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Mental Health across the Lifespan

Professor Cathy Creswell
Professor Andrea Cipriani
Professor Mina Fazel

Experimental Psychology

Department of Psychiatry
Medical Sciences Division

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University of Oxford

Mental Health Across the Lifespan

Integrated care for multimorbidity		Better use of digital technology	Increasing access to mental health support	
Liaison psychiatry for elderly	Risk assessment tools	Decision support tools	Online psychological interventions	Mental health in schools and community settings
Can we reduce the time older people spend in general hospitals by providing better psychiatric care for them? Michael Sharpe Jane Walker	**Modelling the impact of integrating risk assessment tools in children and young people's mental health services, compared to usual practice.** Seena Fazel	**Clinical decision support tools to personalise treatment decisions for depression** Andrea Cipriani	**Increasing access to psychological interventions for common child anxiety problems and OCD through digital platforms** Cathy Creswell **SHAPE- Supporting Hospital And Paramedic Employees during and after COVID** Jasmine Laing	**Identifying and addressing mental health needs in schools** Mina Fazel **The teacher's role in managing and reducing anxiety among primary school children** Helen Manley **Culturally competent and alternative therapies for ethnic minority youth** Briana Applewhite

Experimental Psychology

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Data driven approaches to improve healthcare

Experimental Psychology

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Data driven approaches to improve healthcare

From individual to community level

OSI Online Support and Intervention for Anxiety

petrushka
CHOOSING THE RIGHT ANTIDEPRESSANT

OxWell Student Survey
Young People's Health and Wellbeing

65% Sought support in the last 6mths

38% Accessed support

15% Accessed a mental health specialist

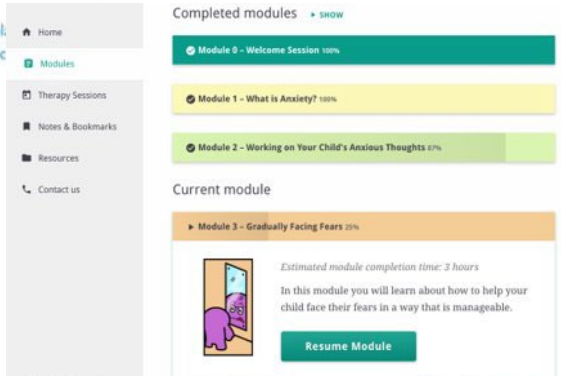
2% Accessed an evidence-based treatment (CBT)

Reardon, Harvey & Creswell, *2019*

Brief guided parent-led treatment (CBT) for child anxiety problems

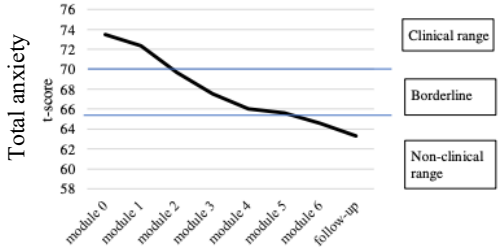
75%

Children who were 'much / very much improved' after 5 hours of treatment

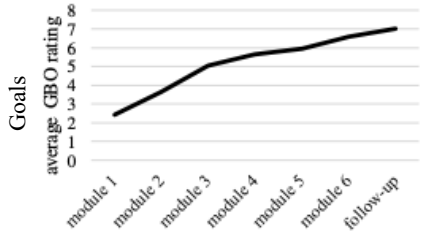


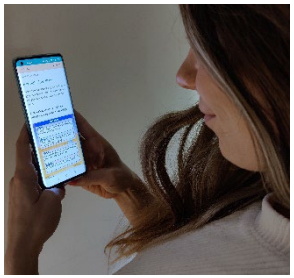
NIHR | National Institute for Health Research

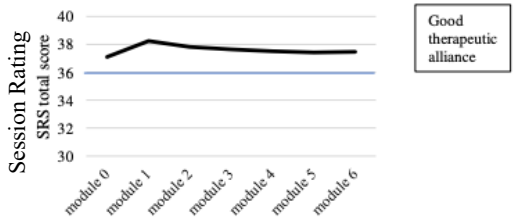
OSI Online Support and Intervention for Anxiety



Online Support and Intervention for Anxiety



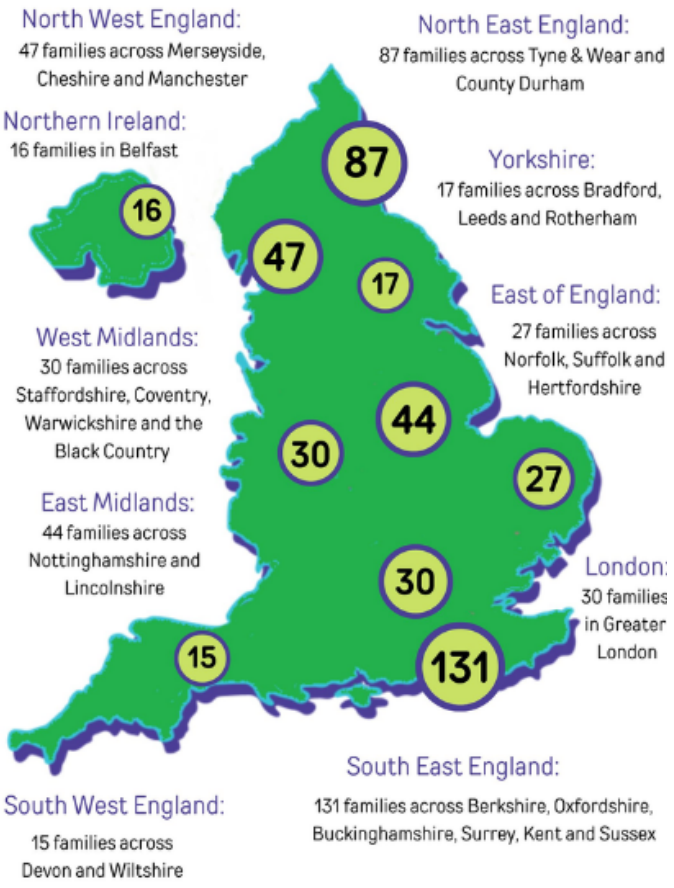




Co-CAT

Child Anxiety Treatment in the context of COVID-19

OSI-GROWS



Map of participating families

petrushka

CHOOSING
THE RIGHT
ANTIDEPRESSANT

Dr Edoardo Ostinelli, *DPhil student*

Dr Zhenpeng, Li *Post doc*

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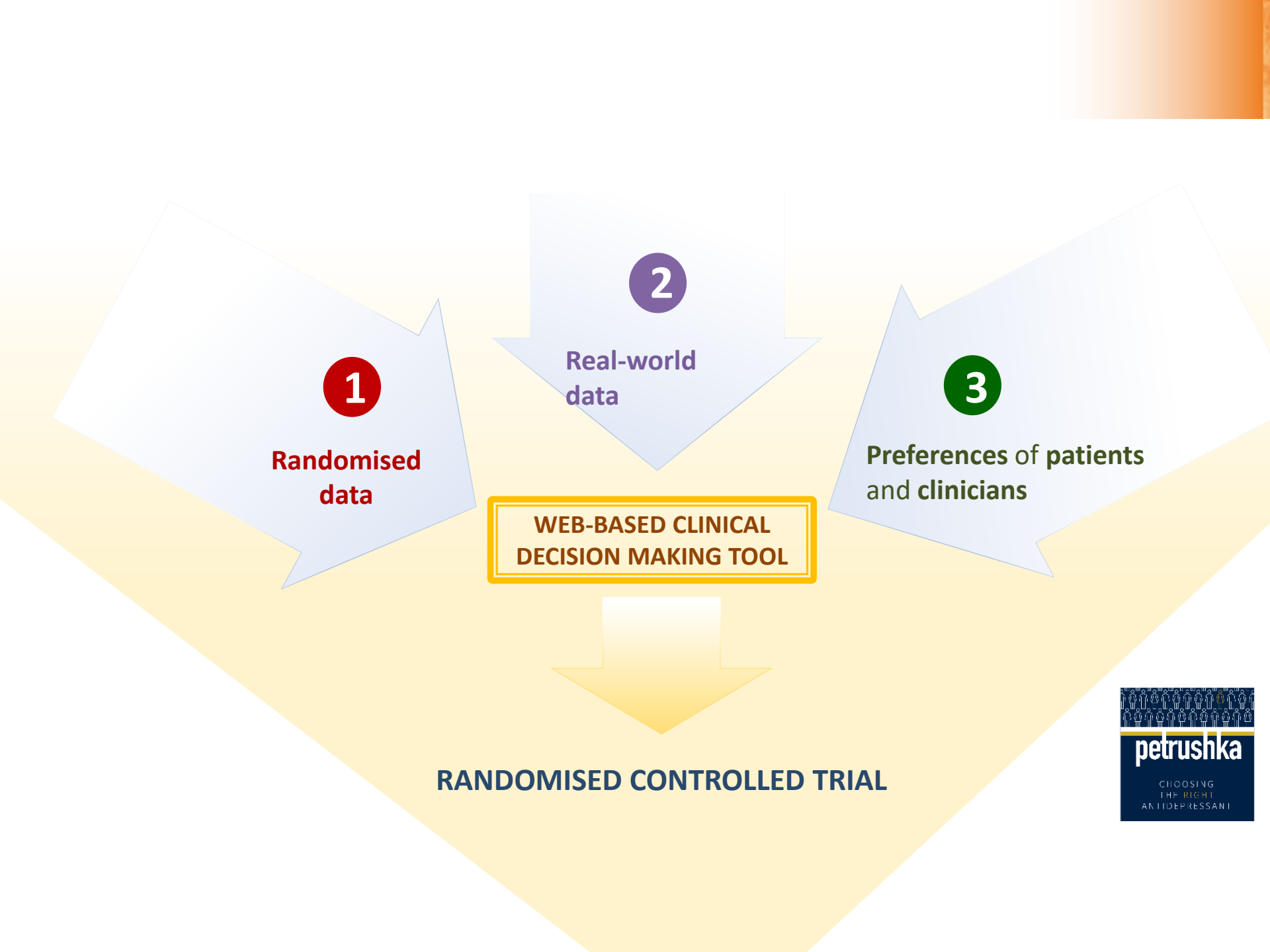
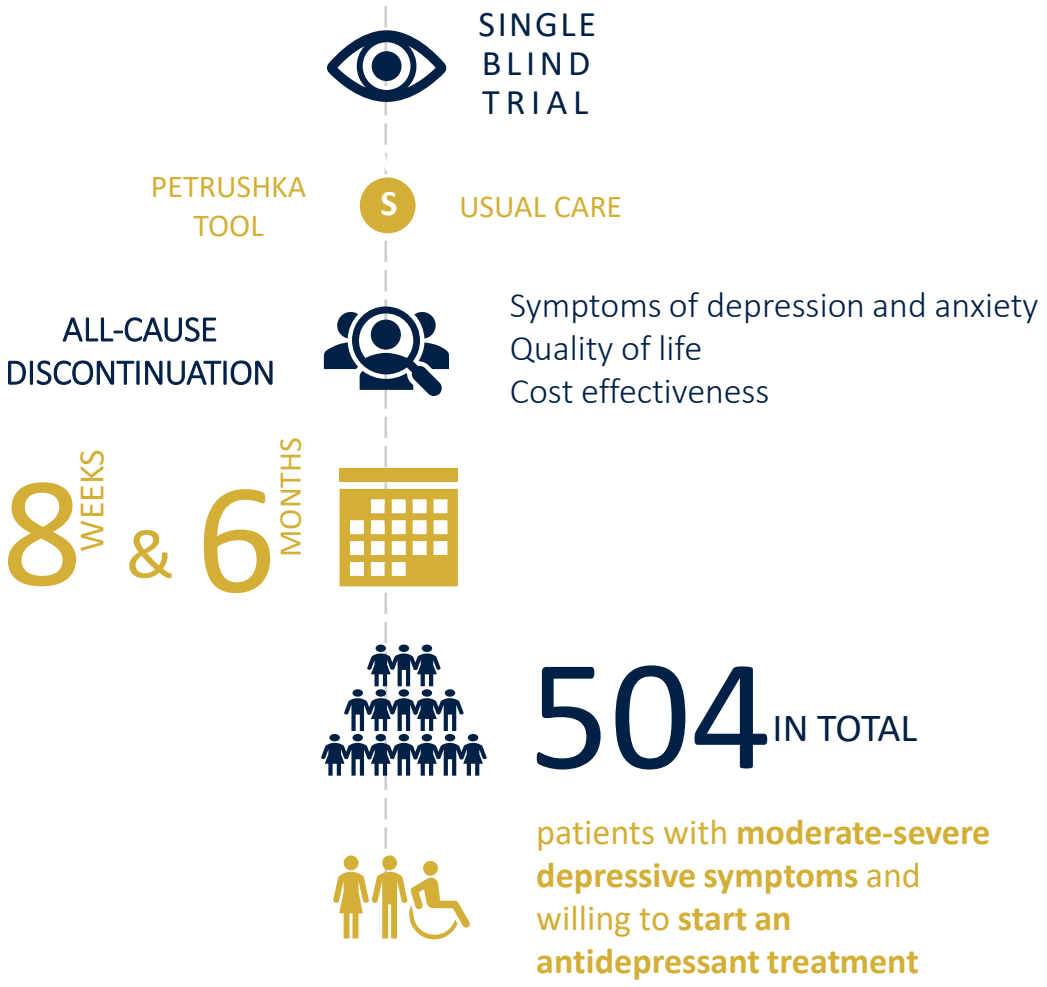
PRECISION PSYCHIATRY LAB

UNIVERSITY OF OXFORD


1
Randomised data
2
Real-world data
3
Preferences of patients and clinicians
WEB-BASED CLINICAL DECISION MAKING TOOL
RANDOMISED CONTROLLED TRIAL
petrushka
CHOOSING THE RIGHT ANTIDEPRESSANT


SINGLE BLIND TRIAL
PETRUSHKA TOOL
S
USUAL CARE
ALL-CAUSE DISCONTINUATION
Symptoms of depression and anxiety
Quality of life
Cost effectiveness
8 WEEKS & 6 MONTHS
504 IN TOTAL
patients with moderate-severe depressive symptoms and willing to start an antidepressant treatment

Live demonstration of the PETRUSHKA Tool

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@And_Cipriani

OxWell Student Survey

Young People's Health and Wellbeing

Mina Fazel

Professor of Adolescent Psychiatry,
University of Oxford &
Consultant in Children's Psychological Medicine,
Oxford University Hospitals NHSFT

On behalf of the

OxWell Study Team

@oxwell_study
oxwell.org

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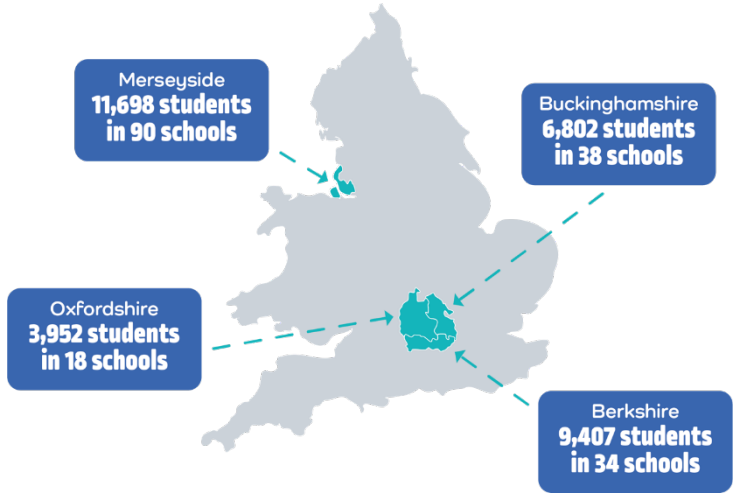
OxWell Survey details



350 questions; 2021: >30k students in 180 schools	Completed at school: Years 5-13	Tailored Summary & all can access data portal	Close relationship with partner Local Authorities	2023 new items: poverty, racism, shape and weight concerns	Special educational provision

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NHS Berkshire West Clinical Commissioning Group
NHS Frimley Clinical Commissioning Group
Buckinghamshire Council
Oxfordshire County Council
milton keynes council

Research programme

Understanding (so far)…

Vaccination

Sleep

Networks of support

Loneliness

Support following self-harm

Barriers to accessing care

1st & 2nd generation migrants

Social Media

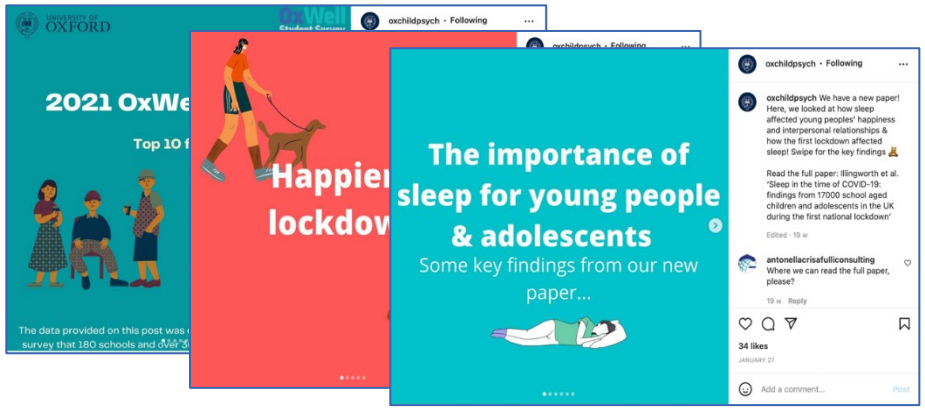
School exclusion

Friendship

Gaming

Training and developme…

Dissemination of materials



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Encouraging a data-driven approach

Data

- Data platform provides all stakeholders with direct access to non-identifiable data

Schools

- Immediate impact
- Tailored reports provided
- Half of schools logged into Lodeseeker

Commissioners

- OxWell data used as part of transformation planning, informing public health initiatives
- Research assistants

City-wide approach

- Liverpool schools initiatives

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How can data driven approaches improve mental health in your settings?

Thank you!

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Integrated Care and Care Home Research

Professor Apostolos Tsiachristas

Dr Jonathan Taylor

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An rationing framework for Integrated Care Systems

- Pamela Gongora-Salazar, Rafael Perera, Ray Fitzpatrick and Apostolos Tsiachristas
- apostolos.tsiachristas @ndph.ox.ac.uk

- 28 November 2022

- **ARC Showcase Event 2022**

Background

1999 Health Act

2001 Health and Social Care Act & 2002 NHS Reform and Health Care Professionals Act

2006 National Health Service Act

2007 Local Government & Public Involvement Act

2009 Health Act

2012 Health and Social Care Act

2014 NHS Five Year Forward View

2015 'Devo Manc'

2017 Next Steps on the NHS Five Year Forward View

2019 NHS Long-Term Plan

2022 Health and Care Act

~~CCGs~~ → ICSs

1999 | 2005 | 2010 | 2012 | 2014 | 2016 | 2018 | 2020 | 2022

1999-2001 Primary Care Groups (PCG)

2002 Primary Care Trusts (PCTs) & Strategic health authorities (SHAs)

2006 SHAs and PCTs were reduced

2009 Integrated care pilots

2012 Health and wellbeing boards

2013 Clinical Commissioning Groups (CCGs)

2013-4 The Better Care Fund

2013-5 Integrated Care Pioneers (25)

2016 Sustainability and Transformation Partnerships (STPs)

2019 Primary care networks' (PCN)

2018- Integrated Care Systems (ICSs)

"Integrated care…*a concept **bringing together inputs, delivery, management and organization of services** related to diagnosis, treatment, care, rehabilitation and health promotion. Integration is a **means to improve** services in relation to **access, quality, user satisfaction** and **efficiency**"*

World Health Organization

Integrated care programmes

- **Various interacting interventions**
- **Person-centred + Tailored to needs**
- **Variety of outcomes**
- **Context-specific & adaptation**

Source: Tsiachristas A, Vrangbæk V, Gongora S, Kristensen SR.Integrated care in a Beveridge system: Experiences from England and Denmark. To be published in Health Economics, Policy and Law.

Steps to develop the framework…

1. Understand the local commissioning decision context in England

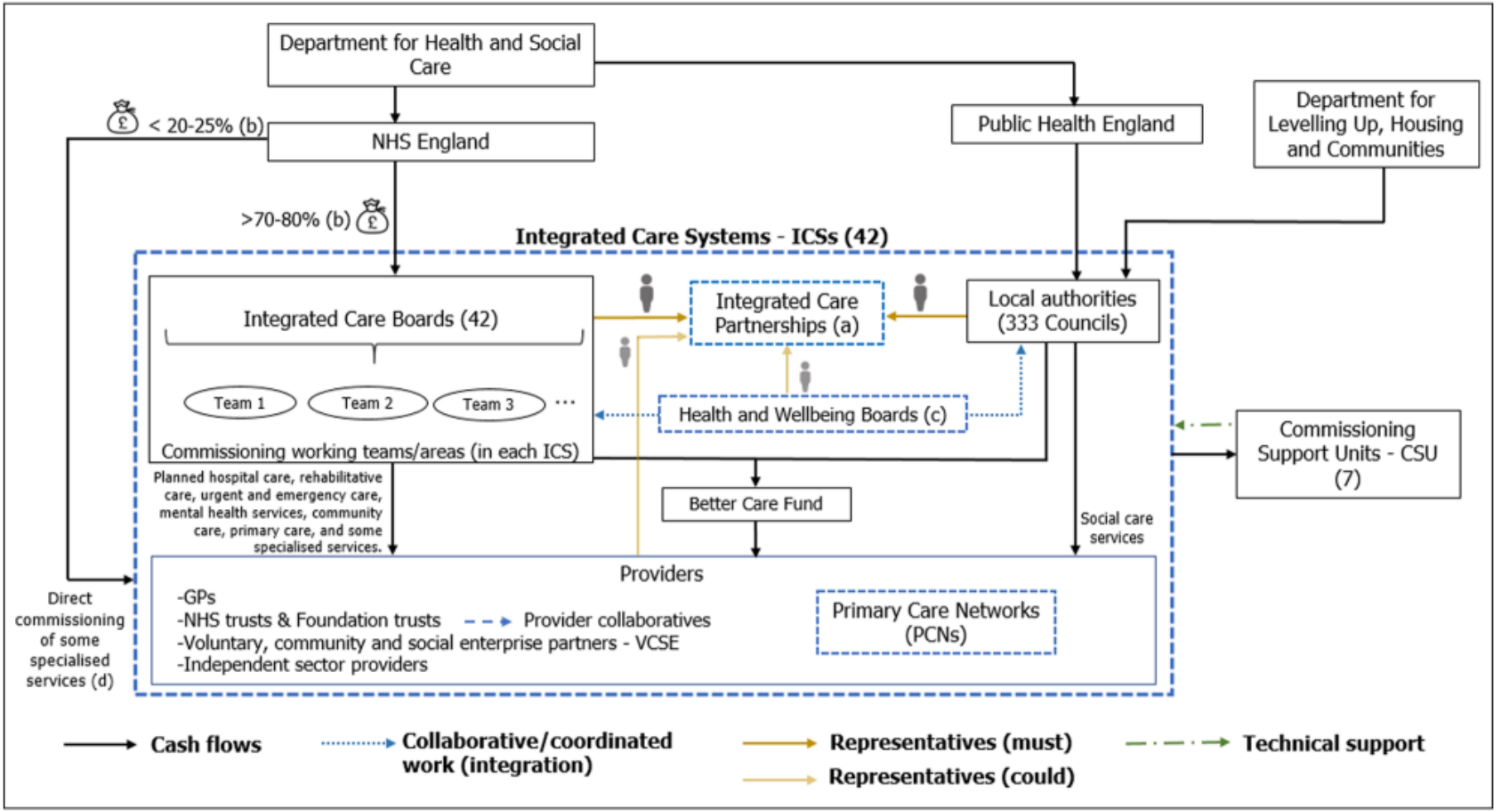
2. Clarify decision-makers objectives (and type of alternatives)

4. Identify monitoring and assessment criteria

5. Identify relative importance of the assessment criteria

Care commission process

Commissioning decision-context after the abolishment of CCGs



Source: Gongora-Salazar P, Glogowska M, Fitzpatrick R, Perera R, Tsiachristas A. Commissioning [Integrated] Care in England: An Analysis of the Current Decision Context. International Journal of Integrated Care, 2022; 22(4): 3, 1–16. DOI: https://doi.org/10.5334/ ijic.6693

Decision-makers objectives

Commission the "best" interventions → interventions that provide the greatest value

A framework that allows them to robustly **monitor** & **evaluate** interventions

Evaluation

- Assesses whether the desired results of the intervention have been achieved.
- More in-depth analysis with the aim to address questions of attribution (impact).
- It is done every 1-3 years (long run)

It is part of the **business cases** (BC) that working teams (within the ICS) have to draft for the intervention to be considered by the Board of commissioning.

To guide and make investment decisions!

Monitoring

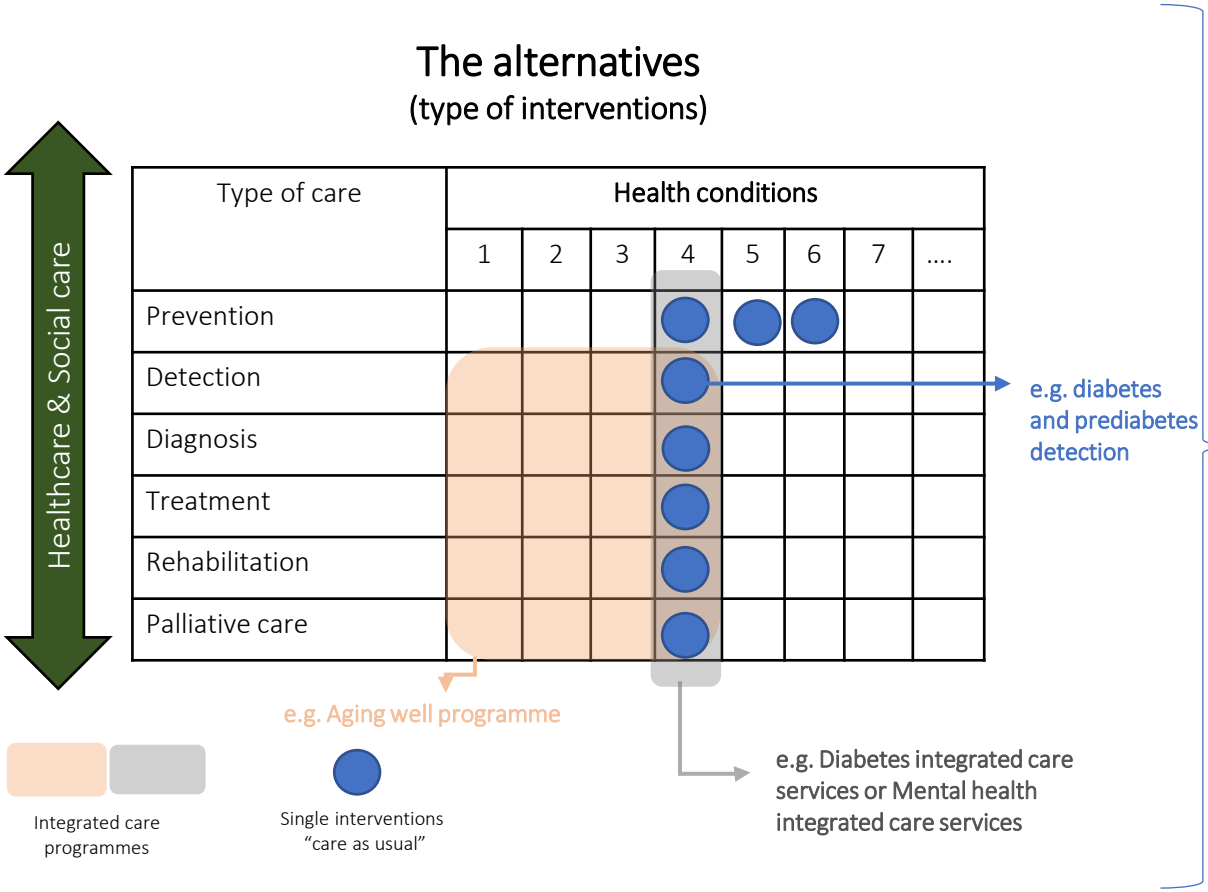
- Keep track on progress & performance of the interventions in place.
- Uses a set of core indicators and targets to provide timely and accurate information to decision-makers.
- It is done routinely (short run)

It is part of the reports (e.g. **Integrated Performance Report**) that the different teams within the ICS elaborate every month-3months-6months.

Sources:
International Health Partnership & World Health Organization. (2011). Monitoring, evaluation and review of national health strategies: a country-led platform for information and accountability. World Health Organization. https://apps.who.int/iris/handle/10665/85877
The roadmap for health measurement and accountability. Washington (DC): The World Bank Group; 2015 (https://live.worldbank.org/sites/default/files/ roadmap_6-4-15_web.pdf, accessed 17 October 2016).
Gorgens, Marelize; Zall Kusek, Jody. 2009. Making Monitoring and Evaluation Systems Work : A Capacity Development Toolkit. World Bank. World Bank. https://openknowledge.worldbank.org/handle/10986/2702 License: CC BY 3.0 IGO.

Potential alternatives

Interventions on which local commissioners have to make decisions

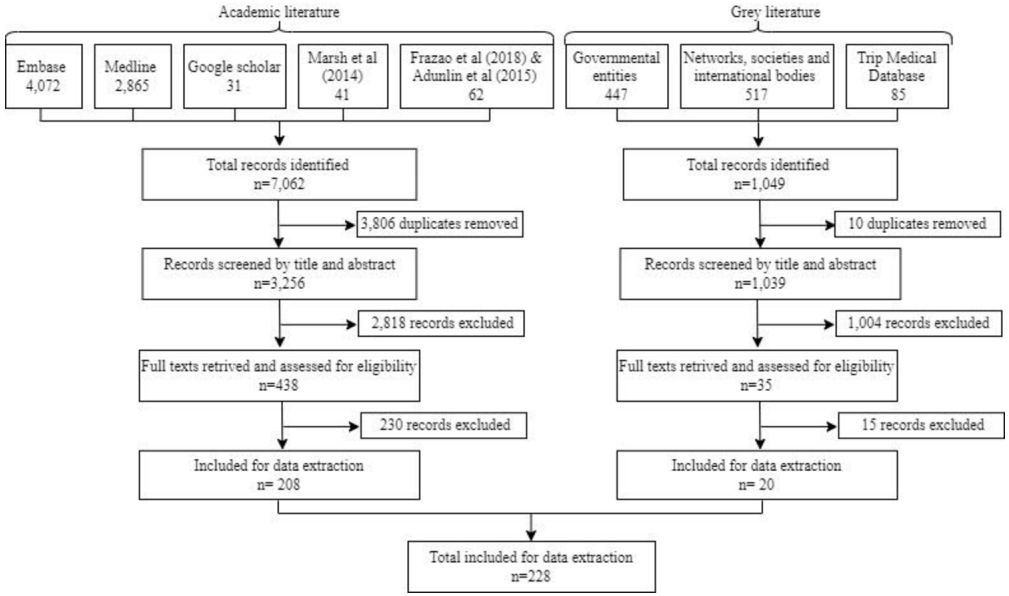


We, therefore, have 3 types of interventions:

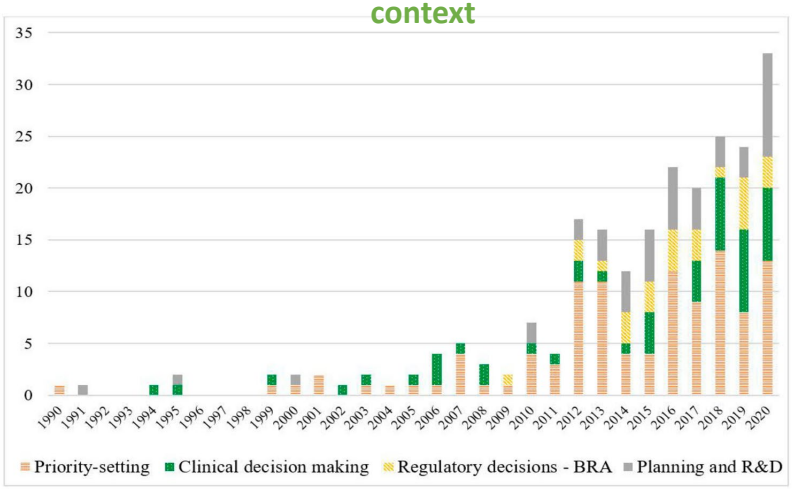
- Single interventions (i.e. care as usual)
- Integrated care programmes (Condition specific)
- Integrated care programmes (Across conditions – Multi morbidity)

Systematic literature review

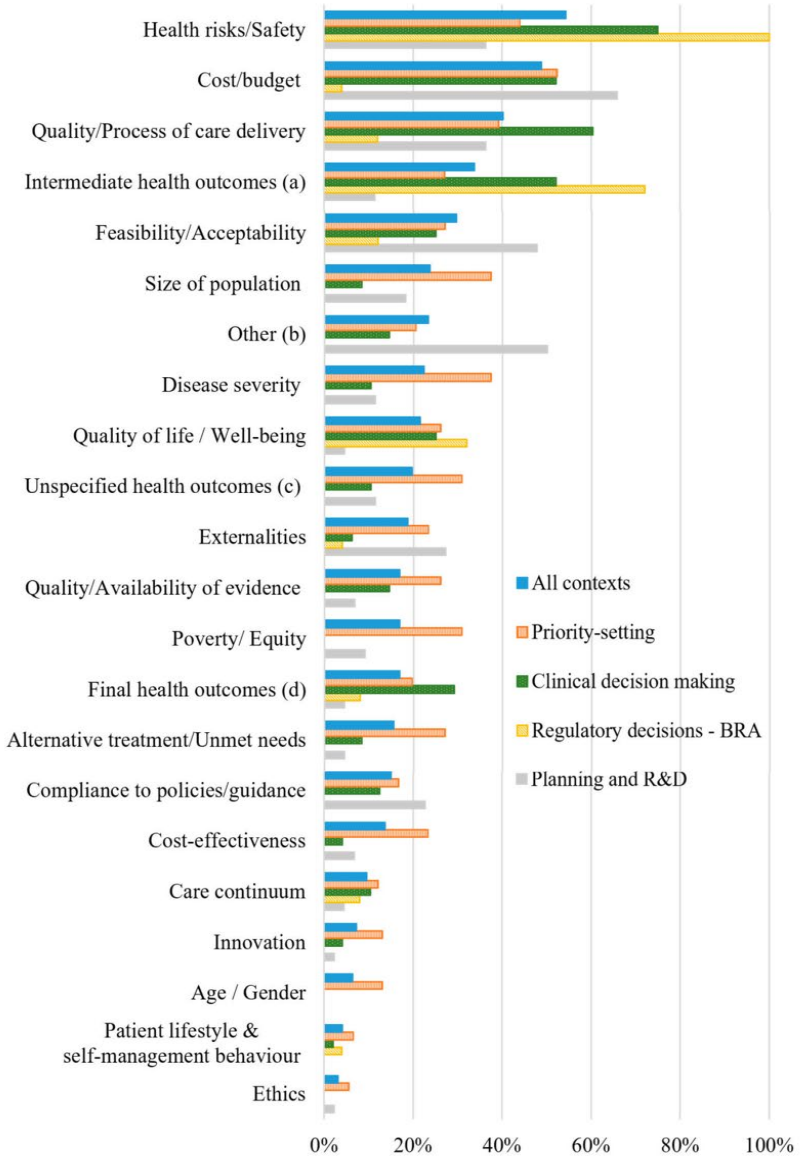
PRISMA flow chart



Publication trend of MCDA studies in healthcare by decision context



Criteria used by decision context.



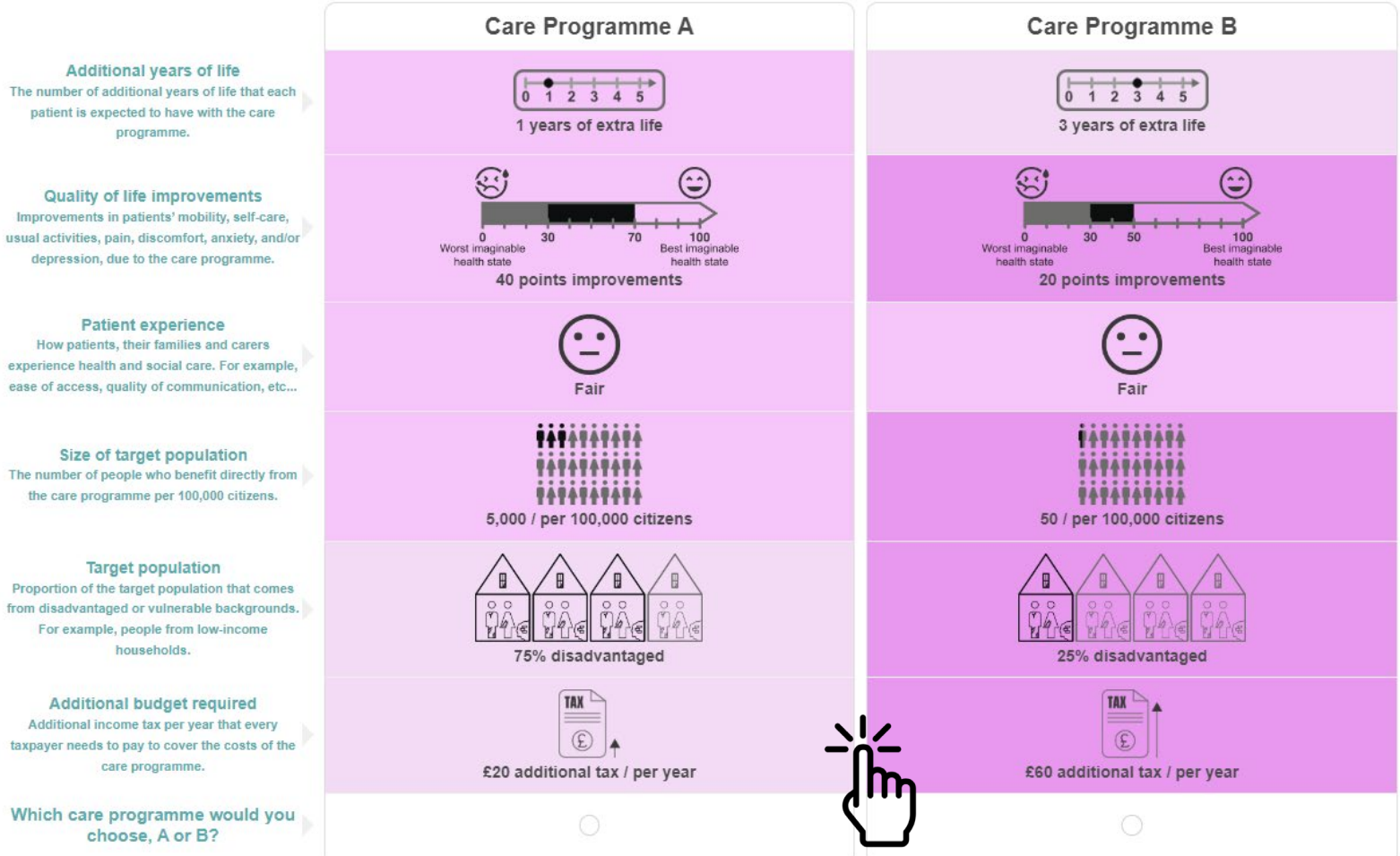
Source: Gongora-Salazar P, Rocks S, Fahr P, Rivero-Arias O, Tsiachristas A. The Use of Multi-Criteria Decision Analysis (MCDA) to Support Decision-Making in Healthcare: an Updated Systematic Literature Review. Value in Health (accepted)

People's preferences for outcomes

A discrete choice experiment in England
~400 respondents from the general public

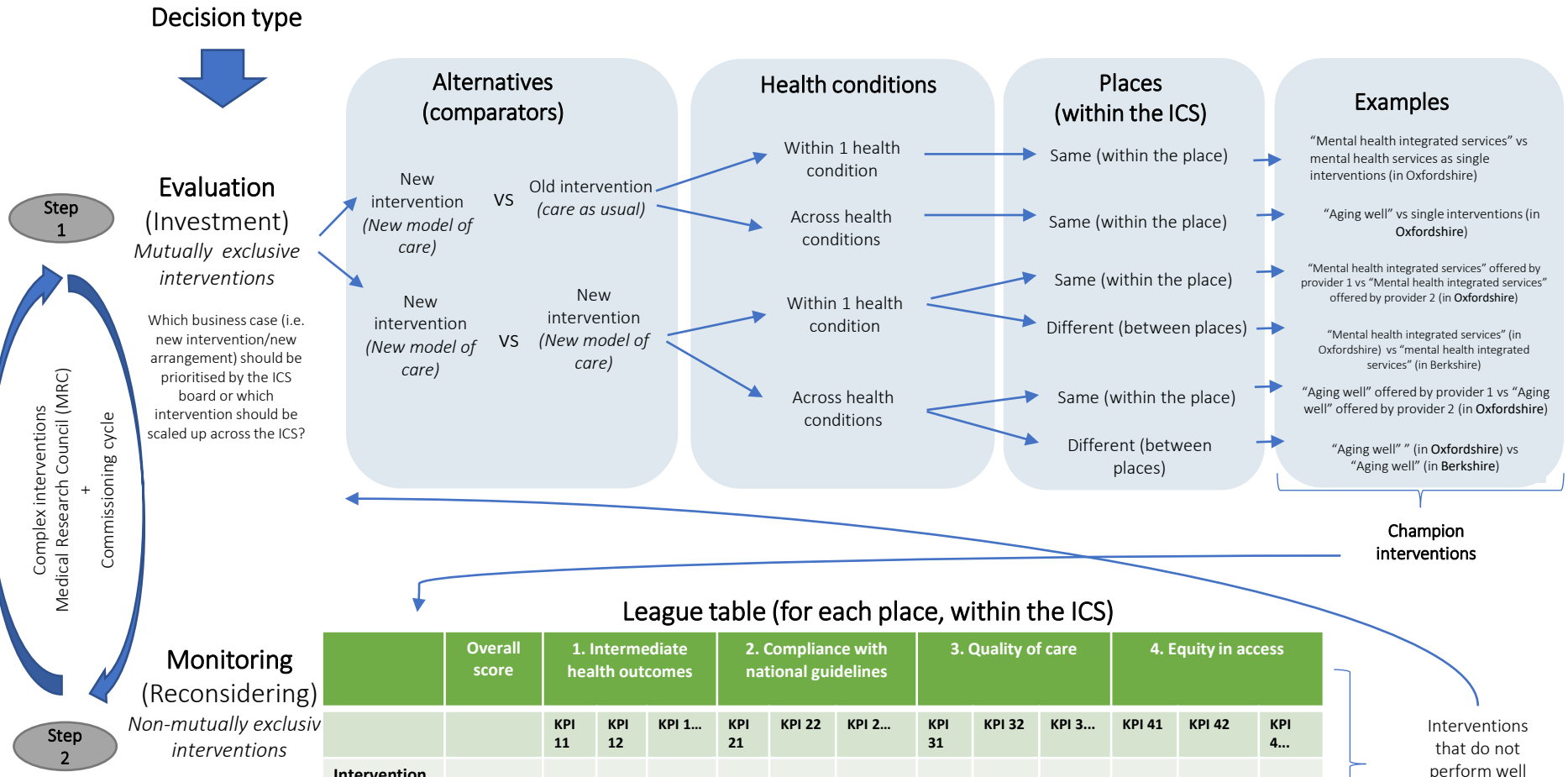
Imagine that you are responsible for health and social care in your county. You have a limited budget and have to decide which care programme to support and fund. Which of these two care programmes would you choose?

The darkest purple denotes the worst, and lighter purple denotes better performance. If both care programmes perform equally, they will be presented in the same colour.



- ✓ **Pre-test at the NIHR Oxford and Oxford Health BRCs Joint Open Day, 5 July 2022**
- ✓ **Validation with OTV ARC PPIs in June-July 2022**
- ✓ **Pilot study with 10% sample**
- ✓ **Data collection near completion**

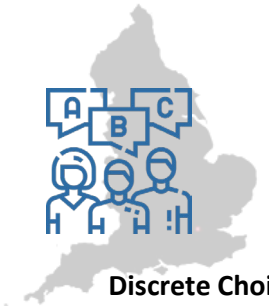
Structure of the framework



	Overall score	1. Intermediate health outcomes			2. Compliance with national guidelines			3. Quality of care			4. Equity in access		
		KPI 11	KPI 12	KPI 1…	KPI 21	KPI 22	KPI 2…	KPI 31	KPI 32	KPI 3…	KPI 41	KPI 42	KPI 4…
Intervention 1													
Intervention 2													
Intervention 3													
. .													

Evaluation component: Sources

Assessment criteria based on semi-structured interviews with local stakeholders & systematic literature review



Relative importance (i.e. criteria weights) based on preferences from the general public across England

Discrete Choice Experiment
- ✓ **PPI validation**
- ✓ **440 responses**

Evaluation (at ICS or 'place' level)

	W1 Additional years of life	W2 Quality improvements	W3 Patient experience	W4 Size of target population	W5 Equity (Target population)	W6 Cost (Additional budget required)	Overall score
Intervention 1	S11	S12	S13	S14	S15	S16	OV_1^e OV_1^l OV_1^s
Intervention 2							
Intervention 3							
. . .							

Standardised Performance scores
→ **Based on routinely collected data**

Structure of the framework

Monitoring component

Which intervention should be re-assessed?

Monitoring (at ICS or 'place' level)

League table / Dashboard (for each 'place', within the ICS)

	Overall score i.e. MCDA value score	**1. Intermediate health outcomes** e.g. Biomedical, physiological, and clinical health outcomes.			**2. Compliance with national guidelines** e.g. Compliance with NHS England, NICE and Public Health England guidelines and/or recommendations.			**3. Quality of care** e.g. Waiting times, avoidable hospital admissions			**4. Equity in access** e.g. Socio-economic inequities/disparities in intermediate health outcomes or quality of care.		
		KPI 11	**KPI 12**	**KPI 1…**	**KPI 21**	**KPI 22**	**KPI 2…**	**KPI 31**	**KPI 32**	**KPI 3…**	**KPI 41**	**KPI 42**	**KPI 4…**
Intervention 1	OV_1^e OV_1^l OV_1^s	KPI^{111} ↗	KPI^{112}	$KPI^{11…}$	KPI^{121}	KPI^{122}	$KPI^{12…}$	KPI^{131}	KPI^{132}	$KPI^{13…}$	KPI^{141}	KPI^{142}	$KPI^{14…}$
Intervention 2	OV_2^e OV_2^l OV_2^s	KPI^{211} →	KPI^{212}	$KPI^{21…}$	KPI^{221}	KPI^{222}	$KPI^{22…}$	KPI^{231}	KPI^{232}	$KPI^{23…}$	KPI^{241}	KPI^{242}	$KPI^{24…}$
Intervention 3	OV_3^e OV_3^l OV_3^s	KPI^{311} ↗	KPI^{312}	$KPI^{31…}$	KPI^{321}	KPI^{322}	$KPI^{32…}$	KPI^{331}	KPI^{332}	$KPI^{33…}$	KPI^{341}	KPI^{342}	$KPI^{34…}$
Intervention 4	OV_4^e OV_4^l OV_4^s	KPI^{411} ↘	KPI^{412}	$KPI^{41…}$	KPI^{421}	KPI^{422}	$KPI^{42…}$	KPI^{431}	KPI^{432}	$KPI^{43…}$	KPI^{441}	KPI^{442}	$KPI^{44…}$
. .													

Non-mutually exclusive interventions

*System adjusted time-trend

Assess interventions and decide which business case (i.e. new intervention/new arrangement) should be prioritised by the ICS board or which intervention should be scaled up across the ICS?

Case study: New models of mental health care in Oxfordshire

	W1	W2	W3	W4	W5	W6
	Final Health outcome (Mortality / LE)	**Health-related quality of life improvements**	**Patient experience**		**Size of target population***	**Equity**	**Cost**
Variables from CRIS dataset → Patient ID, Episodes, Patient contact, Patient demographics (ICD-10 code, gender, age, socio-economic deprivation, ethnicity), Outpatient/ Inpatient service use, mental health act.	• Date of birth • **Date of death**	• **HoNOS total score -** clinician-rated scales (initial, ongoing, discharge / dates) • **Recovery star** • **DIALOG** - service user-rated outcome measure • **Process of Recovery Questionnaire (QPR)**	• **DIALOG** - treatment satisfaction component • **Waiting times (between referral and start of treatment)?**		• **Number of patients covered by the service per 100,000**	• **Inequity in** relapse, hospitalization & HoNOS (using deprivation/ location variables)	• **Calculate medical cost, per patient (PSSRU)**
Outcome Indicators	Premature mortality rates?	Mean HoNOS score ?	Mean waiting time (in days, for specific treatment)?		Number of patients covered per 100,000?	Inequity gap between deprivation quintiles (or other inequality measure)?	Mean cost of medical care?

Service evaluation using routinely collected data at Trust level, 2016-2022 (Longitudinal/ panel data)

1. Identify which patients (IDs) have been under an integrated mental health services programme (i.e. treatment group) and patients (IDs) that have received 'care as usual' (i.e. control group)

2. Perform propensity score matching (PSM) to reduce observed confounding.

3. Obtain unstandardised performance scores (i.e. aggregated outcome indicators) for treatment and control group, respectively.

4. Obtain standardised Performance scores (relative standardization method?) for treatment and control group

5. Obtain MCDA total score for treatment and control group, respectively

Next steps to the framework

7 Address uncertainty in the results

8. Incorporate social care

10. Develop a user-friendly software to be

11. Scale-up its use to other ICSs

Thank you

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Care Home Research

- Presented by **Jonathan Taylor**

Researcher

- jonathan.taylor@ndph.ox.ac.uk

- 28 November 2022

- **ARC Showcase Event 2022**

Introduction

- Who am I?
- What am I doing here?

Projects

- RESTORE2

- A physical deterioration and escalation tool for care/nursing homes which brings together three existing tools:
  - Early recognition (Soft Signs)
  - National early warning score (NEWS2)
  - Structured communications (SBARD)
- Mixed methods review of the implementation of RESTORE2 into care homes in an ICS in South East England

- Adult Social Care Outcomes Toolkit (ASCOT)

- Tool comprising 9 questions designed to measure Social Care-Relate Quality of Life
- Could ASCOT usefully be used as part of routine care planning?
- Initial plans to pilot ASCOT fell through → Systematic Review and Consultation work

Key findings

- RESTORE2
  - Response rate of less than 7%
  - Majority of survey respondents valued RESTORE2: improved staff confidence and competence to recognise, respond to and escalate residents experiencing deterioration
  - Care home staff selectively used RESTORE2
  - Training difficulties
- ASCOT Outcome Measure and Care Planning
  - Care planning delivery varied - from paper based to electronic care plans
  - Variation in terms of who is responsible for conducting care planning
  - Commitment to person centred care planning

Conclusions

- While there are encouraging signs that some care homes are keen to engage with researchers, many care home feel unable to prioritise research involvement
- Care home based interventions need to ensure that they pitched at the right members of staff
- Care planning work benefitted from collaboration across ARC networks
- Evidence that some care homes would be interested in piloting new ways of care planning

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Maternity and High Blood Pressure

Dr Katherine Tucker

Lucy Goddard

NIHR | Applied Research Collaboration Oxford and Thames Valley

Self-monitoring of BP to detect and manage hypertension during pregnancy

ARC Showcase November 2022

Background

Hypertensive disorders during pregnancy are leading cause of direct maternal deaths

About 10% of women are affected

Detection & management: BP checked at each antenatal visit

BUT - women may develop (or worsen) hypertension between appointments

Hypothesis: Regular self-monitoring of blood pressure could improve detection and management of hypertension in pregnancy

Aims of the BUMP trials

1) Whether self-monitoring of BP can improve the detection of raised BP during higher-risk pregnancy

BUMP1: 2441 women randomised 1:1 to usual care + self-monitoring of BP vs usual care alone

2) Whether self-monitoring can improve blood pressure control in hypertensive pregnancy

BUMP2: 850 women randomised 1:1 to usual care + daily self-monitoring vs usual care.

The BUMP trials recruited over 3000 pregnant women across the UK

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Dougall *et al.*, BMJ Open 2020

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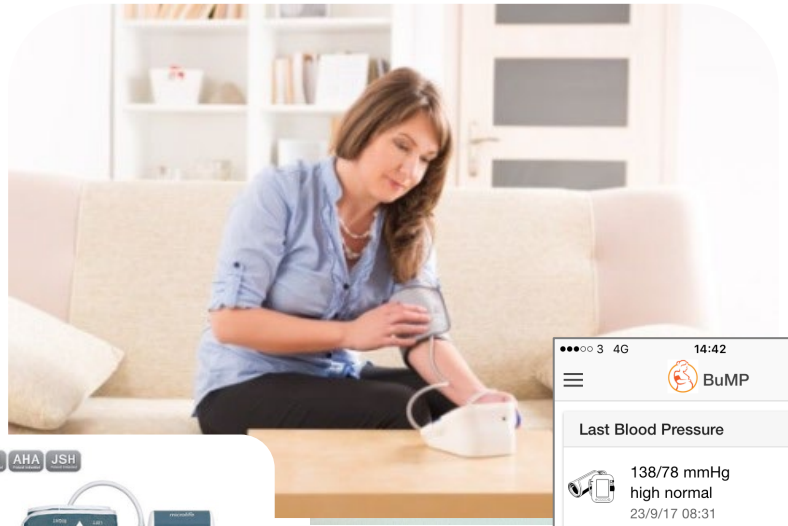
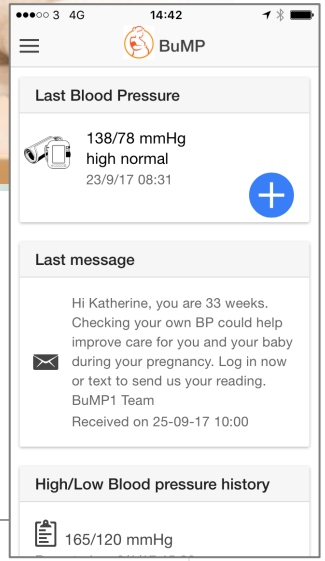
Self-monitoring BP

- 3 times a week
- Increased to daily if BP ≥135/85mmHg
- Asked to take 2 readings; second reading sent via app*





LEVEL	BLOOD PRESSURE /mmHg	ACTION
HIGH	SYS 150 or more OR DIA 100 or more	Your blood pressure is high Sit quietly for 5 minutes then measure it again and send in the reading. Contact your maternity unit for urgent assessment today (within 4 hours) and continue to monitor your BP daily.
RAISED	SYS 140-149 OR DIA 90-99	Your blood pressure is raised Sit quietly for 5 minutes then measure it again and send in the reading. If your repeated reading is raised please contact your maternity unit within 24 hours and continue to monitor your BP daily.
HIGH NORMAL	SYS 135-139 OR DIA 85-89	Your blood pressure is normal but moving towards the raised threshold Sit quietly for 5 minutes then measure it again and send in the reading. If your repeat reading is still high-normal, please monitor your blood pressure daily.
NORMAL	SYS 85-134 OR DIA 85 or less	Your blood pressure is normal. Continue blood pressure monitoring and your current care
LOW	SYS 84 or less	Your blood pressure is low. Repeat once more in 5 minutes. If you are taking blood pressure medication, contact your maternity unit within 24 hours or within 4 hours if you feel unwell (e.g. dizzy or faint). If you are not taking medication and you are feeling well this blood pressure does not need any further action.

- Dougall *et al.*, BMJ Open 2020

Summary

Largest randomised controlled trials of BP self-monitoring in pregnancy

No evidence of a significant difference in time to detection or clinic BPs measured by healthcare professionals

BP self-monitoring appears safe

- Chappell *et al*., JAMA 2022
- Tucker *et al*., JAMA 2022

Pregnancy implementation

Royal College of Obstetricians & Gynaecologists

Self-monitoring of blood pressure in pregnancy

Information for healthcare professionals

Version 1: Published Monday 30 March 2020

Many UK maternity units began a BP self-monitoring service from March 2020

Supported by guidance from the Royal College of Obstetricians and Gynaecologists (RCOG). And provision of monitors from NHS England

- Wilson, Tucker *et al.*, Pregnancy Hypertens 2022

maternity unit survey (45 maternity units)

- All increased their provision of BP monitors in response to COVID-19
- Most (89%) used BP monitors provided by NHSEI
- Most used home BP monitoring as ***additional*** monitoring for hypertensive or high risk women rather than a replacement
- Over half (53%) of maternity units additionally asked some or all women to self-test their urine for protein.
- Very few hospitals used a telemonitoring
- There were challenges in setting up the service and embedding it within the existing care pathways, particularly interpreting readings and managing the provision of monitors.

Maternal Characteristics of women who SMBP at 13 UK sites

Data were available from 555 deliveries at 13 sites providing monitors

- Most (61%) had Hypertension
- Or (36%) risk factors for pre-eclampsia
- The data showed no obvious safety issues

The experience of women

- Most (70%) felt safe having their antenatal care remotely during the pandemic
- Most (83%) felt supported to speak up about safety/concerns
- Women felt confident that they could SMBP
- Their experiences were broadly positive, reassuring, empowering

What's next?

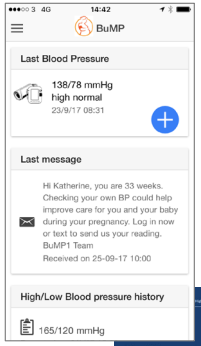
The challenge

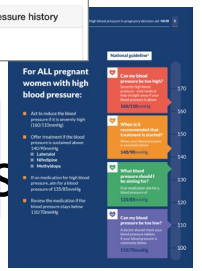
Implementing self-monitoring to improve BP control in an equitable way

Development of a Multicomponent App for use in Pregnancy

What the proposed app includes:

- **Blood pressure self-monitoring**
- **Protein self-testing**
- **Anti-hypertensive treatment information** (and titration?)
- **Educational materials and resources**





We are asking women and HCP to hel

1. Identify the likely barriers and facili s implementation
2. Decide what attributes the app and training should include (how to increase adherence to and persistence)
3. How the app would be best integrated into current antenatal care pathways

REC Ref: 22/NW/0175 IRAS Project ID: 307868

NIHR | Applied Research Collaboration Oxford and Thames Valley

Richard McManus

Lucy Chappell

Large Multi-disciplinary team

Alison

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Marcus

Hannah

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Lucy

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UNIVERSITY OF OXFORD | NUFFIELD DEPARTMENT OF PRIMARY CARE HEALTH SCIENCES

Supporting healthy lifestyles in pregnant women with long-term high blood pressure

Presenting: Lucy Goddard, Registered midwife and DPhil student

Supervisors: Professor Richard McManus, Dr Katherine Tucker, Dr Nerys Astbury, Dr Jennifer McLellan

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Non-pregnant population → Reduced blood pressure with improved diet and increased physical activity

General pregnant population → Many lifestyle interventions focused on reducing excessive weight gain during pregnancy
Modest effective on weight gain
Ongoing research to determine:
- Effect on pregnancy outcomes
- The most effective intervention components

Pregnant populations who have existing high blood pressure → Often excluded from trials or it is unclear if they are included
Lifestyle interventions focused on weight rather than managing blood pressure during pregnancy

Minimal focus on designing effective lifestyle interventions within this group who may benefit the most (as seen outside of pregnancy)

The population

Pregnant women with chronic hypertension

Affects 3-5% pregnancies = 20,000 women each year

Prevalence increasing because:

- More women having babies at an older age
- Increasing obesity

Increased risks:

- Pre-eclampsia
- Small baby
- Increased risk of caesarean

- Different motivations in this group as lifelong CVD risk?
- Is pregnancy an opportunity to reintroduce lifestyle advice to manage high blood pressure?

Many pregnancy Apps to improve diet and physical activity BUT

- Lack robust scientific evidence
- Lack incorporation of behaviour change techniques
- Lack screening for comorbidities

Other lifestyle Apps now being developed and tested in other pregnant populations, e.g.

- Obese women
- Those with or at risk of GDM

The intervention

A lifestyle App for pregnant women with chronic hypertension:

- What should it include?
- What is important to include to help change behaviour?
- Would HCP support it?
- What are some of the barriers?

Discussions with PPI group:

- Some did not link lifestyle factors to blood pressure control
- Felt they would benefit from having this information
- Were open to receiving this in the App, especially if it was on the same platform as monitoring their BP

Aim: To design and develop a lifestyle intervention (Smartphone App) with pregnant women with chronic hypertension.

The study design

1. Online survey for women
2. Focus groups with healthcare professionals
3. Early feasibility testing with women

Regular meetings with PPI reps throughout study period

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The DAPHNY App development so far…

Thank you for listening!
Any questions?

My contact details: lucy.goddard@phc.ox.ac.uk

References

- Bateman, B.T., et al., Prevalence, trends, and outcomes of chronic hypertension: a nationwide sample of deliv admissions. American journal of obstetrics and gynecology, 2012. 206(2): p. 134. e1-134. e8.
- Bramham, K., et al., Chronic hypertension and pregnancy outcomes: systematic review and meta-analysis. BMJ : British Medical Journal, 2014. 348: p. g2301.
- Vamvakis, A., et al., Beneficial effects of nonpharmacological interventions in the management of essential hypertension. JRSM cardiovascular disease, 2017. 6: p. 2048004016683891.
- Dickinson, H.O., et al., Lifestyle interventions to reduce raised blood pressure: a systematic review of randomized controlled trials. Journal of Hypertension, 2006. 24(2).
- NICE, NG136: Hypertension in adults: diagnosis and management. 2019.
- NICE. NG133: Hypertension in pregnancy: diagnosis and management. 2019 [cited 2021 January]; Available from: https://www.nice.org.uk/guidance/NG133.
- Fair, F. and H. Soltani, A meta-review of systematic reviews of lifestyle interventions for reducing gestational weight gain in women with overweight or obesity. Obesity Reviews, 2021. 22(5): p. e13199.
- Thangaratinam, S., et al., Effects of interventions in pregnancy on maternal weight and obstetric outcomes: meta-analysis of randomised evidence. BMJ : British Medical Journal, 2012. 344: p. e2088.
- Tucker KL, Mort S, Yu L, et al. Effect of Self-monitoring of Blood Pressure on Diagnosis of Hypertension During Higher-Risk Pregnancy: The BUMP 1 Randomized Clinical Trial. JAMA. 2022;327(17):1656–1665. doi:10.1001/jama.2022.4712
- Craig, P., et al., Developing and evaluating complex interventions: the new Medical Research Council guidance. Int J Nurs Stud, 2013. 50(5): p. 587-92.
- Yardley, L., et al., The person-based approach to enhancing the acceptability and feasibility of interventions. Pilot and Feasibility Studies, 2015. 1(1): p. 37.

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Lunch and Poster Viewing

1-2pm