



# AFOL

*Connection • Cysylltiad*



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On behalf of the Active Families Active Lives Team

**Comisiwn  
Bevan  
Commission**



Yr Academi  
Lledaeniad a Graddfa  
The Spread and  
Scale Academy

# Bevan Commission

Planned Care Improvement Project



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**Value based weight management for children with BMI >98th centile using virtual ward and wearable technology.**

**Cardiff and Vale University Health Board**



# NHS Business Problem

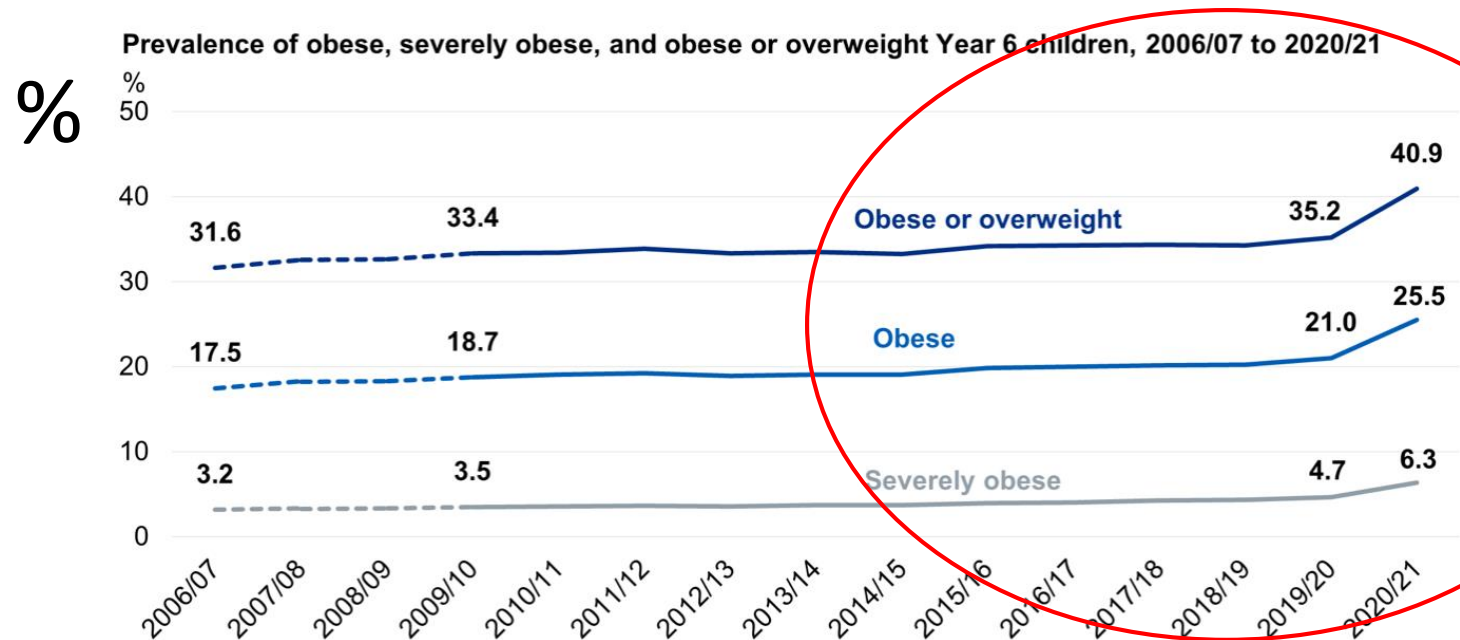
## Prevalence of Childhood Obesity

2018/19 Child Measurement Programme Wales:

- 12.6% of children in reception (age 5) were obese.

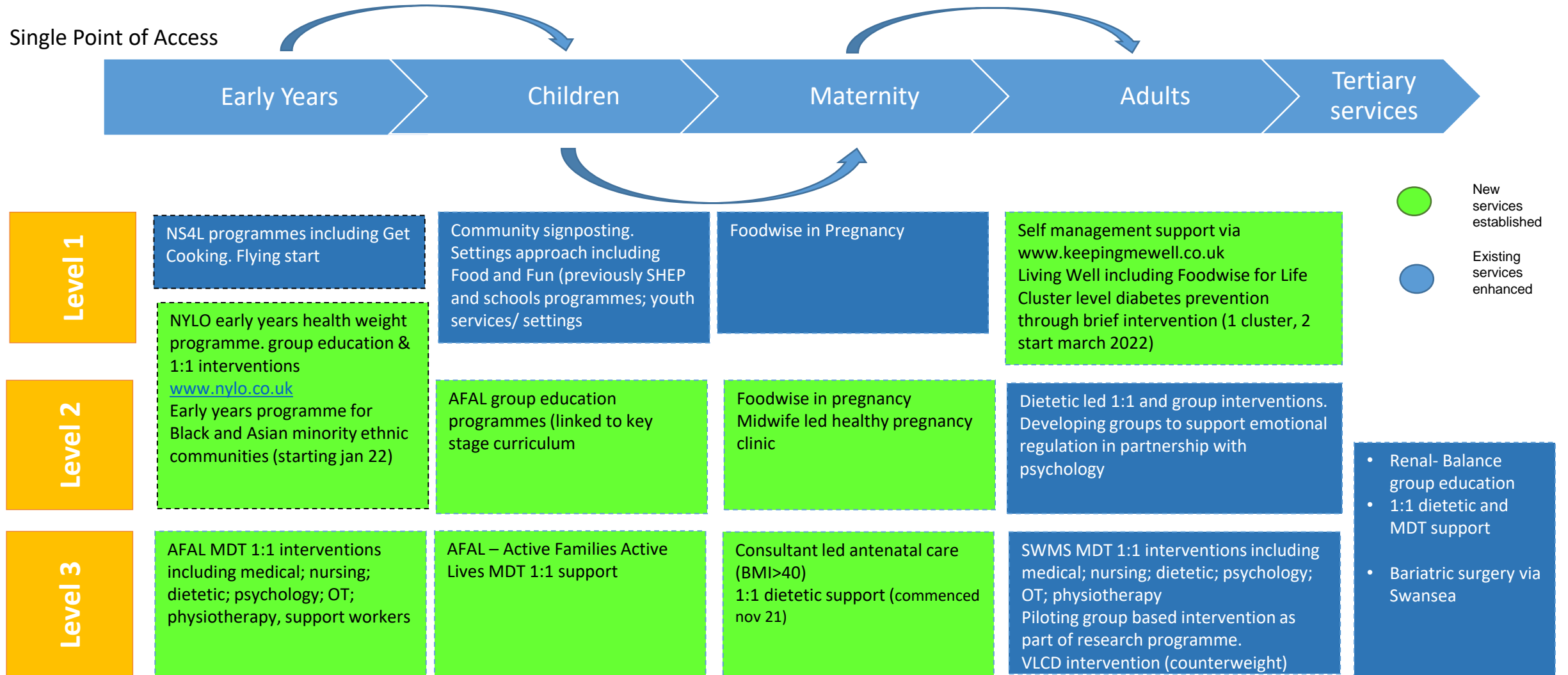
2020/21 Child Measurement Programme England:

- 25.6% of children in year 6 (age 11) were obese.
- 1 in 3 children in the most deprived areas are obese.

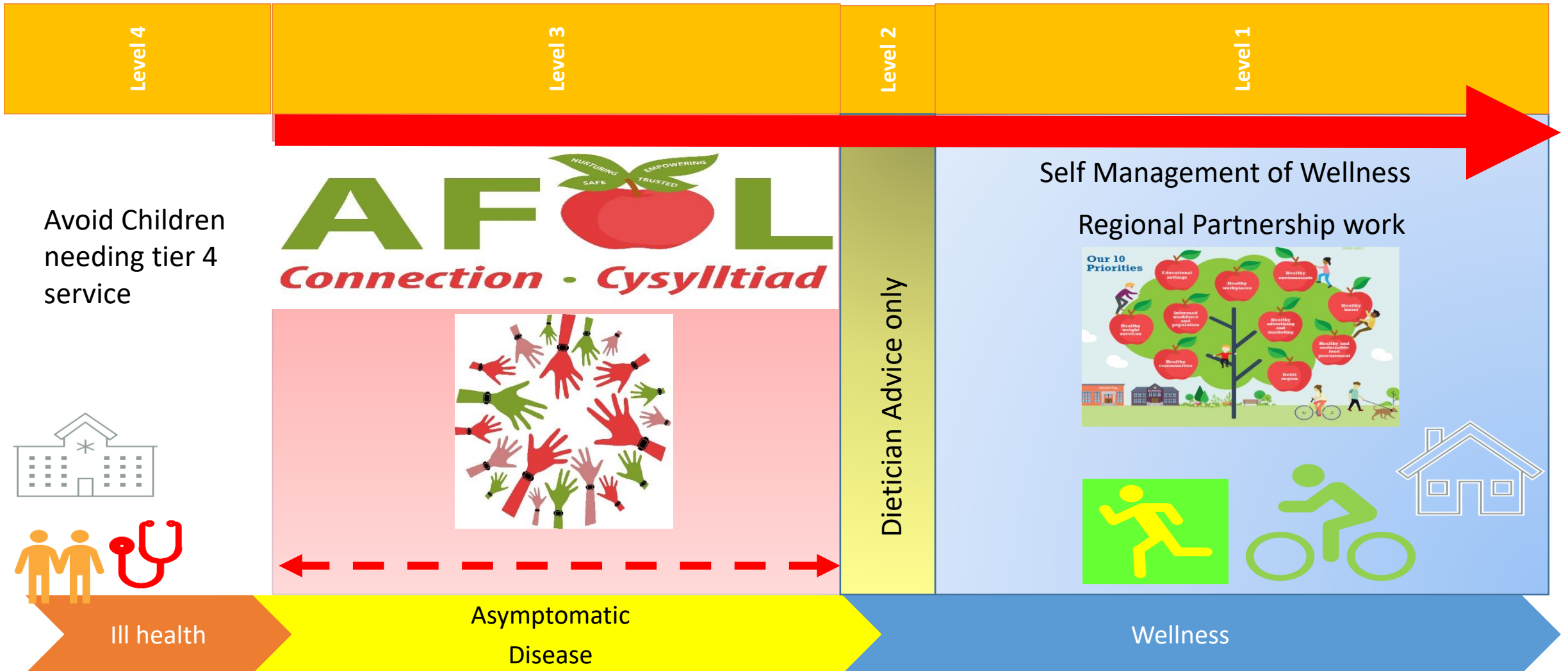


# Background

## Cardiff and Vale Weight Management Services Pathway



# Why wait for ill health to start an intervention, for children and young people?





# Problem orientated solution

A solution to monitor & manage the health continuum that:



Works months and years in advance of expensive health comorbidity occurring to children



Supportive Virtual Community



Empowers Child/ Family to set own health goals and independence with health journey



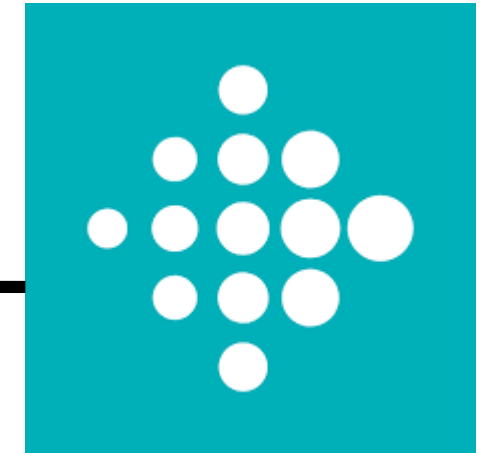
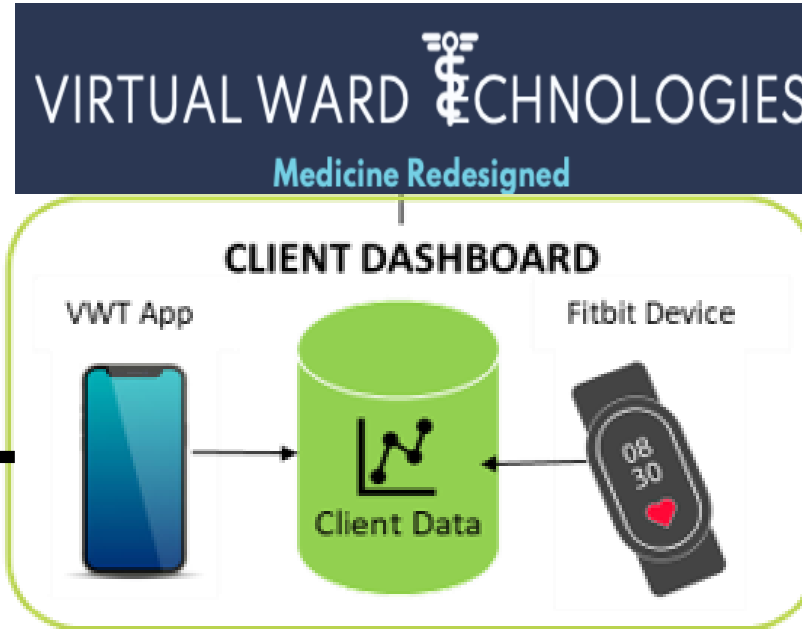
Increases operational productivity & effectiveness



Scalable, cost-effective technology

# Technology Solution Developed

## Virtual Ward Platform



Engages the young person  
with a professional.....  
virtually via AFAL app

**Bespoke designed  
by team**

Engages the Individual  
with their own data via Fit  
bit watch and app

**Cool and acceptable  
to young person**

# How does the Connection-Cysylltiad project help connect a child's mind and body for better health?

1. Increase step count
2. Reduce sedentary time
3. Improve sleep routine and quality
4. Increase active minutes
5. Drink more water
6. Increase plant points
7. Increase mindfulness

Evidence shows that wearable devices can help with weight loss and activity goals, such as step count (Ringeval M. et al. 2020).





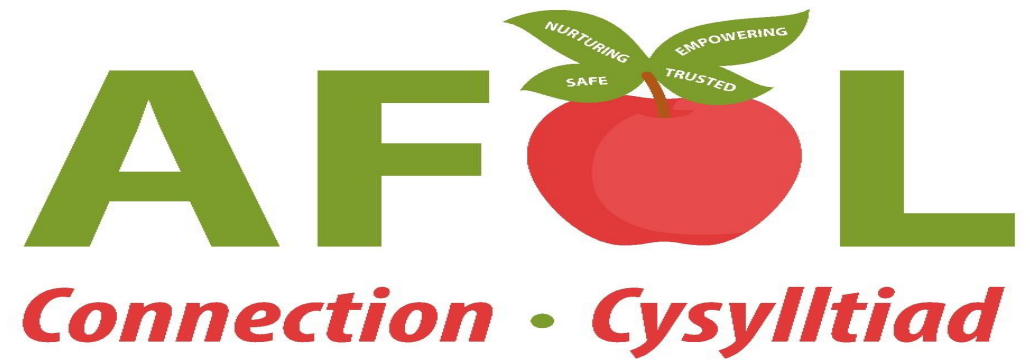
# Where do we start?

## **Where the child and family are at**

1. *Increase awareness of these goals*
2. *Starting to measure baseline with all these things*
3. Ideas how to start making changes



Aims of project:



1. Is a interfaced wearable acceptable and useful for a child / young person?
2. Is monitoring through an interface acceptable and achievable for professionals?

# Objectives:

**With thanks-** Successfully Navigated  
Data Protection Impact assessment and Agreement  
Signed by Cardiff and Vale  
Data security and Information Governance team

## **Pilot service improvement project**

- Developed digital on boarding process
- On boarded 10 children
- Engaged and enabled the full multidisciplinary team of professionals in the process
  1. School Nurse
  2. Dietician
  3. Physio
  4. Occupational Therapist
  5. Consultant Paediatrician
  6. Junior Doctor
  7. HealthCare support worker



# Results: Benefits visualised by young people.

## Doing it different

- Was losing paper recording
- visual incentives are available to help

## Connection

- Help is there **when you need it**
- help from professionals to **motivate and connect**
- Professional guidance
- **Improved mind-set** from learning healthy lifestyle
- 1:1 with a person **that's not a robot- personalised experience**

## What we need

- decrease appointment time
- not have to attend appointments

## Self awareness

- How I'm doing with exercise
- Increase step count
- to find a way to manage weight
- Hope to get better idea about sleep
- Eat healthier-
- awareness of plant points

# Results: Benefits visualised by carers.

Doing it  
different

Waw – this is  
more than  
we imagined!

## Connection

- if struggling can get help
- Direct support from professionals
- help build confidence
- help with goal setting learning

## Self awareness

- More exercise baseline awareness
- Learning and understanding own body better
- To be more active
- Keep track of sleep
- to become fitter and healthier



# Results: Professional testimonials

## Easy Data Viewing

1. patient doesn't have to work hard to collect data with pencil and paper
2. Patient doesn't have to remember to communicate that data or bring it with them to the outpatient appointment **its there for the professional to see.**

More connection  
less time demand

- **reduced outpatient organisation** time resource
- **reduced paper communication** demand
- **reduces professional documentation** demand
- **Free up planned care time**



## Access equity

**data buddies** - parents can support their child if they are not Gillick competent or have mental capacity which **means equity of access for all children** at all levels of development.

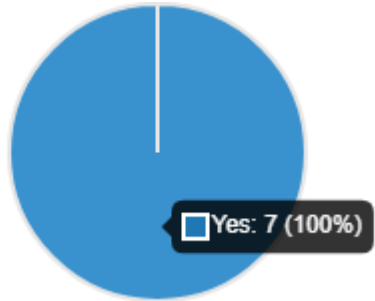
1. The care is **patient centric**
2. allows **earlier discharge**
3. allows development of a **education push vehicle** to patient accessible when they need it as they are ready for it

## Patient Centric

1. patient doesn't even have to remember to turn up for a outpatient appointment
2. patient **doesn't have to miss school** or the parent lose a day of **work**

# Quantitative results:

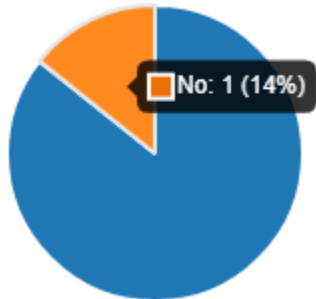
## Young people and family feedback



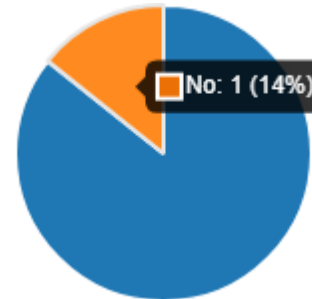
100% reported wearable kept interest in goal setting more than without a watch

“Encourages you to monitor in a daily routine by raising your awareness”

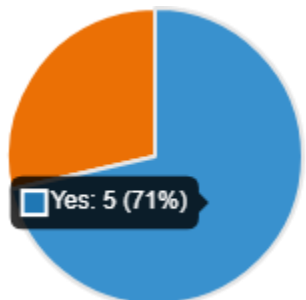
100% goal setting discussion via app and wearing a watch helped set goals that was felt achievable



80% reported goal setting and using a watch, supported family discussions to help you achieve goals



86% reported virtual communication more convenient than having an appointment



70% reported Communicating virtually with professional was helpful

“Being able to communicate virtually with a professional helped as I could get feedback and support **without the inconvenience of having to set up a meeting and going to the hospital in person. The professional could analyse my statistics and provide tailored support and feedback to me instantly over message and that most definitely helped.**”

- “Easier than travelling to appointments”
- “ Helped me keep sticking to my goals”
- “Doesn’t replace face to face when that is needed but on the whole works”

# Quantitative changes to service



**110** virtual messages delivered by **10** patients and **7** multidisciplinary professionals

over **13** weeks

**without outpatient appointments**



- Without needing

- face to face
- telephone
- estates
- travel
- Paperwork



**With significant and better**

outcomes of care using **data driven and data evidenced learning** for patients and professionals

# Solution development following prototype phase professional/patient feedback

1. Developed virtual and contactless on boarding option.
2. All team members have access to each patient to facilitate multidisciplinary coaching and data benefits
3. App upgrades



# Why Spread and Scale?

## Follow up costs

	intervention	Cost per month per child	Duration of cost	Life restrictions?	Life long learning of health goal setting	Increases dependency on appointments	Do we have staffing to meet capacity
Tier 3	AFAL connection project	£40 AND no outpatient costs	Max a year and fit bit stays with young person	no	yes	no	Yes
Tier 4	Appetite suppressant Liraglutide	£196 Doesn't include outpatient costs	For life- weight gain if you stop	Daily injection need evidence of lifestyle measures in place first	no	Yes monthly for life	no
	Appetite suppressant Semaglutide	£200 Doesn't include outpatient costs	For life – weight gain if you stop	Weekly injection need evidence of lifestyle measures in place first	no	Yes monthly for life	no
	Bariatric Surgery	£3000-6000 upfront Doesnt include lifelong outpatient costs	Multidisciplinary care lifelong	Yes restricts future choices	no	Yes 3 monthly for life	no



# Why Spread and Scale?

## Future avoidable costs for adult services

Pathway	Cost
Diabetes pathway	££££££££££££££££
renal failure and transplant pathway	££££££££££££££££
Cost of ischaemic heart disease pathway	££££££££££££££££
Cost of liver disease pathway and transplantation	££££££££££££££££
Joint and mobility care pathways	££££££££££££££££
Surgical post op complications	££££££££££££££££
Prescribing costs for all above pathways	££££££££££££££££
Work days lost for above care to individuals	££££££££££££££££
GP appointments for all above pathways GP appointments	£27 per patient in 2018
per attendance A+E cost	£200
Ambulance cost per patient	£260

# What will happen if we don't Spread and Scale Economic cost reduction in terms of future health benefits from early intervention in childhood.

The potential economic consequences of untreated childhood obesity are exponential	the NHS in Wales	<b>£86 million (as at 2008/9).</b>
Untreated childhood obesity is a strong predictor of adult obesity, which is predicted to have	preventable economic impact in the UK of	<b>£2billion by 2030</b> (Wang et al., 2011).
International studies suggest the presence of overweight in childhood *(Sonntag et al., 2015; Finkelsteirn et al., 2014)	increases health costs <b>per overweight child by</b>	£15343 health costs per child over their lifetime and £150,000 productivity losses per child <b>Total £165, 000 per child.</b>

# Carbon footprint savings

- Reduction estates use
- Reduction carbon footprint from patient contacts



This service improvement evaluation is consistent with

WAG strategy:

## A Healthier Wales: our plan for Health and Social Care

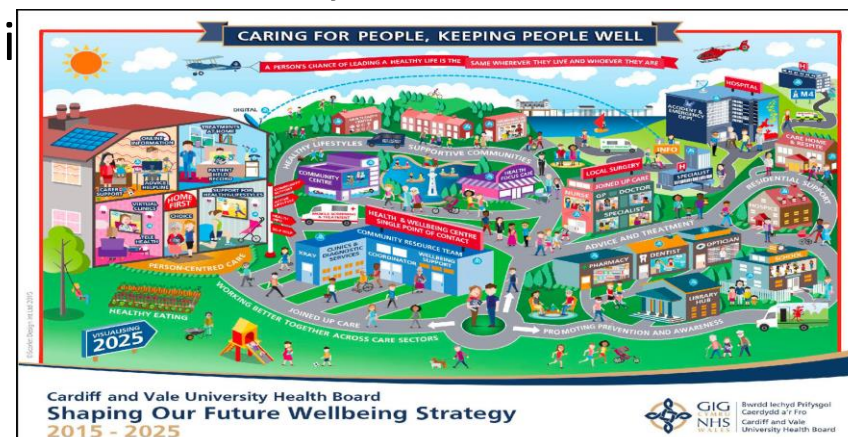
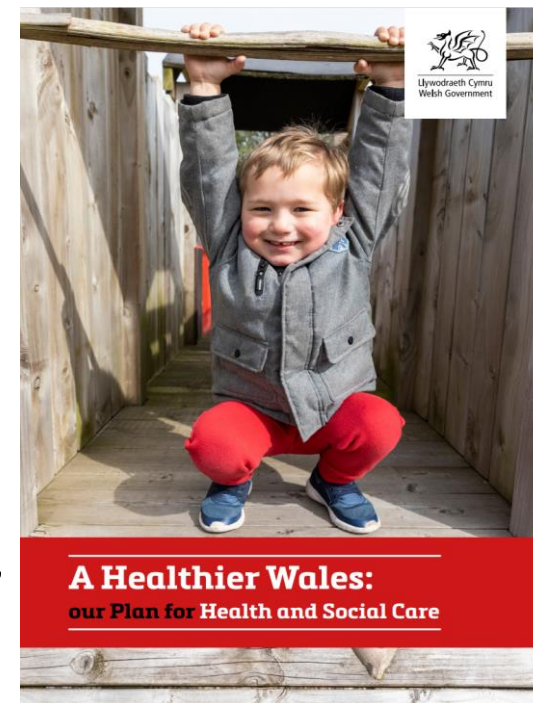
- calls for Value Based Health care.
- a service that is right for each individual family in regards to use of product, appointments necessary etc

## Welsh Government health strategy

- ‘Together for health. A Five year vision for the NHS in Wales’,
- Welsh Government framework ‘Working differently- working together’
- National Service Framework (NSF) for Children, Young People and Maternity Services
- have all stressed that a **focus on children’s health is essential** i
- **best start in life for our children**
- **Healthy weight Healthy wales 2021**

## Cardiff and Vale UHB

- UHB Shaping our future wellbeing strategy

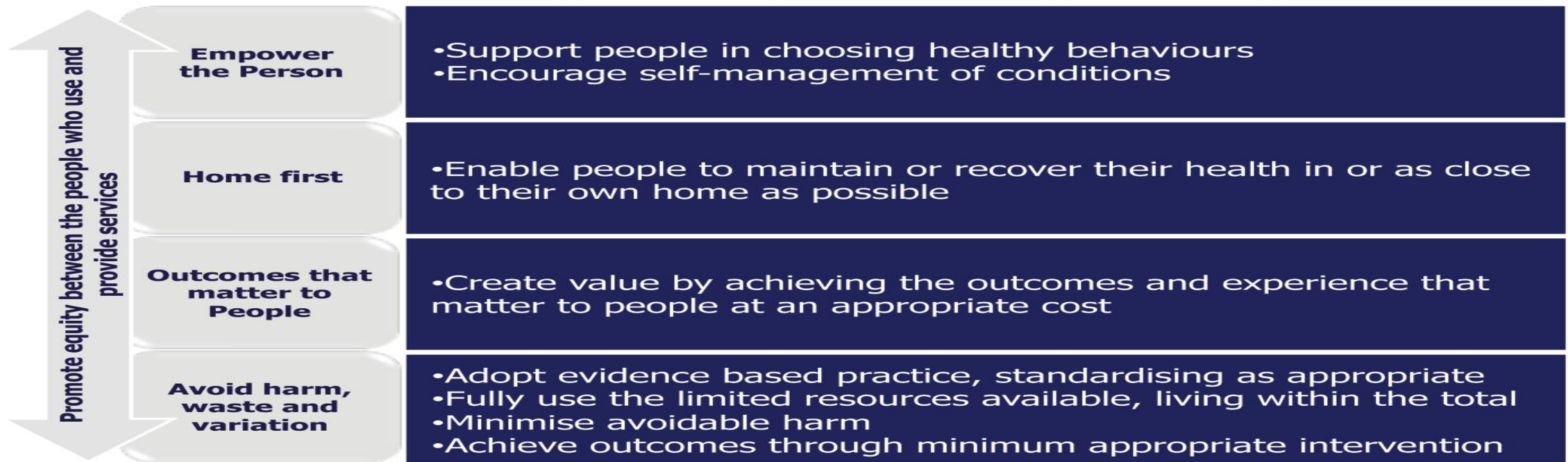




# Cardiff and Vale UHB

## Shaping our future wellbeing strategy

The purpose of our UHB is  
“Caring for People; Keeping People Well”



**This service improvement evaluation addresses all the above service principles**



# Key Conclusion and learning



Purpose of this project was to change how we deliver planned outpatient care

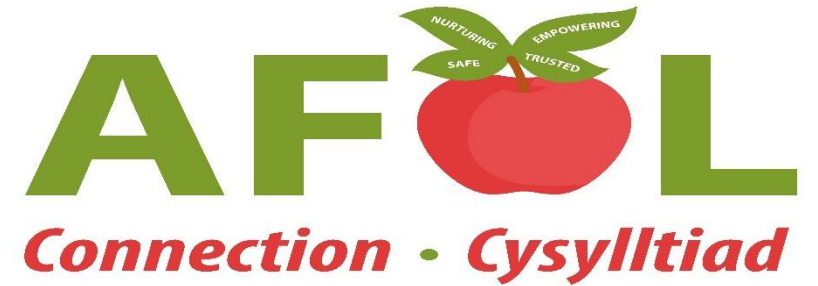
By implementing

- a self help , self learning wearable device helps families become aware of their baseline health
- Virtual coaching from professionals means they can be supported to learn independence from health care to continue on that journey after discharge
- This method is a positive change and acceptable for the service and children and their families .
- Early intervention to prevent impending economic and health Cost and carbon escalation

# Vision for immediate projects

## From prototype to PILOT

- to scale prototype to a pilot cohort 200 patients Tier 3 children
- To spread to a prototype cohort of 14 patients in Adult weight management service in Cardiff and Vale
- To Spread prototype cohort in Swansea Bay or any other Health board that wishes to participate. DPIA already worked through there.



# What Next



We invite interested commissioners to support the spread and scale of our project.



# Thank you

