amsterdam are getting slimmer

Childhood obesity rates are rising in many parts of the world - but in Amsterdam they are...
Complex systems can exhibit rapid change when a threshold point is reached. A system can be pushed towards (and past) a tipping point – especially with feedback.
Transforming lives through innovations that help people move
The Context

Described as the ‘best buy’ in public health, physical activity is good for physical and mental health, for a connected and vibrant society, for the environment and the economy and yet physical activity has been engineered out of daily life.

This has resulted in the majority of society and particularly the least affluent experiencing negative physical, mental and emotional health with huge medical, psycho-social and economic consequences.

For a city the size of Sheffield, a 2% reduction in the risk factors associated with cardiovascular disease through a more active population could lead to 600 fewer deaths, 2,000 less hospital bed nights and achieve £11.2million of savings in the NHS.

New approaches to the promotion of health and wellbeing are required and they MUST tackle the social, behavioural and environmental determinants of health.
The vision

Our vision is to transform lives through innovations that help people move.

Our mission is to prevent and treat chronic disease through world-class research and innovation into physical activity.
What we do

The AWRC brings together world-class academic expertise within a state of the art facility to undertake world leading research in physical activity.

The AWRC develops collaborative community, academic and industry partnerships to co-design products, interventions and services to help people move, improving the social, behavioural and environmental determinants of health.
What we do

The AWRC acts as an innovation centre for health care services, bringing together patients, clinicians and researchers to generate solutions to ‘real-world’ problems in the NHS that can be scaled regionally, nationally and globally.

The AWRC supports the development and delivery of postgraduate courses, CPD, doctoral programmes and apprenticeships to train the next generation of researchers who can work across academia and industry.

Act as the research hub for the National Centre for Sport and Exercise Medicine in Sheffield, including translating knowledge from elite sport into population health.
At the heart of the community

- Located on the Olympic Legacy Park alongside the Oasis Academy and University Technical College, the AWRC is part of Darnall, one of the most socially disadvantaged areas of the City.
- The AWRC therefore has a key role to play in improving the health and wellbeing of the local community.
- Access to academic staff to design and evaluate programmes, providing training and apprenticeships, hosting and supporting community engagement events and informing the curriculum of the adjacent Oasis Academy and University Technical College with our research.
Healthy and active 100 — research and innovation that prevents disease and supports people into 100 years of healthy and active life.

Living well with chronic disease — management and treatment of chronic disease, such as cancer, stroke, musculoskeletal disorders, diabetes and mental health, through physical activity as a therapy.

Technological and digital innovations to promote independent lives — development and application of new and emerging technologies to help people move, improving health and wellbeing across the population.
Move More Ambassadors
"Ambassadors will help explore community assets, spot opportunities for development, & connect assets for physical activity."
Participatory modelling of the system - supporting a network of assets in communities
<table>
<thead>
<tr>
<th>Existing Asset</th>
<th>Inclusion of physical activity</th>
<th>Selected considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>A local food bank</td>
<td>Walking for purpose.</td>
<td>Stigmatisation - those using the space might not want others to know.</td>
</tr>
<tr>
<td>A sewing group (Zest)</td>
<td>Health-walk, before or after the session.</td>
<td>Peer-to-peer support but could distract from reason they came.</td>
</tr>
<tr>
<td>A jewellery/baking group (Time-builders)</td>
<td>Access green areas of Gleadless Valley (walking).</td>
<td>Improve community awareness and mental health but could be dangerous, hard to find the right volunteers.</td>
</tr>
<tr>
<td>A volunteer library</td>
<td>Include according to group interest (e.g. history walks)</td>
<td>Just the usual suspects, doesn't reach anyone new</td>
</tr>
<tr>
<td>Litter pick</td>
<td>To go further into different parts of the community</td>
<td>Taps into community mind-set and making things better for others.</td>
</tr>
<tr>
<td>Baby and toddler group</td>
<td>Focus on new opportunities for mums</td>
<td>Need other organisations to help introduce new activities and support childcare.</td>
</tr>
<tr>
<td>Community hub</td>
<td>Space can be utilised for activities</td>
<td>Funding, hard to ensure it is being used by the people who need it most</td>
</tr>
</tbody>
</table>
Building trust and relationships with community organisations **before** we can actually ‘do stuff’
If you would like to find out more, or get involved with the work of the AWRC please contact us.

awrc@shu.ac.uk

www.awrc.co.uk

+44 (0)114 225 2255
HIGHLIGHTS FROM THE CRICK'S FIRST THREE YEARS
Imagine…

HIGHLIGHTS FROM THE NIGHTINGALE…
Over to you...

Choose a ‘headline’ as a group (what would be an exciting research outcome)

Complete exercise 2 on your own on your personal table mat - ‘visioning the future’ (5 minutes)

Then join as a group to complete the newspaper canvas - learning from each o
Next steps...
Developing the campaign

What are our objectives for the campaign?

● To build and share compelling evidence
● To create a sense of urgency through case studies
● To work with experts and establish an interdisciplinary stakeholder network to shape the direction
● Develop a clear and detailed plan for what the centre would look like and do

Campaign name and hashtag

● More Than Medicine
● Attention On Prevention
● Any others?

Listen out for our podcast episode on Tuesday next week! Subscribe to Future Curious at https://www.nesta.org.uk/feature/future-curious/
How do you want to be involved?

Please complete the ‘advice for Nesta’ sections of your personal table mat.