NIHR | Public Health Intervention Responsive Studies Teams

NIHR PHIRST
Using routine data to inform public health interventions

Public Health Intervention Responsive Studies Teams

November 2024

NIHR – National Institute for Health and Care Research

- The nation's largest funder of health and care research – providing the people, facilities and technology that enable research to thrive
- Mission: to improve the health and wealth of the nation through research
- Government funded, through the Department for Health and Social Care
- It is a strategic aim of NIHR to build capacity in preventative and public health research

PHIRST – Public Health Intervention Responsive Studies Teams

- Local government organisations have great opportunities to influence health and health inequalities… but often lack an evidence-base
- Innovative interventions are being delivered, based on what little evidence is available – but evaluations are needed
- Public health practice in local government has often been distant from academic research – golden opportunities to learn are being lost

PHIRST – Public Health Intervention Responsive Studies Teams

- Eight academic teams – fully funded and ready to evaluate local government interventions across the UK (England, Wales, Scotland, N. Ireland)
- Local government teams propose interventions to evaluate
- Evaluations are co-created: partnership between PHIRST team and local government
- Aim is to inform future decision making across local government

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PHIRST – Public Health Intervention Responsive Studies Teams

- First commissioned in 2020, now has over 48 complete evaluations
- Evaluations report in 12-18 months
- All outputs available on website


https://phirst.nihr.ac.uk/


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NIHR PHIRST

Sign up to the PHIRST mailing list: https://phirst.nihr.ac.uk/newsletter-sign-up/

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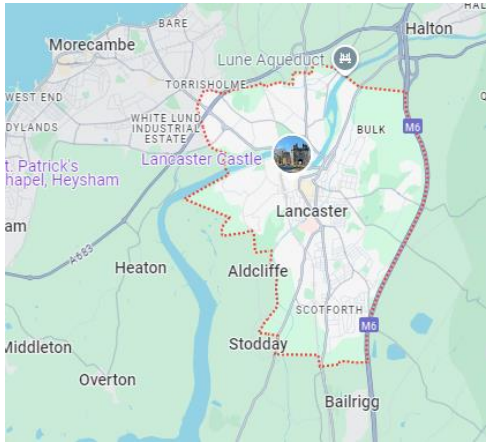
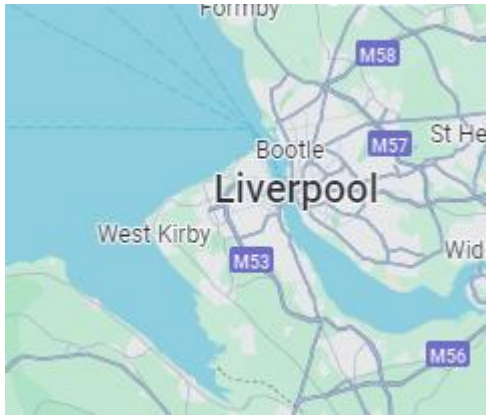
About PHIRST LiLaC





- Liverpool and Lancaster universities collaboration for public health research (LiLaC)
- Multi-disciplinary, drawing from expertise across our two research intensive universities in North West England
- Interests in particular on action to improve the social, economic and environmental circumstances in which people grow up, live and work.
- Team comprises researchers from Liverpool and Lancaster universities; Directors of Public Health from north west England and public co-applicants and collaborators with lived expertise

Completed and ongoing projects

Bristol
Trauma informed recovery pathway

East Sussex and Southampton
Healthy places officers

Kent
Money and mental health

Liverpool
Local welfare

Bolton
Trauma informed schools

Liverpool
Housing retrofit

Routine date examples…
Administrative and service data;
Citizens' advice case book data
Welfare, educational and housing data
Linkage to primary, secondary and social care datasets

Overview of the seminar

- Peter van der Graaf, PHIRST Fusion
  - Evaluation of Social Navigators' Service in South Tyneside: Linking local and national available data to quantify health and wellbeing impact
- Dr Samantha Garay, PHIRST Insight
  - Exploring impacts of a growth mindset intervention on children's education outcomes – the use of routine data
- Comfort Break (5 mins)
- Emma Coombes and Huihui Song, PHIRST LiLaC
  - Using routinely collected data to support public health evaluations: case studies from the city of Liverpool

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Evaluation of Social Navigators' Service in South Tyneside

Linking local and national available data to quantify health and wellbeing impact

Dr. Peter van der Graaf, PHIRST Fusion, Northumbria University
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Social Navigators

- People **returning multiple times** for support **without improving** their financial circumstances
- Service users with **complex additional health and social needs**, which continuously impact on their ability to be financially secure and stable
- In 2021 **South Tyneside Homes** and **South Tyneside Council** established 4 Social Navigators
- **Person-centred, outreach roles**: work with service users to identify and address underlying causes of financial hardship
- **Knitting support services together** across the Council and Borough

Evaluation of Social Navigators in South Tyneside

Aim: *Explore and quantify health and wellbeing impact of Social Navigator on clients to inform recommissioning and future development of service*

- **WP1:** Analysis of **service monitoring data** (n=330)
- **WP2:** Social Navigators trained as **peer researchers** (n=4) to **interview service users** about their experiences (n=15)
- **WP3: Health economic modelling** of health and wellbeing outcomes using UK Social Value Bank (HACT)

Available service monitoring data

- Data **collected by Social Navigators** at intake through **online system**, follow-up at mid-point and closing of case
- **330 cases** recorded (Sep 2021-Dec 23) across several spreadsheets:
- **Participant characteristics** (age, sex, employment status, health problems)
- **Financial gains** obtained for service users (e.g. child benefits, council tax rebate, food & utility vouchers, debt relief order). Categorised as one-off gains or ongoing annualised gains
- **8 scored outcome measures** (1-10 Likert scale): ability to ask for help, access to advice, health and financial services, ability to budget income, digital, social and employment skills

WP1. Analysis of service monitoring data

Most service users are:

- Female (66%)
- Aged 30 – 60 years (71%)
- White (missing data)
- Single (80%)
- No dependants (69%)
- Unfit for work (44%); unemployed (22%)
- Income of less than £10,000 (63%)

- 81% reported **at least 1 health problem**
- **On average** 1.41 health problems (± 0.754), maximum of 5
- **Mental ill health** most common recorded health problem (58%)
- Other health problems (disabilities, long term health problems) ranged between 5%-15%

Changes in confidence and skills

113 participants (56%) provided baseline and follow-up data on **eight outcomes**:

1. Ability to ask for help
2. Accessing advice services
3. Accessing financial services
4. Accessing health services
5. Being able to budget your income
6. Digital skills
7. Seeking employment
8. Social skills/ socialising

Statistically significant changes across all eight outcomes

Improvements greatest in:

- Ability to ask for help (3.2)
- Accessing advice services (3.8)
- Accessing financial services (2.1)

Limited gains in the remaining categories. Particularly, *Seeking employment* (0.5) and *Digital skills* (0.7)

Financial gains one off versus ongoing financial gains

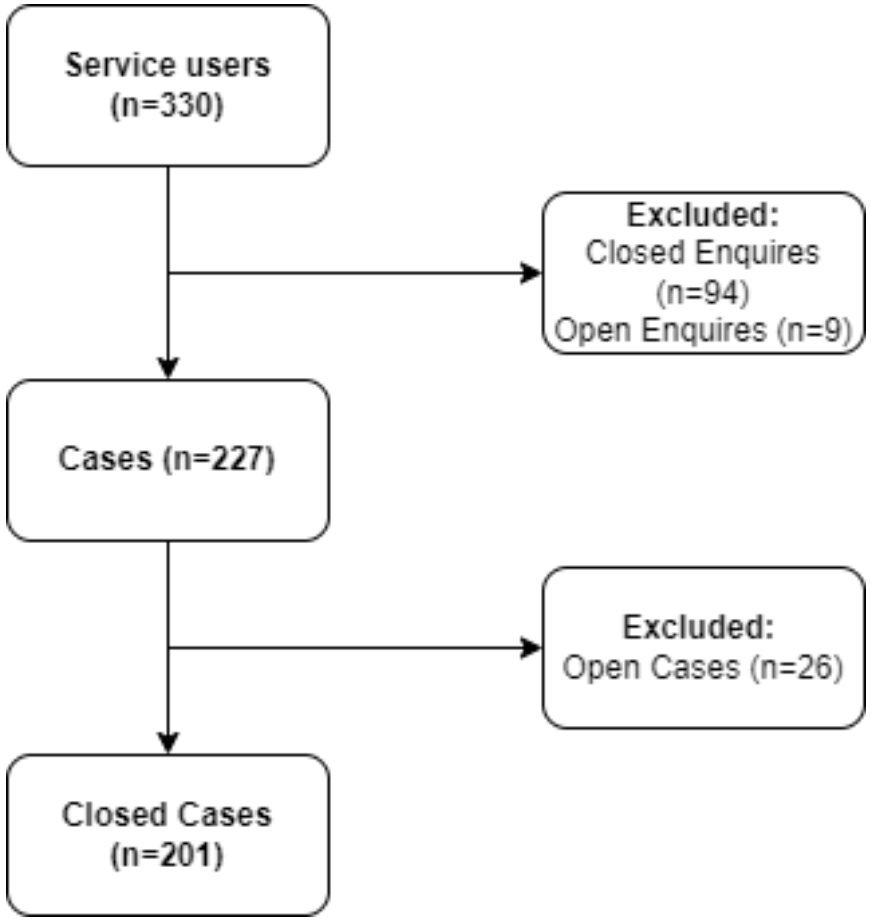
- 68% of service users received a **one-off financial gain**
- **Mean** one-off financial gain per person was **£1,237** (± £844)
- **Highly skewed**: 50% of service users received a one-off gain of <£180; 75% received <£992
- **Most common gains**: debt and energy related gains, Household Support Fund, Lucie's Pantry Shopping

- 25.9% of service users received an **annual financial gain**
- **Mean** annual financial gain per person was **£1,703** (± £4,186)
- **Highly skewed:** 7 users received >£10,000, while 75% received <£634
- **Most common gains**: access to social security (PIP), Council tax support, University Credit

Gaps in service monitoring data

Large amounts of **missing data** and **lack of follow-up** data:

- Only **closed cases** were included in study (201 of 330)
- 173 (86.1%) service users completed the scored outcome questionnaire at baseline, with **113 (56%) also completing at least one follow-up**
- **Lack of data on ethnicity**: 97 cases (48%) not reported



Combining local data with national data

- **Mapped scored outcome measures** collected locally against available outcomes from **HACT Social Value Calculator** (HACT/Simetrica, 2018).
  - Valuation of national surveys data to isolate effect of a factor on individual well-being and identify equivalent amount of money required to increase well-being by the same amount (Trotter et al, 2014).

- **3 scored outcomes matched** to calculate social value, based on number of cases that experience these outcomes
- Calculated costs of Social Navigators service to produce a **Social Return On Investment** (SROI) ratio and average gain per person

Social values of South Tyneside Social Navigators service

Stake-holder	Outcome	Financial Proxy	Number experien-cing Outcome	Dead-weight	Attribu-tion to Other Reasons	Drop-Off	Net Social Value
Service Users	Confidence in accessing advice services	£2,773	63	9%	0%	0%	£2,523
Service Users	Confidence in social skills/ socialising	£3,209	30	11%	0%	0%	£2,856
Service Users	Confidence in accessing health services	£12,623	16	22%	0%	0%	£9,846
Service Users	Financial Gains	Monetary value of gains by participant	136	0%	0%	0%	Monetary value of gains by participant

Social return on investment ratio

Social Return on Investment	Total	Average gain per person (n=201)	Ratio
Estimated cost	£367,278.81	£1,827.26	1
Social benefit	£1,090,987	£5,427.80	2.97
Difference	£723,708.19	£3,600.54	

Summary of findings

- **Statistically significant changes** across all eight confidence outcomes
- **Improved confidence** and **access to advice** and **financial services**
  More limited gains in seeking employment and digital skills
- **Direct financial benefit**: 2/3rd received **one-off financial gain** of on **average £1,237**, and >1/4 received **annual financial gains** of on **average £1,703**
- Relieving financial burden **improved quality of life** (becoming more able to leave and heat their homes), and **improved mental well-being**
- Positive **social return of £3 for every £1 spent**: clear net benefit to South Tyneside Council

Data reflections

- Large amounts of **missing data and lack of follow-up data**
  - Support local authority to collect data more systematically at regular intervals and make this a mandatory requirement in the system
- **Mismatch between local data and** outcomes data available from **national** HACT Social Value database (only 3 out of 8 matched);
  - Advise on additional outcomes to include in service monitoring system, including validated wellbeing score (ONS4 national measure for Life Satisfaction)
- **Time-intensive** process of collating data from different local spreadsheets
  - Embedded researcher gained insight in key variables and how to combined data in core spreadsheet for further analysis
- **Embedded researcher** ensured **easy access to data** without need for data sharing agreement, and opportunities for ongoing data updates

Reflections from peer researcher on using available data

"Whilst working with the team, Social Navigators have benefitted from the peer researcher training, but it has also ***shown what can be done with data already available to us, and how the data we collect can be maximised****."*

*"****We now collect follow-up data systematically after 6 weeks****; and then every 12 weeks up to the closure of case. [..] To support this,* ***we have made changes to the case recording system*** *[..] This has already increased the amount of data held on the characteristics of customers."*

"We will also make ***changes to the scored outcomes to align them better with the HACT database*** *and are looking at tracking employment status."*

References

- Final research report, https://phirst.nihr.ac.uk/evaluations/social-navigator/
- Paper (under review): Van der Graaf P, McCarthy A, Subramanian MP, Arnott B, Lee S, Samarakoon D, Gray J, Bate A. Improving local authority financial support services for users with complex health needs: a mixed-method economic evaluation of Social Navigators in South Tyneside, UK. *BMJ Open*, https://medrxiv.org/cgi/content/short/2024.11.07.24316923v1
- HACT, 2022, Methodology Note for Wellbeing Values, http://hact.org.uk/publications
- HACT & Simetrica. Community Investment and Homelessness Values from the Social Value Bank. 2018. https://www.hact.org.uk/value-calculator
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Thank you!

Any questions?

Research team

- Dr Peter van der Graaf, Northumbria University
- Dr Murali Subramanian, Newcastle University
- Prof Jo Gray, Northumbria University
- Prof Angela Bates, Northumbria University
- Andrew McCarthy, Northumbria University
- Dilupa Samarakoon, Northumbria University
- Dr Bronia Arnott, Newcastle University
- Sarah Lee, South Tyneside Council
- With thanks to Social Navigators: Deborah Harper, Abigail Berry, James Auty and James Fellows

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Exploring impacts of a growth mindset intervention on children's education outcomes: the use of routine data

Dr Samantha Garay, Dr Kelly Morgan, Dr Hayley Reed, Professor Simon Murphy and Professor Frank de Vocht

PHIRST Insight

Grant Small and Aoife Barrett

Winning Scotland

Evaluation partners

CARDIFF UNIVERSITY
PRIFYSGOL CAERDYDD

University of BRISTOL

WINNING SCOTLAND

BUILDING CONFIDENCE AND RESILIENCE IN YOUNG PEOPLE

DECIPHer
Centre for Development, Evaluation, Complexity and Implementation in Public Health Improvement
A Public Health Research Centre of Excellence

Mindset Teams programme

- 12-month school-based programme delivered across Scotland since 2018.
- Mindset Team + online modules + classroom application.
- Aim: Promote a growth mindset culture among schools and improve resilience for learning.
- Focus on primary schools.

"I believe that my intelligence, personality and character can be continuously developed. My true potential is unknown."

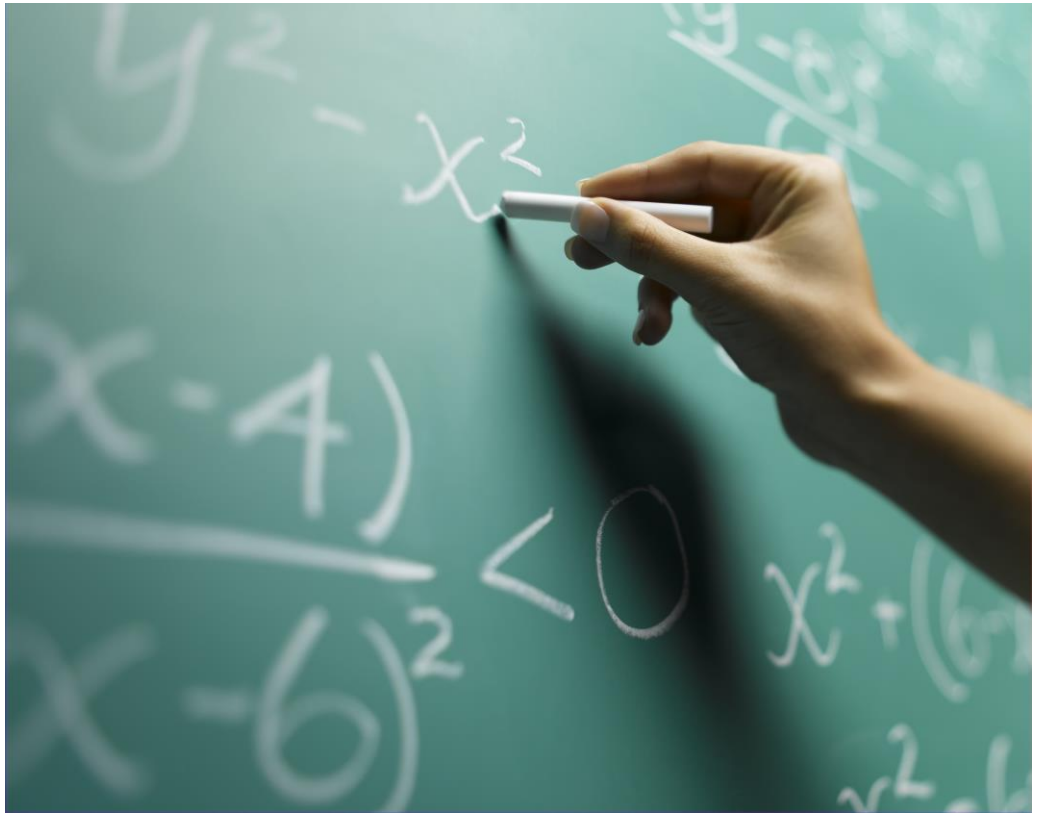
Growth Mindset

Evaluation aims

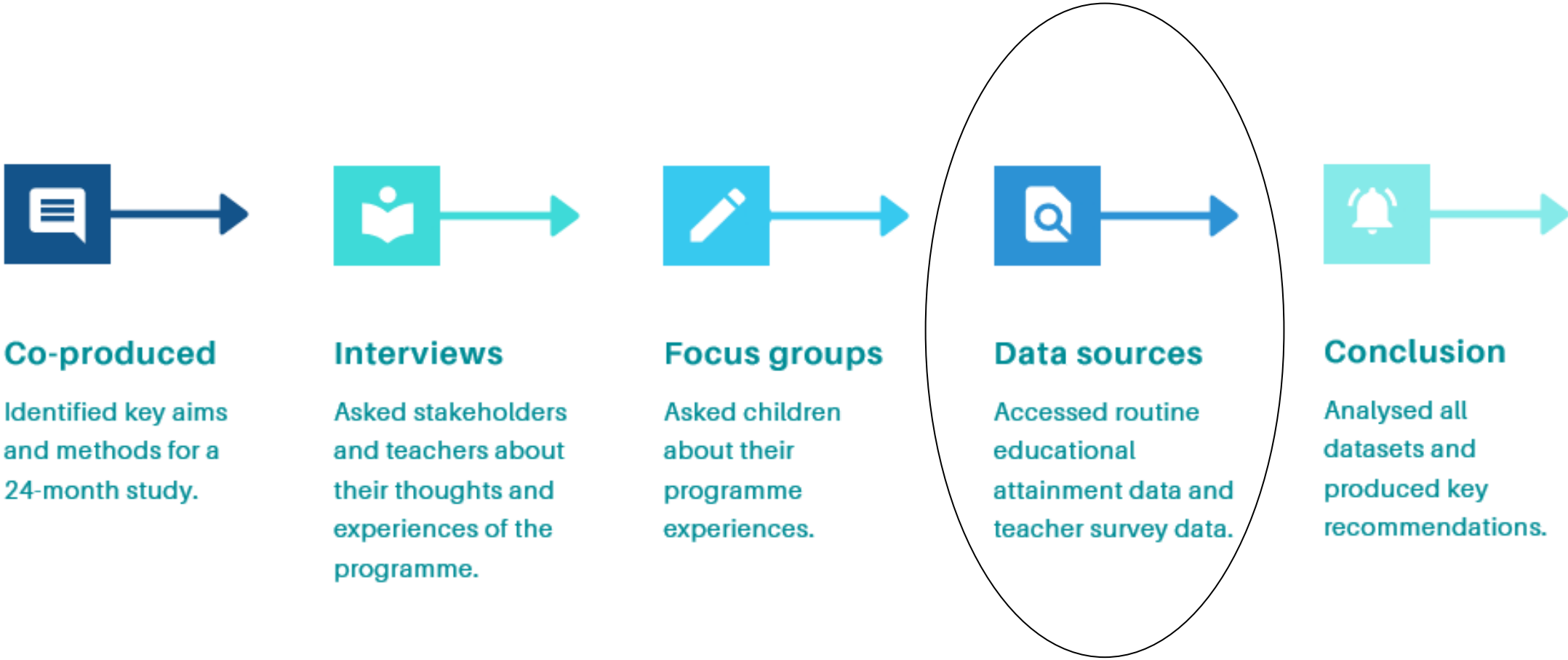
What we aimed to explore:

1. The impacts of the intervention on pre-specified outcomes.

2. Barriers & facilitators to programme uptake and delivery, and diffusion of the intervention within and across schools.



Evaluation



Co-produced

Identified key aims and methods for a 24-month study.

Interviews

Asked stakeholders and teachers about their thoughts and experiences of the programme.

Focus groups

Asked children about their programme experiences.

Data sources

Accessed routine educational attainment data and teacher survey data.

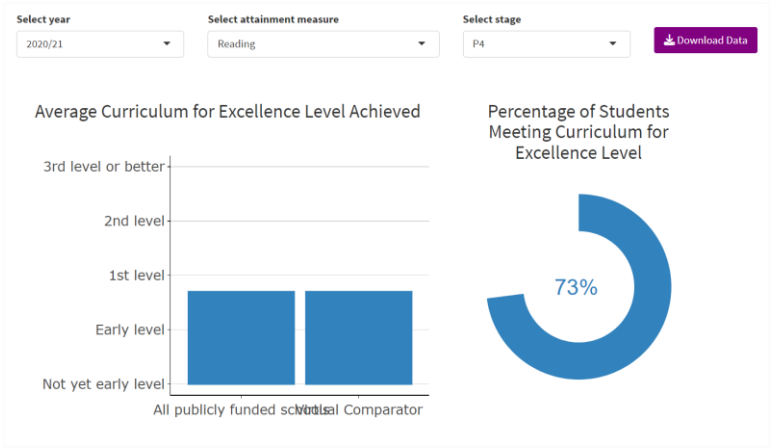
Conclusion

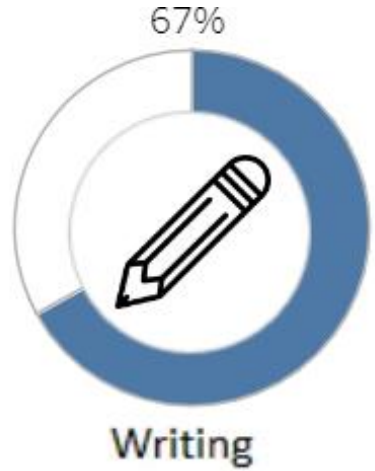
Analysed all datasets and produced key recommendations.

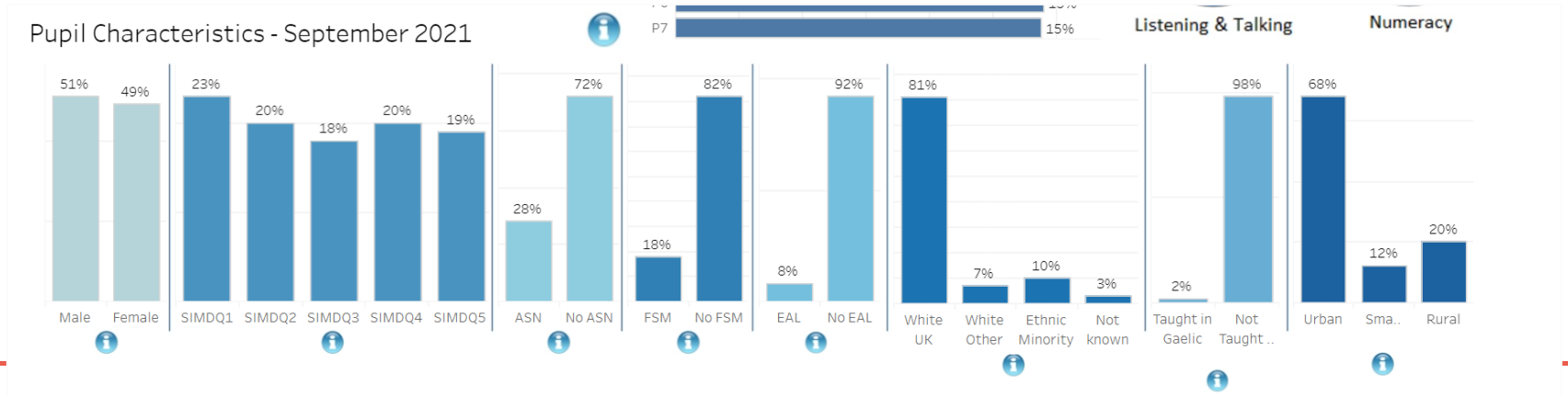
Teacher survey data

- Teachers complete an online survey before and after completing the Mindset Teams training.
- The survey includes 26 questions on
  - General background
  - Awareness of growth mindset
  - Attitudes towards growth mindset
  - School delivery involvement in growth mindset
- This is a mandatory requirement of the programme.
- The evaluation analysed data from 2018 to 2021.

National data







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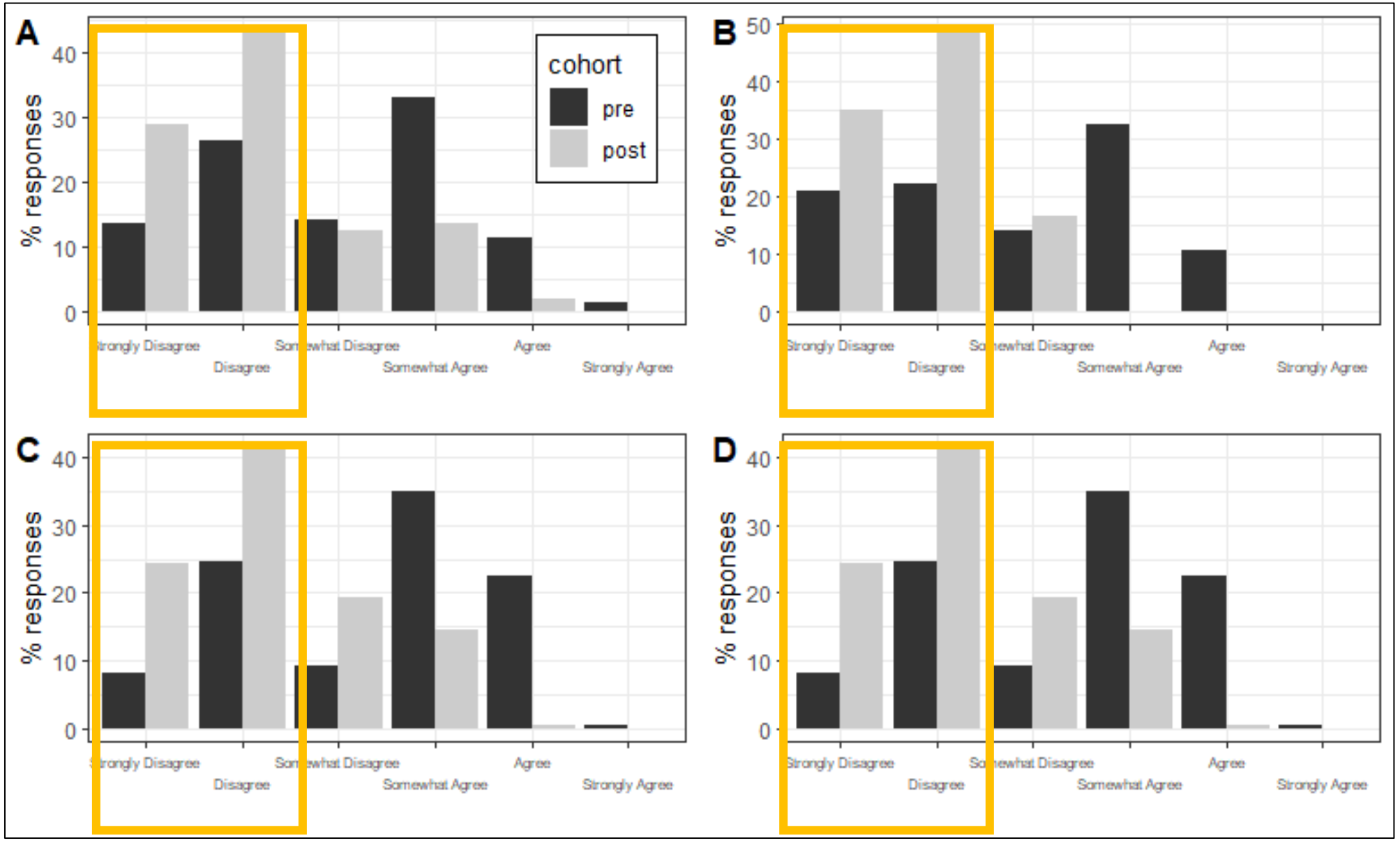
Key findings: Teacher survey data

A. ‘There will always be some students who simply won't "get it" no matter what I do’

B. ‘Ability is something that people have a certain amount of and there isn't much they can do to change it’

C. ‘Some people have a knack for learning and some just don’t’

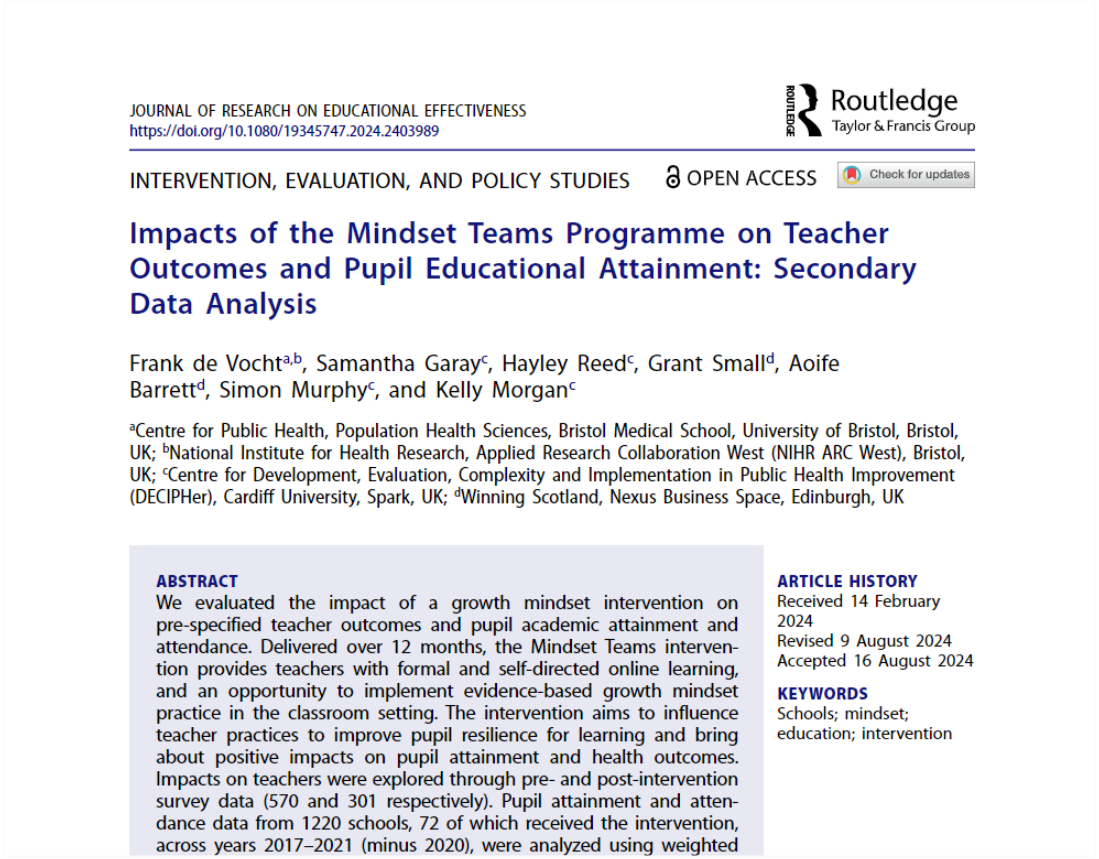
D. ‘Intellectual (or Mathematical) ability is something that remains relatively fixed throughout a person's life’


A
B
C
D
% responses
cohort
pre
post
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

Key findings – National data

- Pupil attainment and attendance data from 1220 schools.
- 72 schools received the intervention across years 2017–2021 (minus 2020).

- ‘Moderate effect on writing attainment’.
- No impacts on attendance or wider outcomes.



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Routledge
Taylor & Francis Group

INTERVENTION, EVALUATION, AND POLICY STUDIES OPEN ACCESS Check for updates

Impacts of the Mindset Teams Programme on Teacher Outcomes and Pupil Educational Attainment: Secondary Data Analysis

Frank de Vocht[a,b], Samantha Garay[c], Hayley Reed[c], Grant Small[d], Aoife Barrett[d], Simon Murphy[c], and Kelly Morgan[c]

[a]Centre for Public Health, Population Health Sciences, Bristol Medical School, University of Bristol, Bristol, UK; [b]National Institute for Health Research, Applied Research Collaboration West (NIHR ARC West), Bristol, UK; [c]Centre for Development, Evaluation, Complexity and Implementation in Public Health Improvement (DECIPHer), Cardiff University, Spark, UK; [d]Winning Scotland, Nexus Business Space, Edinburgh, UK

ABSTRACT

We evaluated the impact of a growth mindset intervention on pre-specified teacher outcomes and pupil academic attainment and attendance. Delivered over 12 months, the Mindset Teams intervention provides teachers with formal and self-directed online learning, and an opportunity to implement evidence-based growth mindset practice in the classroom setting. The intervention aims to influence teacher practices to improve pupil resilience for learning and bring about positive impacts on pupil attainment and health outcomes. Impacts on teachers were explored through pre- and post-intervention survey data (570 and 301 respectively). Pupil attainment and attendance data from 1220 schools, 72 of which received the intervention, across years 2017–2021 (minus 2020), were analyzed using weighted

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Accepted 16 August 2024

KEYWORDS
Schools; mindset; education; intervention

Challenges

Rich routinely collected data sources are available**, however** …

- Restricts analyses to the school level and so effects at the classroom level may be underestimated.
- Administrative data are not intended for research purposes.
- Inconsistencies in the data being collected.
- Inconsistencies in the data management.

Key considerations

- Start considering data sources as early as possible.
- Early access is key.
- Allow plenty of time. Data cleaning is time consuming
- Be flexible and be prepared to adapt plans to reflect the availability of data.

Conclusions

- Rich routinely collected data sources are available at both the local and national levels.
- These can be integrated with other evaluation specific methods to enhance evaluation findings.

Allow plenty of time

Find out more

https://phirst.nihr.ac.uk/evaluations/mindset-teams-in-the-scottish-education-system-scotland/

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This study was undertaken by Dr Kelly Morgan, Dr Hayley Reed, Dr Samantha Garay and Professor Simon Murphy from Cardiff University, and by Professor Frank de Vocht from University of Bristol, on behalf of the National Institute for Health Research PHIRST Insight team.

We are grateful for the advice and support of our collaborators at Winning Scotland and to all the schools, teachers and children for their participation.

This study is funded by the National Institute for Health Research (N I H R) Public Health Intervention Responsive Team (PHIRST/NIHR131567). The views expressed are those of the author(s) and not necessarily those of the NIHR or the Department of Health and Social Care.

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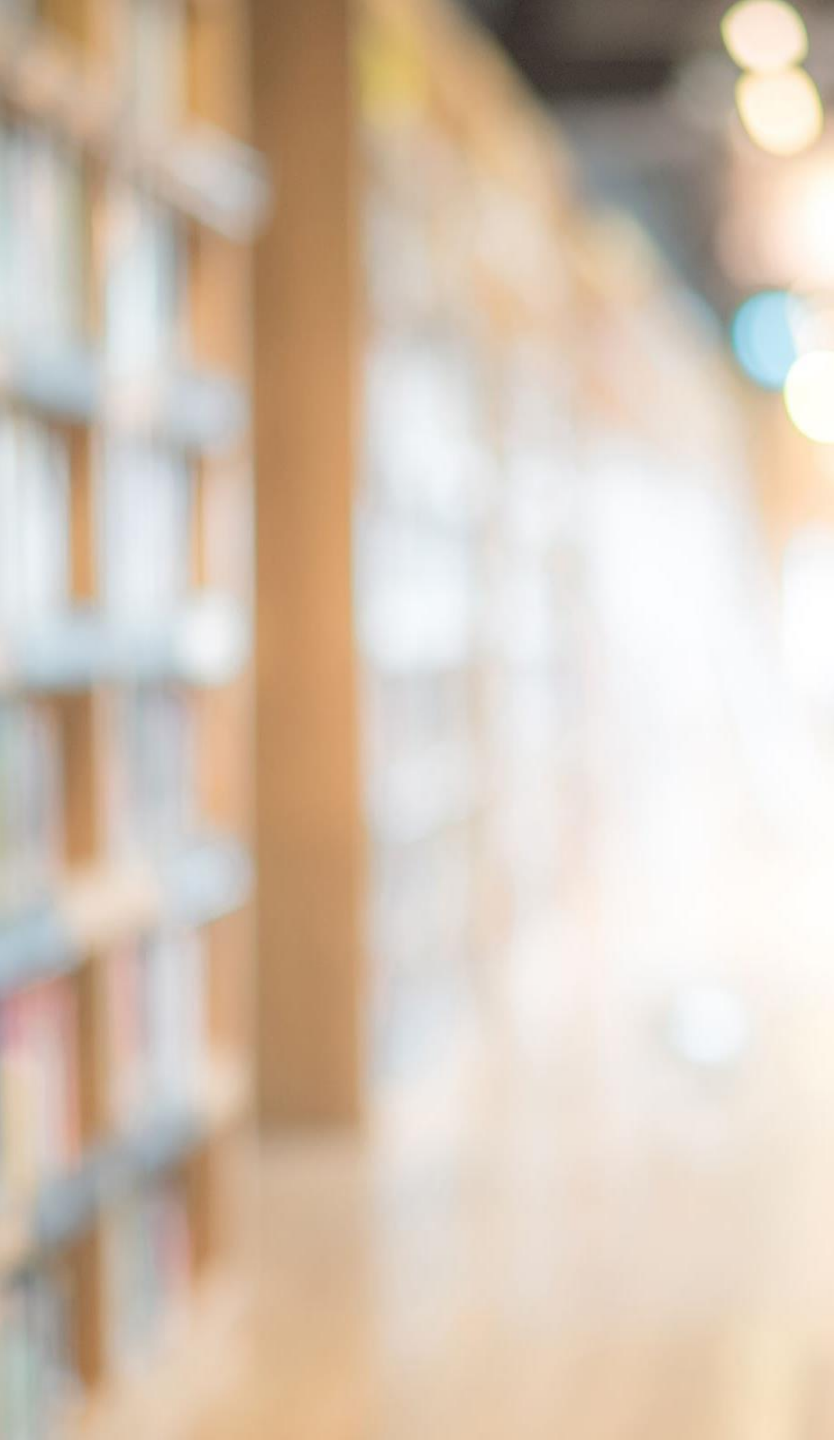
Using routinely collected data to support public health evaluations: case studies from the city of Liverpool

Dr Emma Coombes, PHIRST LiLaC

LiLaC

Why use routinely collected data?

- Routine data provide information on large sample sizes, in a way that could not be easily collected by other means.
- Data are generally good quality due to national reporting guidelines.
- Routine data might be the only source of baseline data i.e. capturing what happened before a policy or intervention was introduced.
- Can be linked to other data sources, e.g. NHS data, to help understand how a policy or intervention impacts the wider system.



Legal basis for accessing data

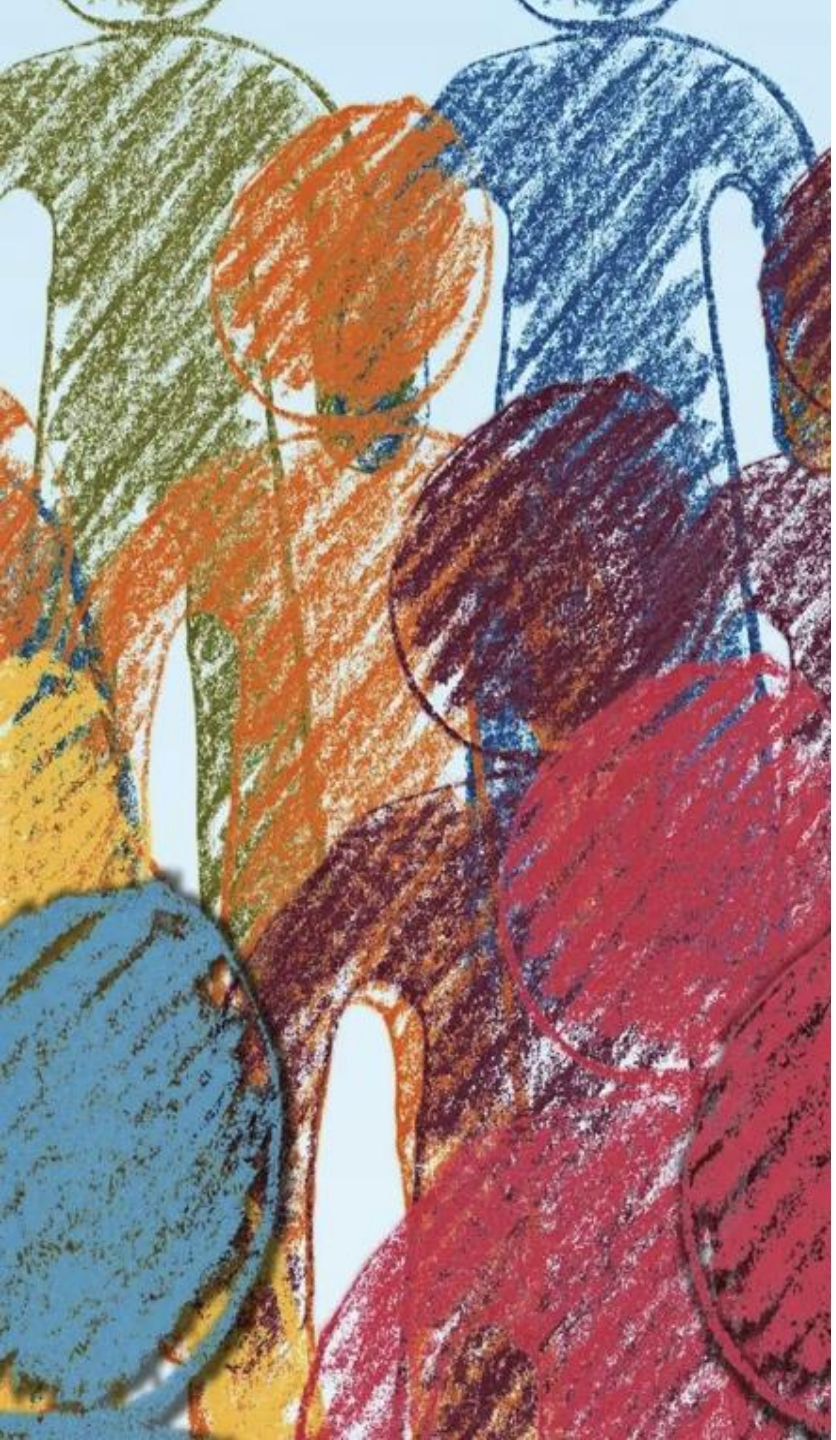
Under Article 6.1 (e) of GDPR:

“Processing is necessary for the performance of a task carried out in the public interest.”

Special category data is processed under Article 9.2 (j):

“Processing is necessary for archiving purposes in the public interest, or scientific and historical research purposes or statistical purposes.”

For more info see: https://ico.org.uk/



Liverpool local welfare schemes

- Liverpool City Council deliver a suite of welfare schemes.
- Welfare schemes provide financial or in-kind support (e.g. furniture, domestic appliances, and shopping vouchers) to those most in need.
- Our evaluation is examining equity of access to welfare schemes and assessing the implications for health inequalities. We are also exploring the impact of welfare provision on service users' health and wellbeing.

Liverpool schemes being evaluated

Liverpool City Council

Benefits Maximisation Service

Specialist advisors ensure people are receiving all of the welfare support they are entitled too. They also provide assistance with representation at benefit tribunals.

Discretionary Housing Payments

Financial support for people who need extra help with rent or housing costs when their Housing Benefit or Universal Credit does not fully cover these.

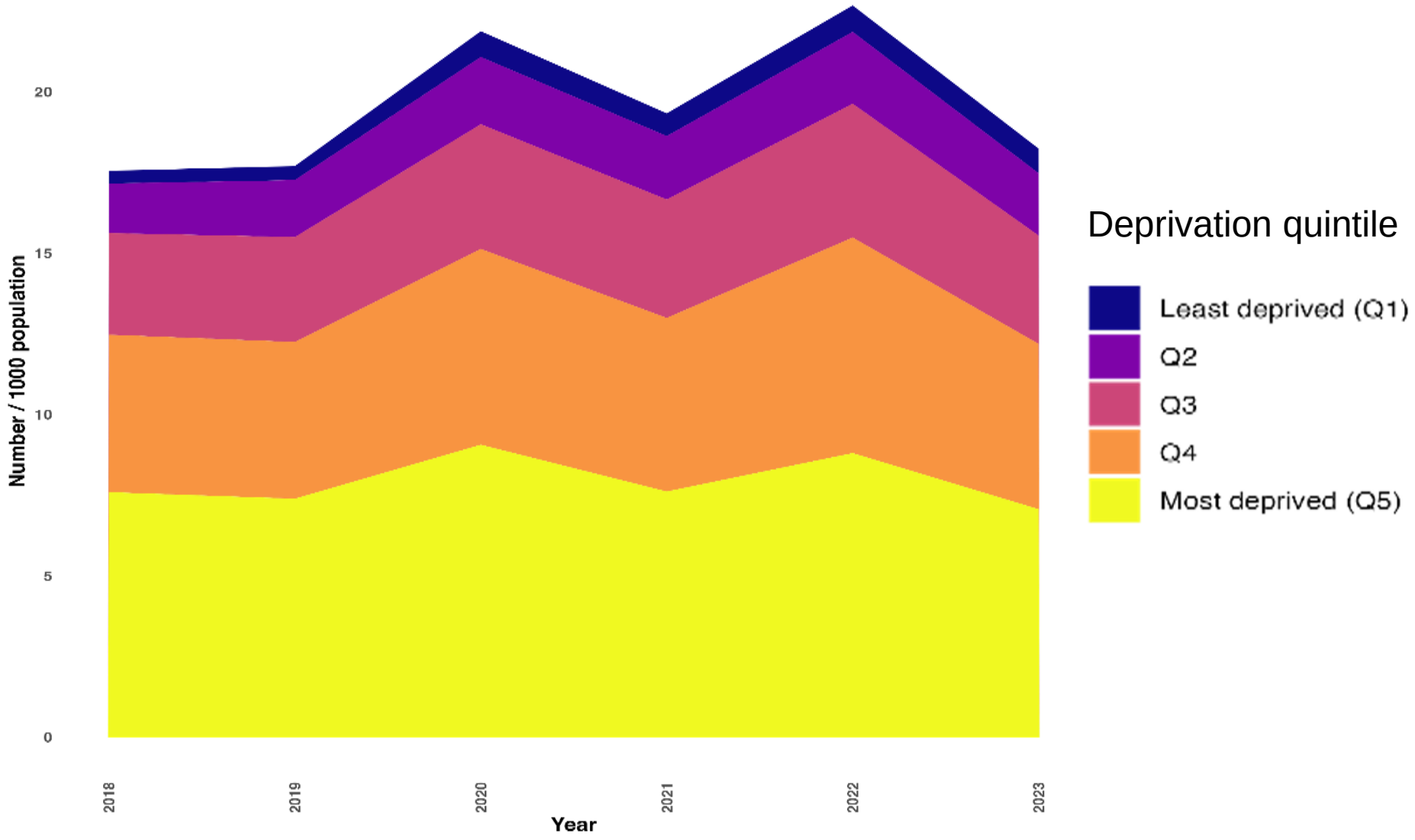
Liverpool Citizens Support Scheme

Essential items to maintain or establish a home e.g. furniture, white goods, domestic appliances, bedding, crockery. Food and fuel vouchers are also available.

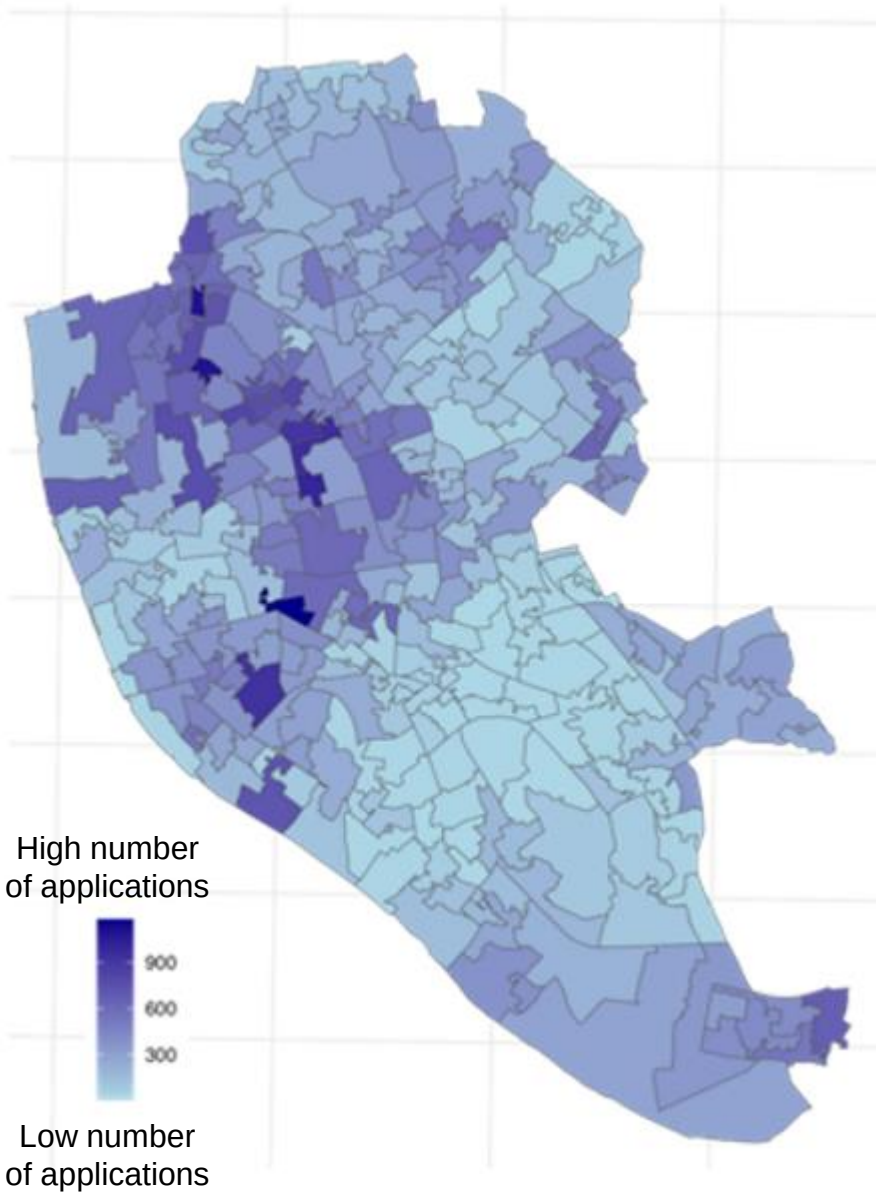
Welfare data routinely collected by Liverpool City Council

- Data available from 2018 to 2024.
- Applicants' characteristics: age, sex, ethnicity, area of residence.
- Applicants' circumstances: e.g. salary, amount of savings, whether they are in receipt of benefits, whether they have experienced a crisis event such as a fire or flood.
- Welfare outcome: whether the application for support was successful, type of support received (e.g. furniture, domestic appliances, and shopping vouchers), total value of the suport.

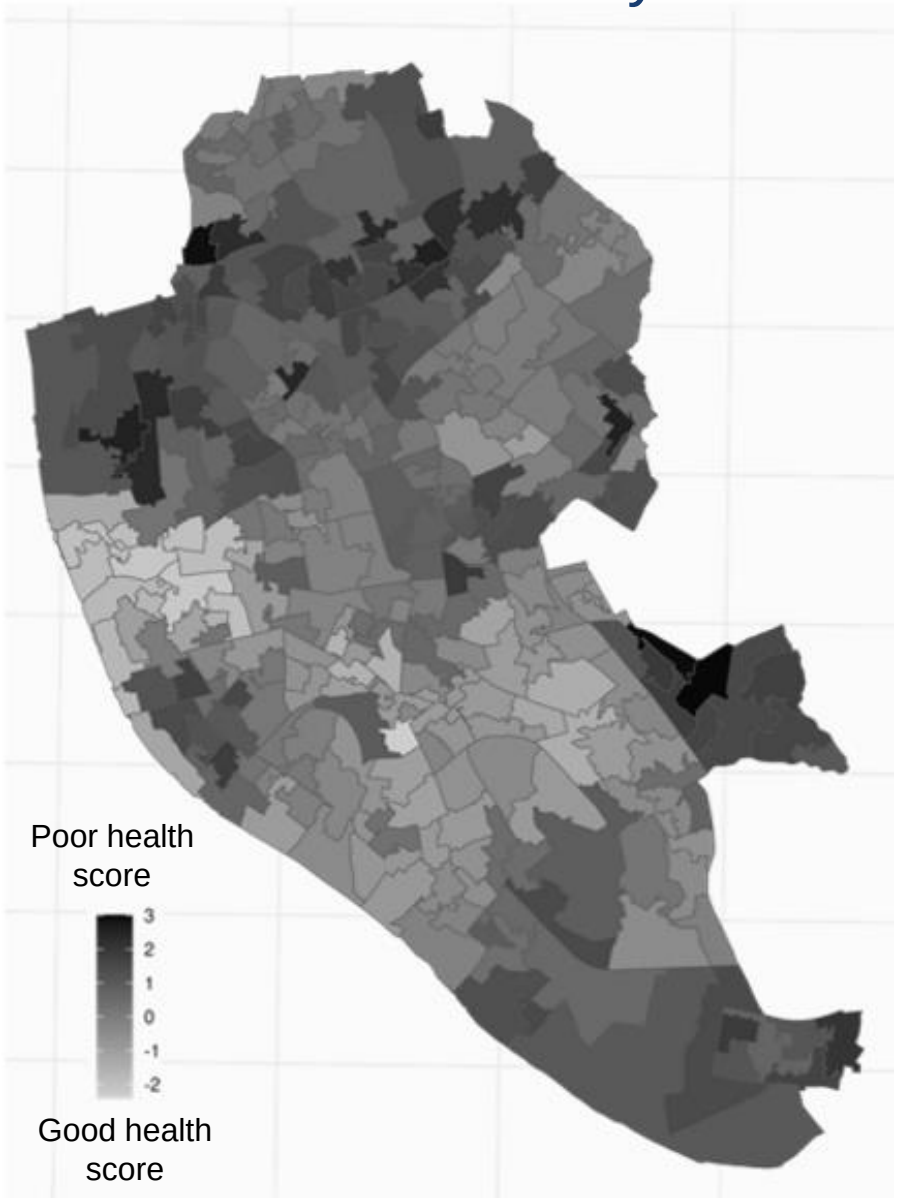
Graph showing number of successful welfare applications per 1,000 population by level of deprivation



Number of successful welfare applications per 1,000 population by LSOA



Score for poor mental health based on NHS data by LSOA



Housing retrofit evaluation

LIVERPOOL CITY REGION COMBINED AUTHORITY

Housing retrofit schemes aim to:

- Improve the energy efficiency, safety, and comfort of homes, which can lead to improvements in residents' mental and physical health.

Progress to date:

- LCRCA has retrofitted 4,195 private and 1,225 social homes since 2021.
- A further 5,000 homes will be completed by end of 2025.

Routine data collected by LCRCA for approximately 6,000 homes:

- ***UPRN:*** Unique Property Reference Number.
- ***Property address:*** full address of the property.
- ***Occupancy:*** number of people living at the property.
- ***Retrofit eligibility criteria:*** e.g. whether the property occupiers are considered to have a low income/fuel poverty.
- ***Retrofit application outcome:*** e.g. whether or not the retrofit application was successful and if not why.
- ***Property type:*** e.g. flat, bungalow, house (mid-terrace, end-terrace, semi-detached, detached).
- ***Tenure:*** e.g. owner occupied, private rent, social rent.
- ***Existing heating type:*** e.g. gas boiler, oil boiler, electric heaters.
- ***Retrofit measures implemented:*** e.g. insulation, double glazing, solar photo-voltaic panels, air source heat pump, boiler, hot water tank, draught proofing etc.
- ***Date retrofit completed:*** date works completed.
- ***Total retrofit cost:*** total cost of works.
- ***Pre-retrofit Energy Performance Certificate:*** property's energy performance prior to retrofit.
- ***Post-retrofit Energy Performance Certificate:*** property's energy performance after retrofit.

Data linkage at the household level

Unique Property Reference Number (UPRN)

LCRCA housing retrofit data

- UPRN
- Applicant characteristics
- Retrofit measures implemented
- Retrofit cost
- Change in energy performance

NHS healthcare data

- UPRN
- Prevalence of respiratory conditions
- Cardiovascular diseases
- Arthritic conditions
- Common mental health issues

Recommendations: data access

- Start the process of arranging access early.
- Ensure those who own the data are engaged in the process of accessing it where the data are stored by a third party.
- Ensure the appropriate level of anonymisation takes place before data transfer e.g. replace home postcodes with Lower Super Output Area codes.
- After you have received the data, work with the data owners to ensure you have interpreted the variables correctly.

Recommendations: data security

- Consider where the data will be stored.
- Only allow access for those who need it.
- Conduct a risk assessment e.g. Data Impact Protection Assessment.
- Think about whether reidentification might be possible if variables are combined.
- Only ask for variables you actually need.
- Think about how sensitive the data are.

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Thanks for listening

LiLaC

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