Evaluating the impact of evidence-based change within the Northumberland Exercise on Referral Scheme

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Background

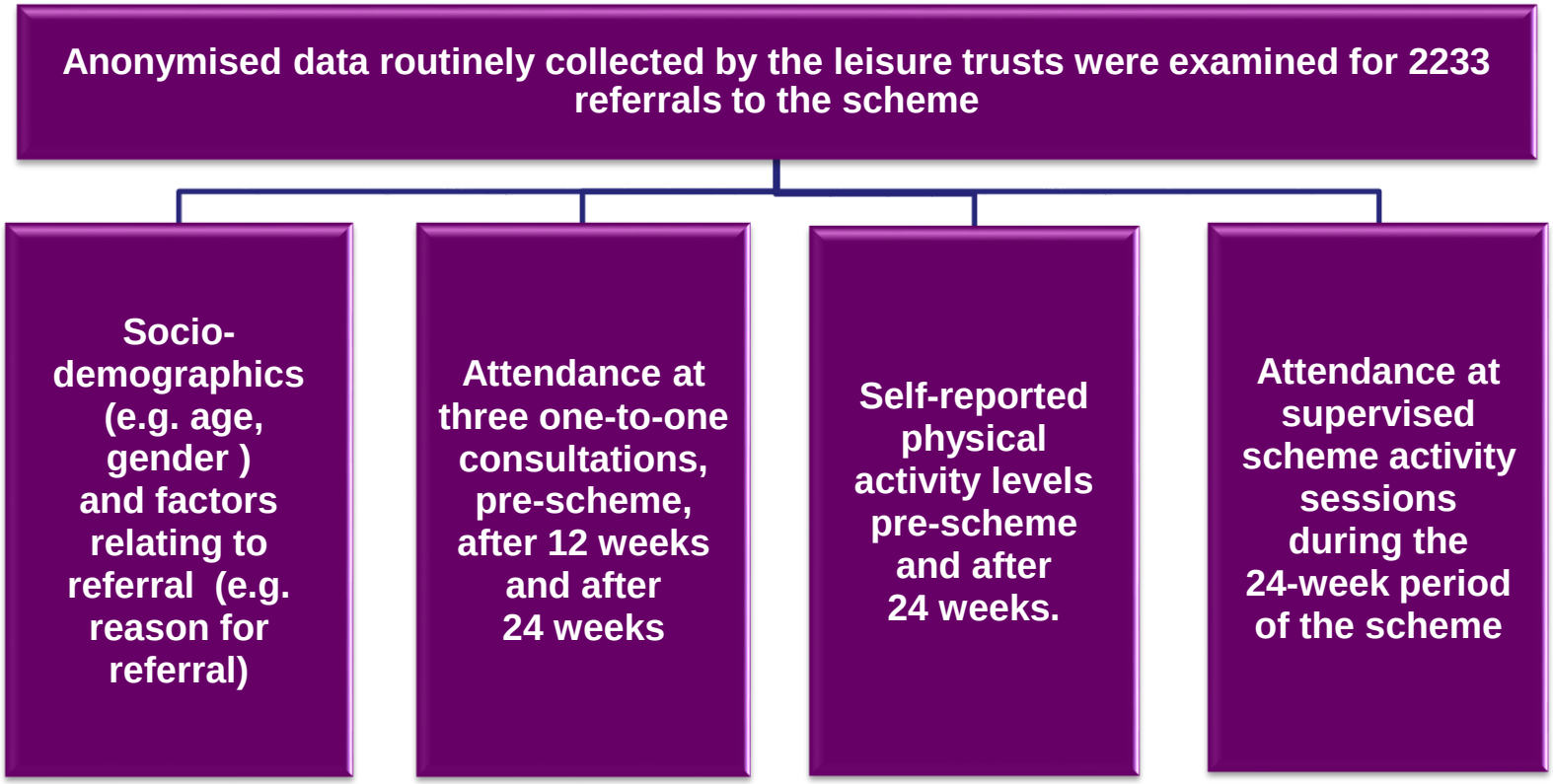
- Exercise on referral schemes (ERS) are widespread in the UK as a popular way of promoting physical activity in primary care.
- Effectiveness and cost effectiveness have been questioned in systematic reviews (Pavey et al., 2011, Campbell et.al., 2015)
- NICE guidance (NICE 2006, NICE 2014) called for commissioning to incorporate research into effectiveness
- Leisure trusts in Northumberland funded a part time work based PhD to enable robust evaluation of ERS provision
- PhD undertaken by strategic manager of ERS, with ability to ensure quality data collection and implement change in light of results

About the Northumberland ERS

- 24 week community-based physical activity intervention delivered across nine Northumberland County Council leisure sites
- Commissioned by Northumberland County Council Public Health team
- Provided by Active Northumberland, the charitable leisure trust who manage leisure facilities in Northumberland
- Referrals accepted from primary and secondary care
- PhD purpose: evaluate, understand, inform future delivery: what works, for whom, and in what circumstances?

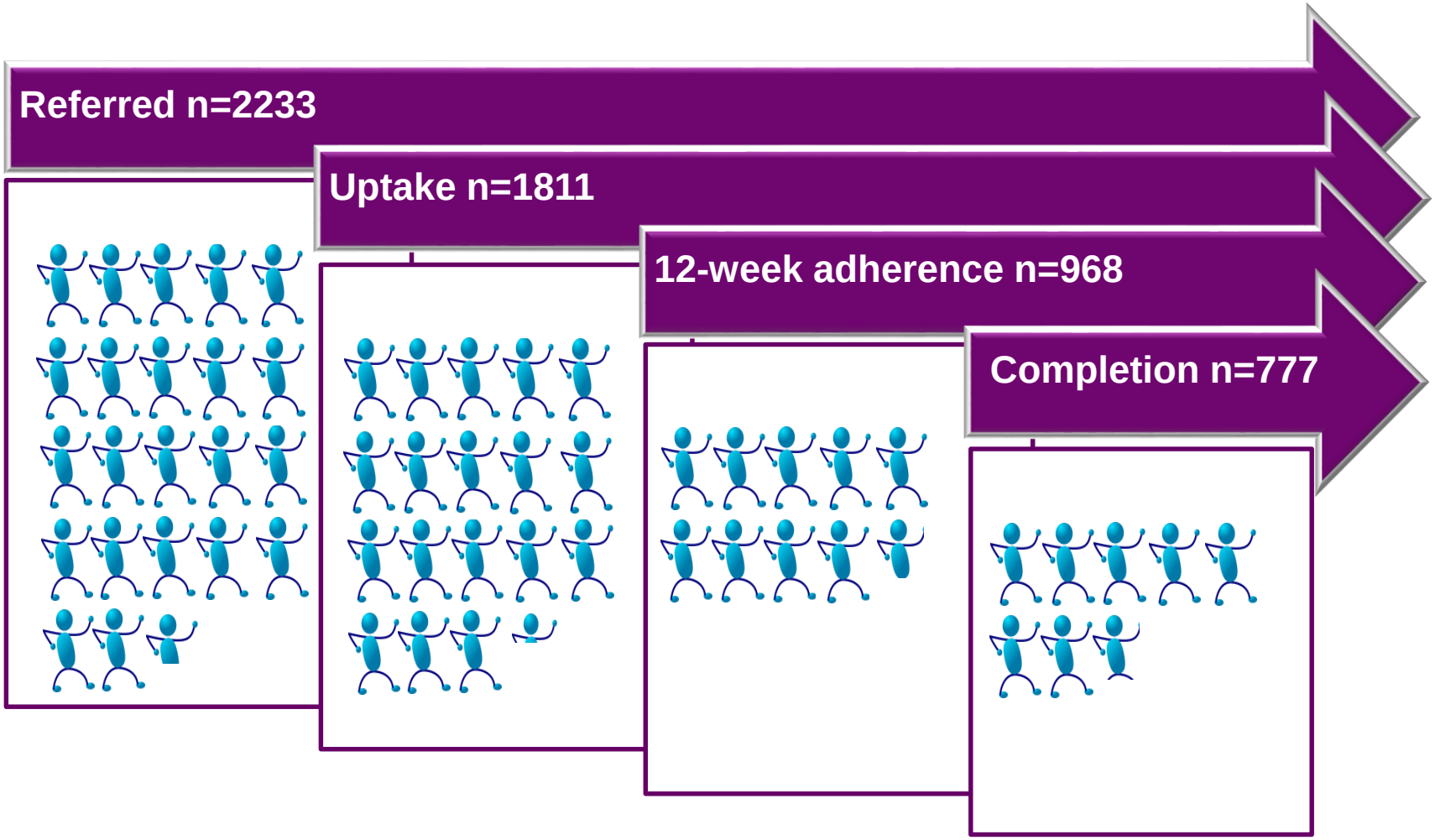
What works and for whom?

Initial study examined whether demographics influenced attendance at consultations and reported changes in physical activity levels over 24 weeks



(Hanson et al., 2013)

Uptake, adherence & completion



Who started and who stayed?

Characteristics of referrals		Sub-groups more likely to start	Sub-groups more likely to adhere at 12 weeks	Sub-groups more likely to complete at 24 weeks
<35 years	15%	55+ years (p<0.001)	55+ years (p<0.001)	
35-54 years	33%			
55+ years	48%		Referred by (p<0.001) cardiac rehab professional	
Female	59%	Females (p<0.05)		
Male	41%			
20% most dep.	23%			
21-40%	22%	61-100% (p<0.05) least deprived	61-80% (p<0.05) least deprived	
41-60%	19%		81-100% (p<0.001) least deprived	
61-80%	17%			
81-100%	19%			
CVD	30%	Leisure site (p<0.001) dependent	Leisure site (p<0.001) dependent	Leisure site (p<0.001) dependent
Weight	42%			
Mental health	14%			
Metabolic	7%		Pre-scheme (p<0.05) BMI <35+ kg/m^2	Pre-scheme (p<0.05) BMI <30+ kg/m^2
Other	7%			

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What difference did it make to participants?

Physical activity

Completers significantly increased self-reported physical activity after six months ($p<0.001$) and although there was a reduction in activity after one year, levels remained significantly above pre-scheme levels ($p<0.001$)

On average completers reported increasing their physical activity levels by 29 minutes per week (52 to 81 minutes) at six months

Completers attended scheme activity sessions on average once a week over the 24 week period

Physiological indicators

For completers there were small but significant reductions in:

Waist circumference
(mean -2.3 cm) ($p<0.001$)

BMI
(mean -0.39 kg/m2) ($p<0.001$)

Resting heart rate
(mean -3.2 bpm) ($p<0.001$)

And a small but significant rise in:

Diastolic blood pressure
(mean +2.3 mm/Hg) ($p<0.001$)

In what circumstances?

Qualitative exploration of the route to referral, pre-scheme expectations, and perceived influences on attendance of 15 participants prior to starting the scheme

- Range of age, gender, and reason for referral
- Three from cardiac rehabilitation, three previous participants, three peer recommendations, six opportunistic referrals
- Individual semi-structured interviews

11 participants took part in a further study exploring experiences of participation

- Two non-starters, three drop-outs, and six adherers

A richer understanding

Qualitative exploration of pre-scheme perceptions

Route to referral

Process:

- Suggested by health professional
- Part of NHS pathway
- Peer recommendation
- Previously participation
- Interaction with ERS

Personal:

- Deteriorating health
- Weight gain
- Staying healthy for others
- Social interaction/ routine
- Increasing age

Expectations

Process:

- Knowledge (or lack) of ERS
- Range of activities
- Staff support and guidance
- Group v individual
- 2x weekly participation

Personal:

- Improve physical health
- Improve mental health
- Weight loss
- Make friends
- Enjoyment
- Takes time to see results

Perceived influences on participation

Process barriers:

- Activities unsuitable
- Cost
- Uncomfortable environment

Personal barriers:

- Health problems
- Outside influences
- Lack of confidence
- Feeling out of place/ unwelcome

Process facilitators

- Staff and peer support

Personal facilitators

- Health improvement
- Weight loss
- Making friends and having fun

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Predicted success: a 60 year old's narrative

Quality of life *I used to do a long walk when I got home from work until I had my hip done. I feel that I can't walk properly, I can't get going. I have just lost my confidence*

Barriers *I am absolutely terrified. I'm worried about everything, the environment, and I'm worried in case I can't do anything. I'm not wild about exercising in a group. I will just have to grin and bear it; as long as they are all similar up to me. You know as long as there is not anybody who is really fit*

Expectations *I'm hoping to be able to walk without my stick; to be able to get some sort of colour to your life back I suppose because at the minute I don't get out an awful lot. I am trying to lose some weight and I was hoping that this would help with that as well*

Positive experience *I just think it has been wonderful… really good, I just can't believe … everybody is so friendly… and they help you and it's not anything like I expected*

Staff and peer support *Staff were really encouraging and really nice. I realised that everybody that was on the scheme is just the same as me.*

Weight loss *After 12 weeks I had lost ½ stone and an inch off me waist and an inch off me hips … I was pleased with that.*

Improved quality of life *I get out nearly every day now. I have just been to me friends for a week and she has very steep stairs; I've virtually had to go up on all fours but this time I managed to go upright*

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Bucking the trend: a 23 year old's narrative

Quality of life *My image has changed since having babies, I'm not as active as I would like to be, like if we go to soft play I get my partner to go in with them because I feel dead self-conscious about going on a bouncy castle*

Barriers*. I've never worn trainers for a good six years so I just feel awkward. I just don't want people like judging us. I get a lot of stares. When I go out I try to make sure that I have got someone with us because I didn't feel very confident going out by myself.*

Expectations *I don't like my body and I want to lose some weight. I want to feel like myself again really. I want to get a job eventually, but I don't think that I feel confident enough at the moment to go out there and work in a public place*

Peer support *there wasn't really any young people there but there is a group of guys that I have made friends with .They are as funny as anything and they encourage you as well. It's strange because obviously they are a lot older but they seem to be a lot fitter at the same time*

Improved quality of life *I definitely feel a lot more confident in myself. I am starting to feel a lot happier. I think when you get to a certain point where you feel as bad about yourself as I did, then you are going to keep coming back because you are noticing all the differences in yourself.*

Weight loss *I've lost half a stone, I feel a bit down because I would have expected to lose a lot more; but not as much as I thought I would be because I've lost weight rather than put it on; and I can feel that I have lost weight off me hips as well, I can actually get into me jeans and I have actually dropped a dress size as well.*

Barriers: *Exercising in front of people. I still don't like it. There's one end of the gym where like all the good looking people go; and the skinny people go; like body builders and they have all got perfect bodies. I tend to stay in the other side*

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Capturing negatives: a non-adherer narrative

Quality of life *Actually I did the scheme years ago. I've always had depression of some sort. It wasn't my cup of tea then but I need to get out. I'm lying in bed and then I get up and go on the settee, read the paper, and then in the afternoon I have a sleep, and then I watch the television and I'm thinking I'm only 65,I should be doing something*

Barriers*. I have this bit of a negative side and I don't know if I would be excited about it six months down the line. I've got a very low boredom threshold. I have just never ever been into sport and as I got older I just actually hate it. I've tried a bit of everything over the years and never found anything that I like apart from exercising to music*

Expectations *To get out of the house and to get moving really and to get fit. More bothered about psychological wellbeing than weight loss, which would be a bonus*

Lack of peer and staff support *I just turned up and unless you speak to somebody they don't speak to you. There is no camaraderie. There isn't any fun. I mean (staff member) is funny but it's a case of 'hello everybody, we are here' and you have a bit chat but there was no one to one*

Barriers: *I just felt on the outskirts; there wasn't anybody that you could have a laugh with. The ones with a bit of a sense of humour were playing badminton. They seemed to be quite good and I thought well I don't want to be going in and missing the shuttlecock. I didn't have the confidence*

Improved quality of life *It was really good to start with because I needed a kick start to get out of the house. I'm still on the medication but the depression is now contained. I've cleared out the garage, I've done the front garden but then I've found that as I've become more active the scheme just wasn't helping*

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What changed for the provider?

- Empowered staff through feedback workshops; able to see benefits of data collection and to input ideas for improvements
- Successful practice examined; staffing restructured so that one member of staff assigned to each referral, responsible for all consultations and encouraging adherence.
- Remedial training carried out at the worst performing site; increase in 24-week completion from 17% to 34%
- Staff started promoting physical activity outside sessions; reported increase in mean physical activity of 20 minutes per week (101 minutes in total)

What changed for the commissioners?

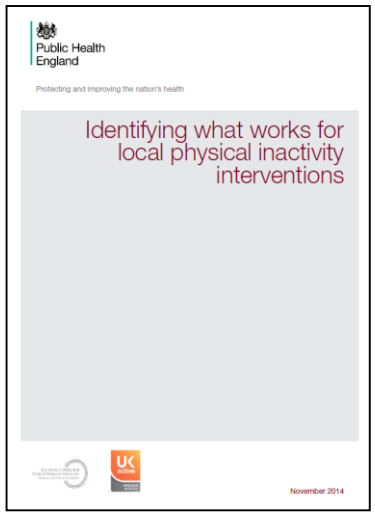
- Annual data downloads, academically robust evaluation, and appropriate interpretation of results gives a better understanding of the service commissioned
- Better working relationships with provider and openness to try other interventions with confidence that they will be robustly evaluated
- Commissioning of a tier two weight management referral programme pilot with randomised arms for physical activity only, weight management only, and weight management and physical activity combined. Results of this will be presented in July 2016 allowing for better informed commissioning decisions in the future

What changed for participants?

- Participants are now assigned a key staff member to ensure continuity and help build relationships
- Participants are now given a much more detailed explanation at initial contact by the scheme, including agreeing potential session times and an explanation of cost
- A county wide concessionary price of £2.00 per session was introduced in June 2015 for those on identified benefits. It is too early to assess the impact of this
- Participants are now more actively encouraged to take part in physical activity outside of formal sessions

National recognition and policy contribution

- Recognised as having demonstrated positive impact and a robust embedded approach to monitoring and evaluation (PHE 2014)
- Evaluation has received national and international press coverage and industry recognition
- Contribution to policy debate about physical activity interventions through publication (Oliver et al., 2016) in press



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What next?

- Ongoing robust data collection with annual download means that the quantitative data set has grown from 2233 to 12,639
- More in depth analysis of this data to better understand the effect of the scheme on population sub-groups e.g. does physical activity increase more from some groups than for others?
- Evaluation of the tier two weight management programme and decisions about future commissioning
- Further qualitative work with referrers and participants, in particular those from more deprived areas?
- Trialling of different approaches in Northumberland with groups for whom ERS does not successfully engage

Academic collaborators:

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Dr Emily Oliver, Durham University
Dr Linda Allin, Northumbria University
Coral Hanson, Durham University c.l.hanson@durham.ac.uk

Wolfson Research Institute for Health and Wellbeing
Physical Activity Special Interest Group

Key stakeholders

Penny Spring, Director of Public Health, Northumberland County Council
Kerry Lynch, Public health specialist, Northumberland County Council
Michael Firek, Community health and fitness officer, Active Northumberland

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HOW ARE WE DOING?

Joyce de Goede (PhD)
Health researcher and Knowledge broker
Regional Public Health Service West-Brabant
The Netherlands

GGD West-Brabant

IN THIS PRESENTATION:

Setting the policy stage

Our stakeholders

Knowledge brokering during the research process

Our research products

Results of our efforts

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SETTING THE POLICY STAGE

Before 2015 Youth Care was governed and financed by national and regional agencies.

On 1-1-2015 transition of youth care took place and local government became responsible

2 x 9 municipalities are working together to get the transition organised

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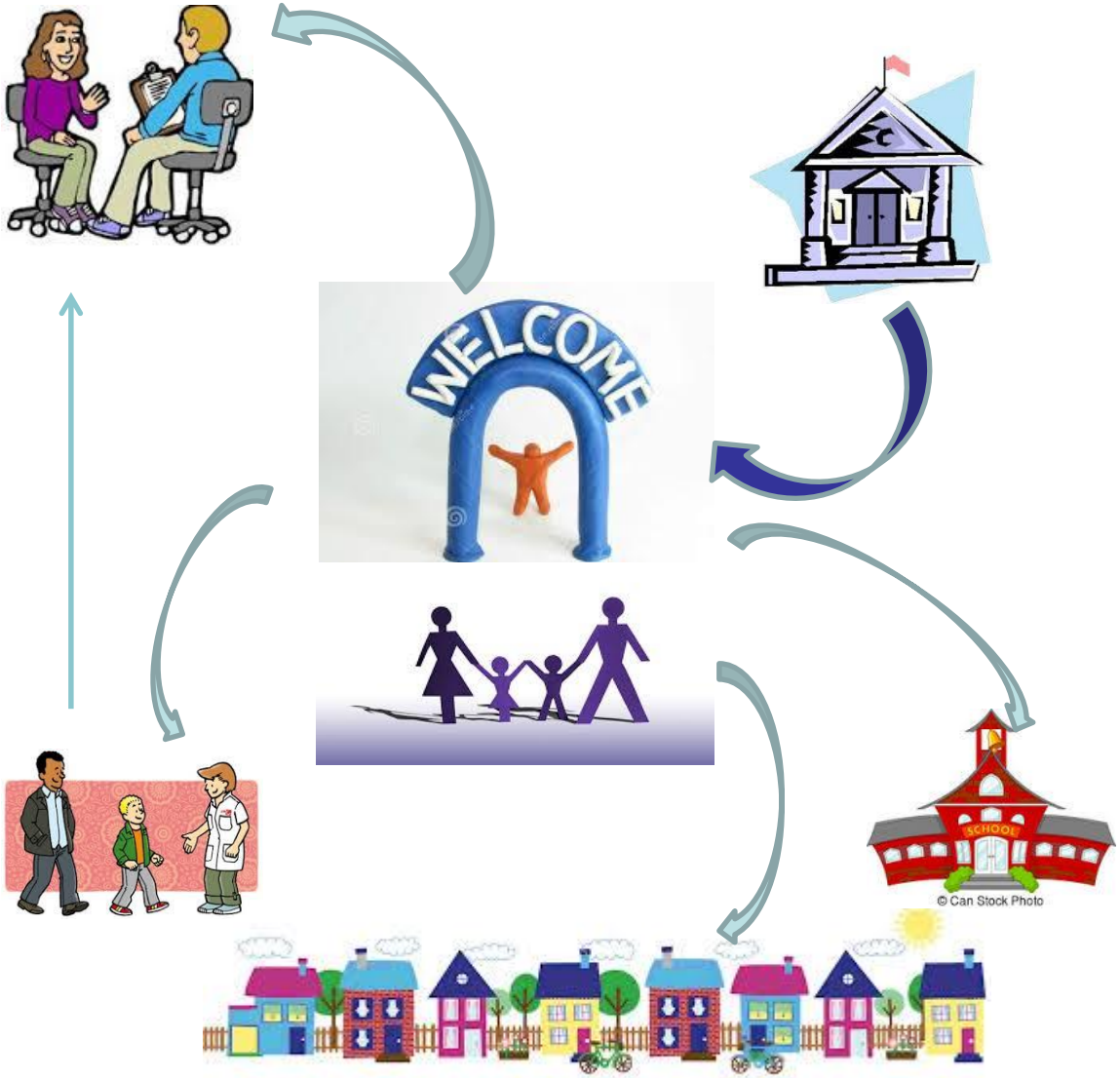
SETTING THE POLICY STAGE



1. More children participating in social, cultural and economic life

2. More children are raised in a healthy and safe way

3. More families are able to handle their own worries and problems in regard with their children

4. Professional help has a long lasting effect

5. Light care if possible, heavy when necessary

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OUR STAKEHOLDERS

Local administrators

Local officials of all 18 municipalities

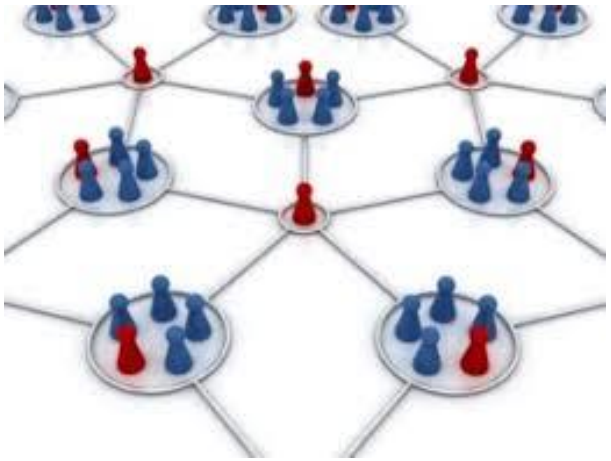
Financial and marketing officials

Members of the city council

Youth care professionals……
and their managers

Local researchers

Professionals of administrative agencies



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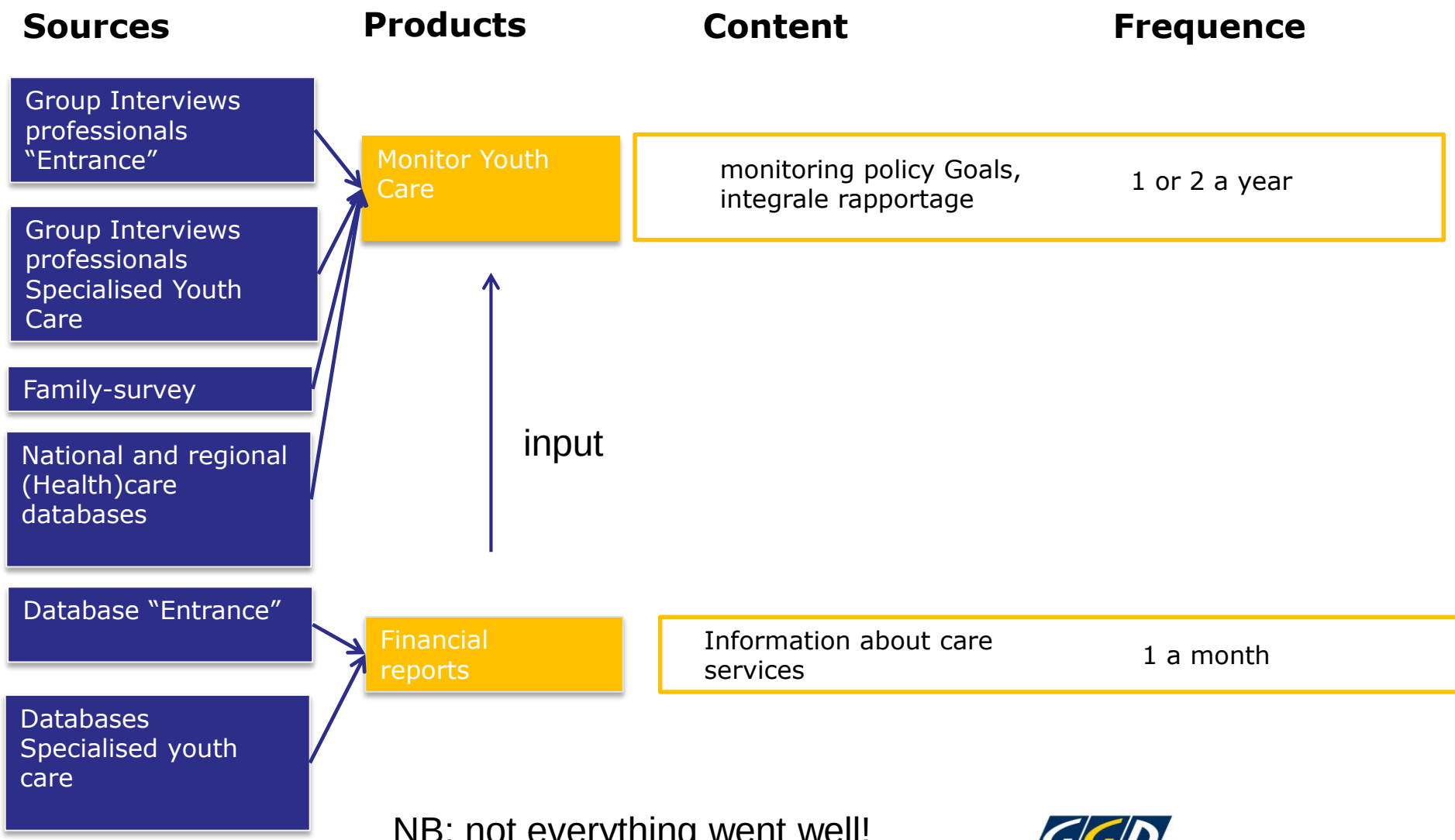
KNOWLEDGE BROKERING DURING THE RESEARCH PROCESS



NB: not everything went well!

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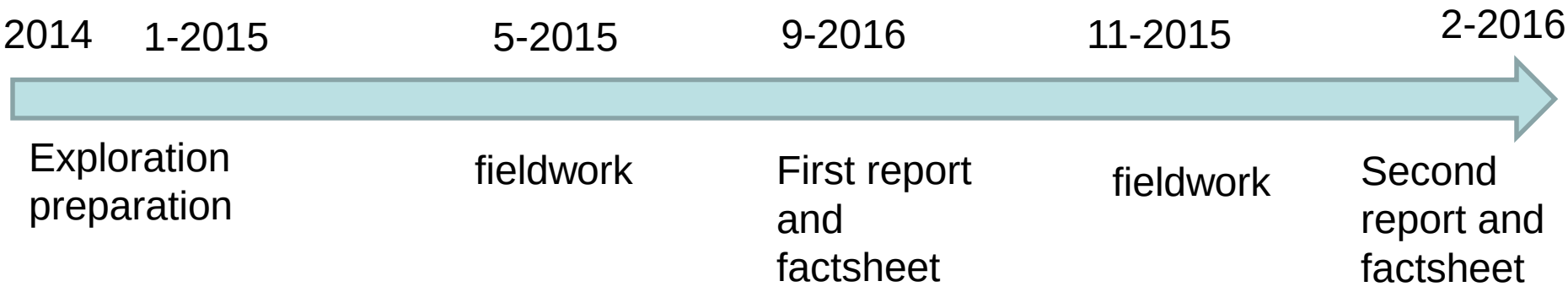

- ✓ 2 advisory comities with local officials (for each sub region)
- ✓ Bilateral meeting with local researchers and professionals of administrative agencies
- ✓ Presentations at start and report periods to local officials, administrators and care organisations
- ✓ Emails to local officials on planning and progress of the fieldwork
- ✓ Researchers as discussion leaders during stakeholder meetings

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OUR RESEARCH PRODUCTS

Local reports (backoffice)

Factsheets for city council

Presentations

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RESULTS OF OUR EFFORTS

Primary users: local officials (interviews with 16 out of 20 so far)

On the reports:
Conceptual and in particular cases instrumental use

Local officials communicated the reports with other officials and administrators

Factsheets are written for city councils. Local officials and administrators decide whether or not the factsheets were to be disseminated.

All local officials were content with the reports and factsheets.
However; the closer to the research process the less bothered they were with “uncomfortable” results.

RESULTS OF OUR EFFORTS

Key actions that contributed to the use:

- ✓ At start expectations (what do I get and when) are clear
- ✓ Using multiple research methods
- ✓ Back office reports, no obligations to go public
- ✓ Closely following the policy process
- ✓ Thinking along with local officials and asking critical questions
- ✓ Having advisory comities (ambassadors)
- ✓ Being visible as researchers (by attending many, many meetings)
- ✓ Showing that comments are taken seriously
- ✓ Being able to explain research at base level
- ✓ Trust

Further improvements:
How to get more local officials engaged in the research process
Relate research results and policy goals in our reports
Get client views/experiences

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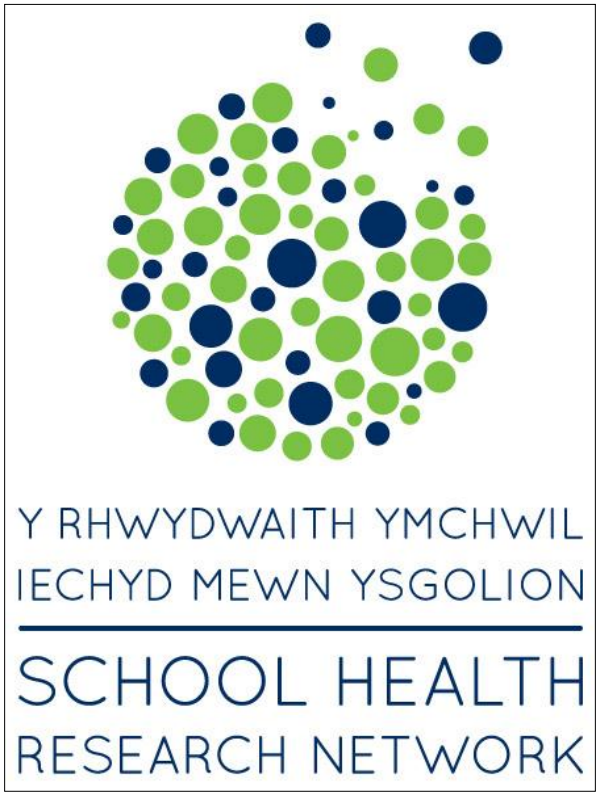
The School Health Research Network: increasing impact by co-producing and utilising health improvement research evidence in the secondary school setting

Gillian Hewitt, Cardiff University

Joan Roberts, Graham Moore, Adam Fletcher, Simon Murphy; Cardiff University

Julie Bishop; Public Health Wales



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Partnership

Llywodraeth Cymru
Welsh Government

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PRIFYSGOL CAERDYDD

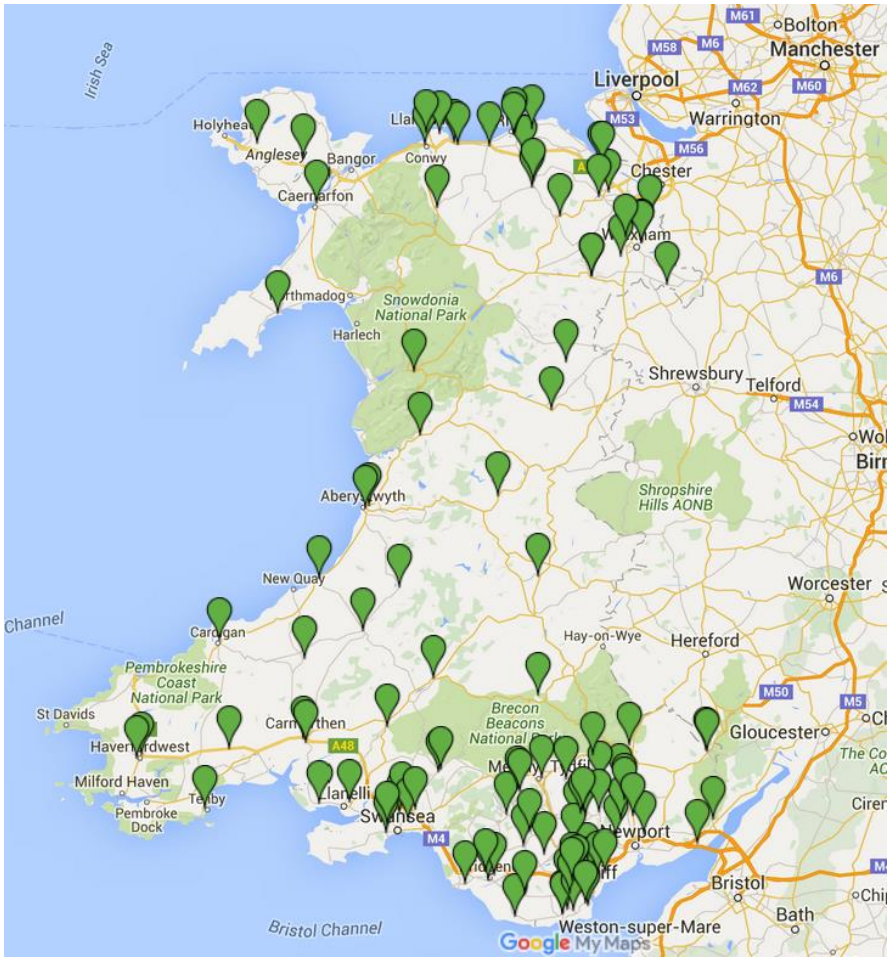
115 Secondary schools

CANCER RESEARCH UK

GIG CYMRU NHS WALES
Iechyd Cyhoeddus Cymru
Public Health Wales

Member schools

- 22 local authorities
- Size: 260 – 2008 students
- Free school meal entitlement: 3 – 45%



Aims

- **To improve the health and wellbeing of young people by increasing the quality, quantity and relevance of school-based health improvement research in Wales**
  - ➢ Collaboratively generate research evidence on school-based health improvement
  - ➢ Facilitate knowledge exchange to support evidence-informed practice in school health

Knowledge exchange elements

- **Student health and wellbeing survey and school feedback reports**
- **School environment questionnaire**
- **Forums for knowledge exchange**
  - Webinars, school events, CPD workshops, network manager, advisory board
- **Co-producing new research evidence**

Knowledge exchange elements

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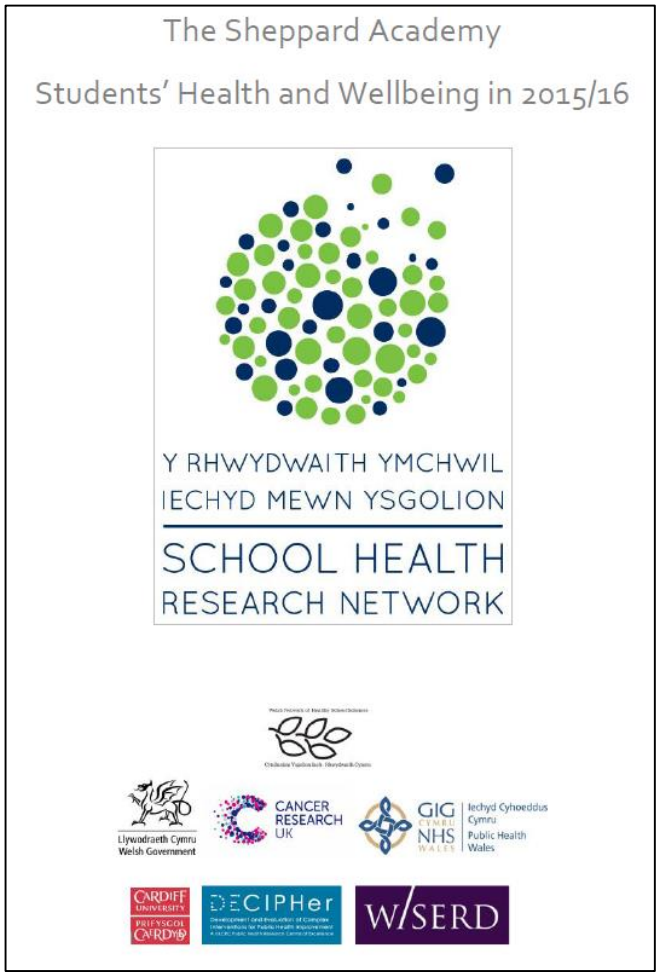
Student Health & Wellbeing Survey and School Feedback Reports

- Two-yearly survey based on Health Behaviours in School-aged Children survey
- Additional content originates from school, practitioner and policy-maker priorities and is responsive to policy changes and emerging health behaviours
  - Sexting, new psychoactive substances (schools)
  - Violence Against Women, Domestic Abuse and Sexual Violence Act 2015
  - E-cigarettes, food black markets

Student Health & Wellbeing Survey and School Feedback Reports



Report content

Remember to look at the '*Low Numbers Table*' on page 4 to see if your charts represent small numbers of students

Fruit and vegetables

Fig. 2 The Sheppard Academy: Students who usually eat one or more portions of fruit or vegetables a day

Guidance from the World Health Organization is to eat a minimum of 5 portions of fruit or vegetables a day as this lowers the risk of serious health problems. Suggestions to encourage this at:
http://change4lifewales.org.uk/families/5day

Did you know?

Recent UK research has found that older adolescents' consumption of fruits and vegetables is strongly related to how much they perceive their school friends eat. They substantially underestimate how much fruit and vegetables their peers eat[14].

Your school can make a difference

Californian students in schools with lunch breaks of more than 30 minutes ate more fruits and vegetables than those in schools with shorter breaks. They also ate more vegetables if their school had a salad bar and if students had been involved in food service provision[15].

2015/16 8 | Page

- Data by gender and year group:
  - Food and physical activity
  - Wellbeing and emotional health
  - Substance use
  - Sex and relationships
- National averages
- Research findings
- Resources and ideas for
  - School leaders, staff, governors
  - Students
  - Family and community

Schools' responses to the reports

- Health action planning
- Teaching – PSE, science, PE
- National Literacy and Numeracy Framework
- Welsh Baccalaureate
- Assemblies
- Student voice groups
- Parent engagement
- School Inspection

Knowledge exchange elements

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School Environment Questionnaire

- Covers school health policies, practices, leadership and organisation
- Content developed with Public Health Wales
  - ➢ School nursing provision
- Core and supplement
- To become the monitoring database for the Welsh Network of Healthy School Schemes

"*if we can agree at least a core set of data that work for research purposes as school level measures and Scheme purposes as school level measures then there is no reason why that data can't be used equally well for both purposes*" Policy lead

Knowledge exchange elements

- **Student health and wellbeing survey and school feedback reports**
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- **Co-producing new research evidence**

Forums for knowledge exchange

- Advisory board
- Webinars for WNHSS staff and schools
- Annual school events
- Dedicated Network manager (Joan Roberts)

Forums for knowledge exchange

- Quotes from teachers about the school events

  "*Numerous opportunities to network, collaborate and share ideas/best practice. Very positive/sharing environment throughout.*"

  "Great to have the opportunity to get time to share ideas"

  "*A brilliant focus for the future when the data has been collected and analysed. Should allow for proactive planning in the future as we learn more about our students.*"

Forums for knowledge exchange

- Continuing professional development workshops for WNHSS staff

  "*They're the agents for change at the end of the day so they have to be equipped to have the right sorts of conversations … because the ability to look critically at whether or not there's an evidence base behind what we're advocating isn't really there.*" Policy lead

  - ➢ Evidence informed practice
  - ➢ Interpreting school feedback reports

Knowledge exchange elements

- **Student health and wellbeing survey and school feedback reports**
- **School environment questionnaire**
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  - Webinars, school events, CPD workshops, network manager, advisory board
- **Co-producing new research evidence**

Co-producing new research evidence

- Research Idea Development Group model
  - Policy-makers
  - Practitioners
  - Researchers
- Workshop model
  - Suicide and self-harm workshop

Challenges

- Schools' capacity to engage
- What are the parameters of engagement with schools and other stakeholders?
- Identifying potential knowledge brokers
- Student voice

Opportunities

- Welsh context

  "*[Health and wellbeing are] absolutely fundamental and should be an intrinsic part of every school in terms of its strategy, policy and practical delivery*" Director of Education

  - WNHSS
  - School inspection framework
  - 'Successful Futures' curriculum review

- Infrastructure that allows us to be proactive and reactive and meets knowledge needs at multiple levels

Independent Review of Curriculum and Assessment Arrangements in Wales (Donaldson Review)

Four purposes of the curriculum:

1. Ambitious capable learners
2. Enterprising, creative contributors
3. Ethical, informed citizens
4. **Healthy, confident individuals**

Delivered through seven areas of learning and experience:

1. Digital competence
2. Expressive arts
3. **Health and wellbeing**
4. Humanities
5. Languages, literacy and communication
6. Mathematics and numeracy
7. Science and technology

Opportunities

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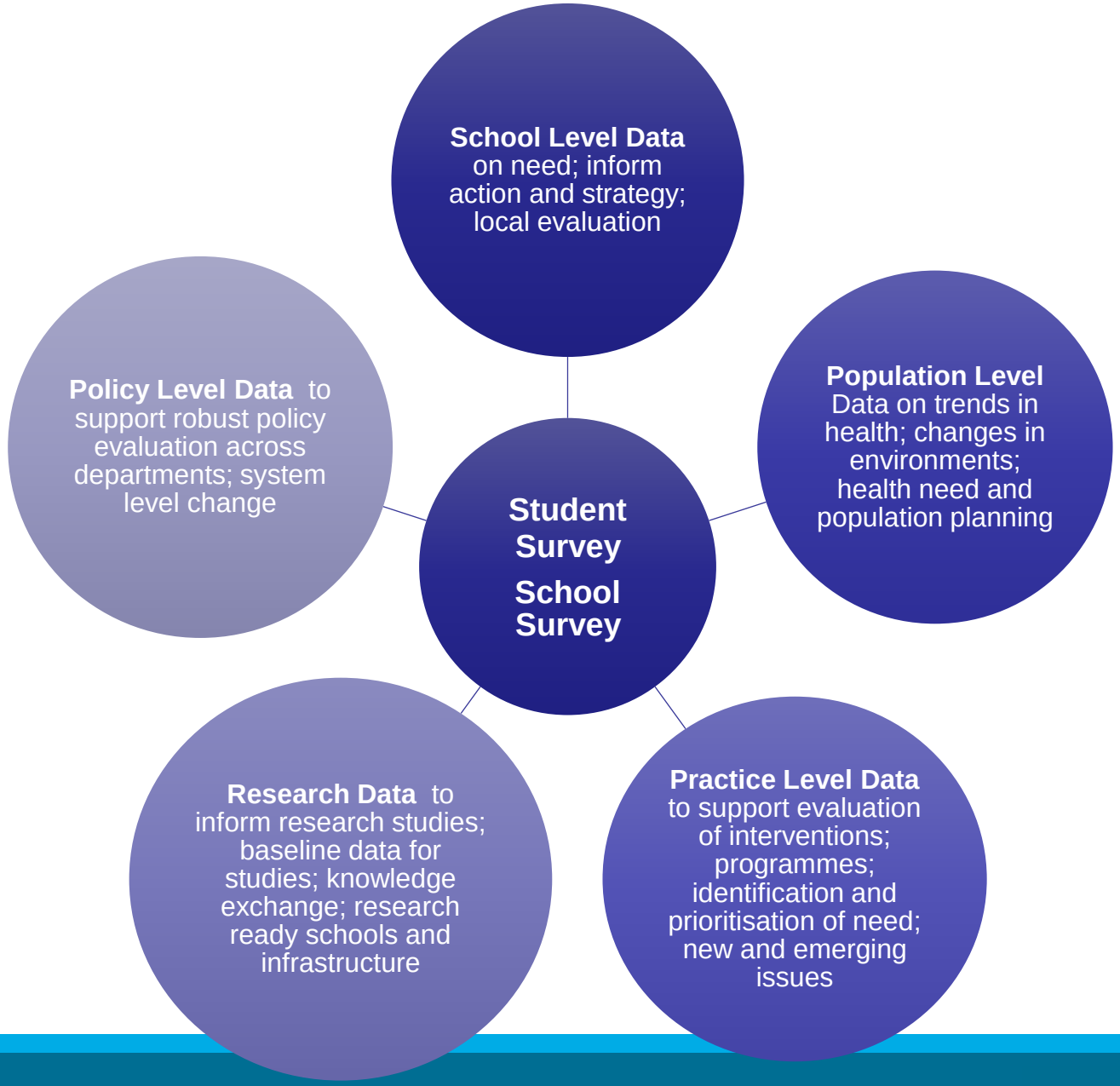
School Level Data on need; inform action and strategy; local evaluation
Policy Level Data to support robust policy evaluation across departments; system level change
Student Survey
School Survey
Population Level Data on trends in health; changes in environments; health need and population planning
Research Data to inform research studies; baseline data for studies; knowledge exchange; research ready schools and infrastructure
Practice Level Data to support evaluation of interventions; programmes; identification and prioritisation of need; new and emerging issues

Thank you

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