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CEDAR
Centre for Healthcare Evaluation,
Device Assessment and Research

Social Return on Investment for Cardiff and Vale University Health Board's Paediatric Integrated MDT Clinic Model

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Value Transformation

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Cardiff and Vale University Health Board

Table of contents

Table of tables

Table of figures

Abbreviations

Abbreviation	Definition
AfC	Agenda for change
DNA	Did not attend
CAV UHB	Cardiff and Vale University Health Board
ECG	Electrocardiogram
GP	General Practitioner
HV	Health Visitor
JCC	Joint Commissioning Committee
MDT	Multidisciplinary Team
PIC	Paediatric Integrated Clinic
SN	School nurse
SROI	Social Return on Investment
WViHC	Welsh Value in Health Centre

About CEDAR

CEDAR is an NHS-academic research and evaluation centre which is part of Cardiff and Vale University Local Health Board and Cardiff University. As a healthcare technology research centre, CEDAR focuses on research and evaluation involving medical devices and diagnostics. We work with the NHS, academic institutions, commercial sector, publicly funded organisations, and charities. Our areas of expertise include systematic reviewing, health economics, clinical trial facilitation, qualitative research, analysis of routinely-collected and linked health data, and medical device regulations.

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Executive summary

Cardiff and Vale University Health Board are moving outpatient paediatric secondary care (for children aged 0-15 years) away from the hospital setting and into local health centres closer to home. Theses outpatient clinics are called the "Paediatric Integrated Care Clinic" (PIC) where paediatric consultants run a joint clinic with a general practitioner (GP) and deliver multi-disciplinary team (MDT) meetings for health visitors and school nurses. This model of care is designed to improve communication and decision-making between secondary, primary and community care, as well as to reduce the impact of attending appointments on parents and children. All of this supports care in the community and reduces the demand for paediatric outpatient appointments within a secondary care setting. This report aims to document the value of this new model of care through a social return on investment (SROI) analysis, broken into 6 steps.

Step 1 - Scoping and Identifying stakeholders: This retrospective SROI specifically looks at the delivery and impact of the PIC MDT model, to provide information to support the clinical team in the wider implementation of the new model across CAV UHB. Stakeholder mapping by the project and clinical team identified 3 stakeholder groups (children, parents, healthcare staff involved in the delivery [paediatrician, general practitioner, school nurses, health visitor]) who experienced outcomes as a result of the PIC MDT model. The time period of interest was throughout the duration of 2024 (i.e. for 1 year) in three GP clusters where the PIC was already established.

Step 2 – Mapping outcomes: Outcomes were identified using qualitative in-depth interviews with staff, parents and children, either in-person or on Microsoft (MS) Teams. All interviews were recorded and transcribed verbatim.

Step 3 – Evidencing outcomes and giving them a value: Using the qualitative interviews, a total of nine outcomes were identified in the main analysis, five for staff (communication, confidence, co-ownership of care plans, learning opportunities, mutual understanding), two for parents (emotional wellbeing, time out of work/usual activities) and two for children (emotional wellbeing, time off school). Carbon emission was also identified as an outcome, due to the reduction in travel by parents/children, and was investigated in an exploratory analysis.

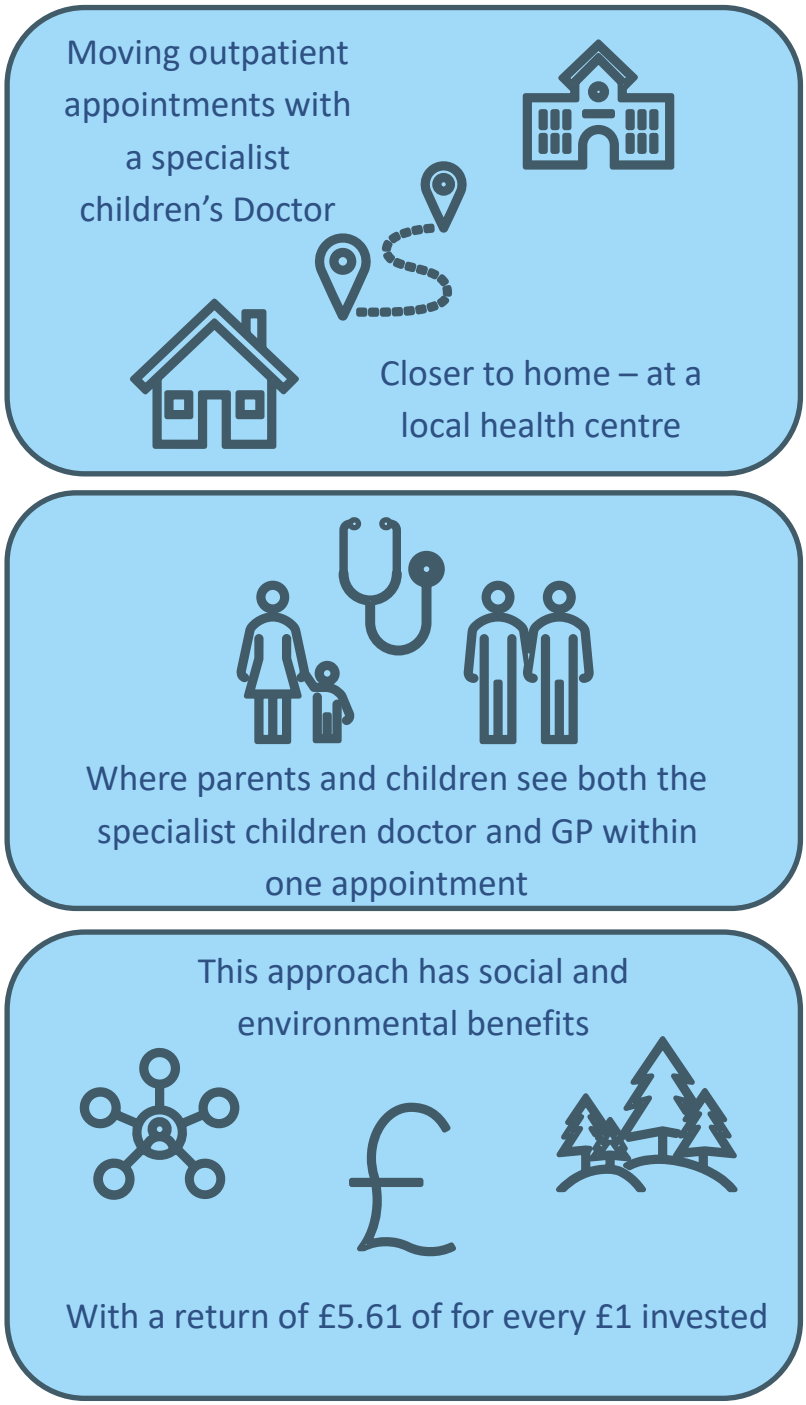
Step 4 – Establishing impact: Bespoke structured surveys were deployed online for staff, and in-person for parents/children to quantify the change (median difference) in outcomes between participants who experienced the PIC-MDT model and those experiencing standard care, in a case-control design. The

wellbeing valuation and proxy measures were used to value the outcomes. Displacement and attribution adjustments were not used, as the case-control approach accounted for what would have happened anyway. Furthermore, drop-off was not used as the appointments were time limited events.

Step 5 – Calculating the SROI: For every £1 invested the PIC MDT model returns a social value of £5.61.

Step 6 – Reporting, using and embedding: Further scale-up across all GP clusters in CAV UHB is required, along with the continued development of delivery within current clusters, to fully realise the benefits. The results should be interpreted and translated across CAV UHB with caution, due to the small sample size, and inclusion of only three clusters. The main assessment could not include reduction in demand or "did not attend rate", as this is not fully represented within the data yet, but if the PIC MDT model was successful in reducing demand (i.e., fewer appointments needed) there is the potential to raise the SROI ratio to £1:£10.11. Even if the reduction in demand is not achieved to the predicted level, there are social and environmental benefits to the PIC MDT model, compared to standard care.

Graphical abstract



Social Return on Investment for Cardiff and Vale University Health Board's Paediatric Integrated Care MDT Clinic Model

1 Introduction

Attending paediatric outpatients' appointments within a secondary care setting, for children ages 0-15 years, can often be distressing for children and time consuming for families, resulting in lost time off work for the parent/guardians and school for the children. Cardiff and Vale University Health Board (CAV UHB) have been trialling placing a paediatrician in a primary care setting for a joint clinic between a paediatric consultant and general practitioner (GP), called the "paediatric integrated clinic", and running virtual multi-disciplinary team (MDT) meetings with school nurses and health visitors. Each GP cluster, within CAV UHB, has an assigned paediatrician who triages all e-referrals and requests for advice, and runs the clinics and MDT sessions. This new model of care aligns with the Welsh Government's agenda on care closer to home (Welsh Goverment 2024) and Value-Based healthcare (Welsh Goverment 2016)

The purpose of the paediatric integrated MDT clinic is to increase communication, mutual decision-making and care plan initiation between secondary, primary and community care, through a cultural shift towards integrated working. It is hoped that this new model of care can produce better health outcomes, foster holistic family focused care, reduce waiting times and support the effective management of the child's health in the community. Furthermore, it hopes to make appointments more convenient and less stressful to families, to foster an environment where families feel listened to and concerns are addressed, and increases the family's confidence in primary care. Initial evidence from one cluster, suggests that there is a reduction in the number of accepted referrals, reducing the number of new appointments, a reduction in the number of follow-up visits and reduction in the waiting list. Figure 1 shows a theory of change model, documenting key pathways and inter-relationships between component parts of the intervention and outcomes.

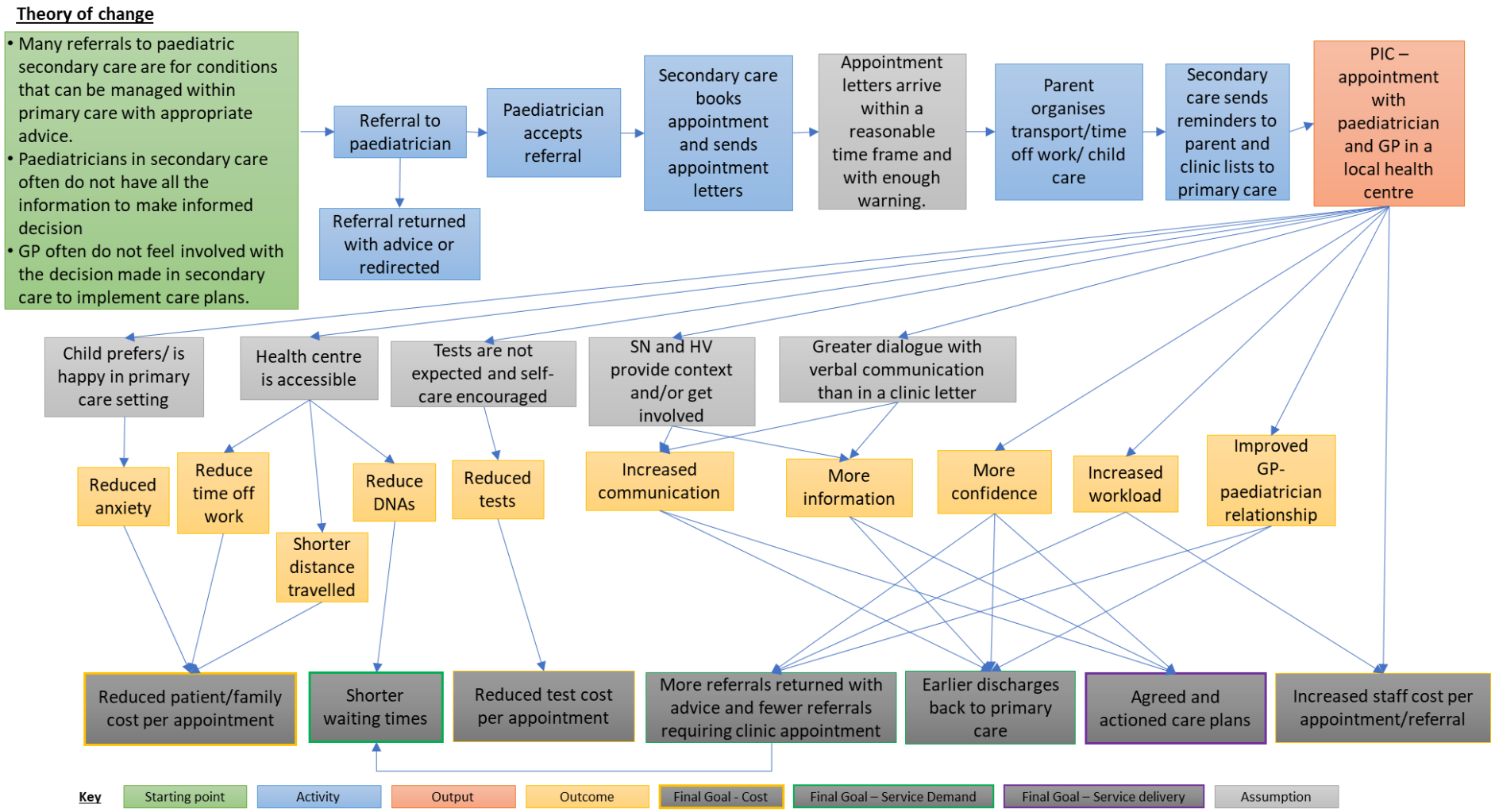


Figure 1 Theory of change model for the PIC SROI.
A logic model is presented in Appendix 1. Abbreviations: SN = School nurse, HV = Health visitor

Similar models of paediatric outpatient care have been trialled across the world (Saint-Pierre, Herskovic et al. 2018, Hiscock, R et al. 2020). However, most similar to the healthcare system in Wales is that of hospital trusts in England where Child Health GP Hubs (Montgomery-Taylor, Watson et al. 2016), 'care closer to home' (CCTH) (Sibbald, Pickard et al. 2008, Heath, Cameron et al. 2012), 'satellite clinics' (McLeod, Heath et al. 2015). An integrated educational model (Macaulay, Spicer et al. 2017) and Children and Young People's Health Partnership (CYPHP) model of care (Wolfe, Forman et al. 2023) have been trialled. Evaluation of these services have found from a service user perspective, an increased confidence in care (Montgomery-Taylor, Watson et al. 2016, Wolfe, Forman et al. 2023), a preference for appointments in a primary care setting (Montgomery-Taylor, Watson et al. 2016), reduced waiting time and increased satisfaction (Sibbald, Pickard et al. 2008). From a professional perspective, significant value was reported for developing trust and collaborations, and increased learning (Montgomery-Taylor, Watson et al. 2016). However, there is a paucity of evidence around the social value of having consultant-led care in the community. Understanding social value is not only important from the patient's/parent's perspective but also from a provider's perspective, as Heath et al., 2012 found that place of service affected professional and organisational identities and was not just an issue of physical location and support infrastructure. One way of assessing the social value is a social return on investment analysis, which aims to measure changes that impact people or organisations that experience or contribute to it, with a focus on reducing inequity, environmental degradation and improving wellbeing (Nicholls, Lawlor et al. 2011).

Therefore, this report aims to ascertain the value of moving consultant-led care from the secondary care setting to the primary care setting, through a social return on investment analysis.

2 Methods

This evaluation has used the framework defined by Social Value UK (2012) and follows the key SROI principles of: involving stakeholders, understanding what changes, valuing what matters, including only what is material, avoiding over-claiming, being transparent, converting the results and being responsive.

2.1 Scope

2.1.1 What are the key components of the PIC MDT model and what does normal look like?

As described in section 1, the PIC MDT model is where paediatric outpatient clinics are run out of a primary care setting in a joint appointment with a GP. Each cluster has its own assigned paediatrician that deals with all referrals, appointments and runs the MDT. The comparable standard care is following the more traditional model of out-patient secondary care, where a child, along with their parents/guardian will travel to a secondary care or tertiary care centre to see a paediatrician only in an outpatient department setting, and may have diagnostic tests (e.g., blood tests, ECGs, radiology) at their appointment. Figure 2 illustrates the differences between the PIC MDT model and standard care. As the PIC MDT model is current being rolled out it is only deployed in a few GP clusters in Cardiff and Vale UHB, with standard care being provided to all those children who live outside of these GP clusters within Cardiff, thus enabling a “real time” comparator group for the analysis.

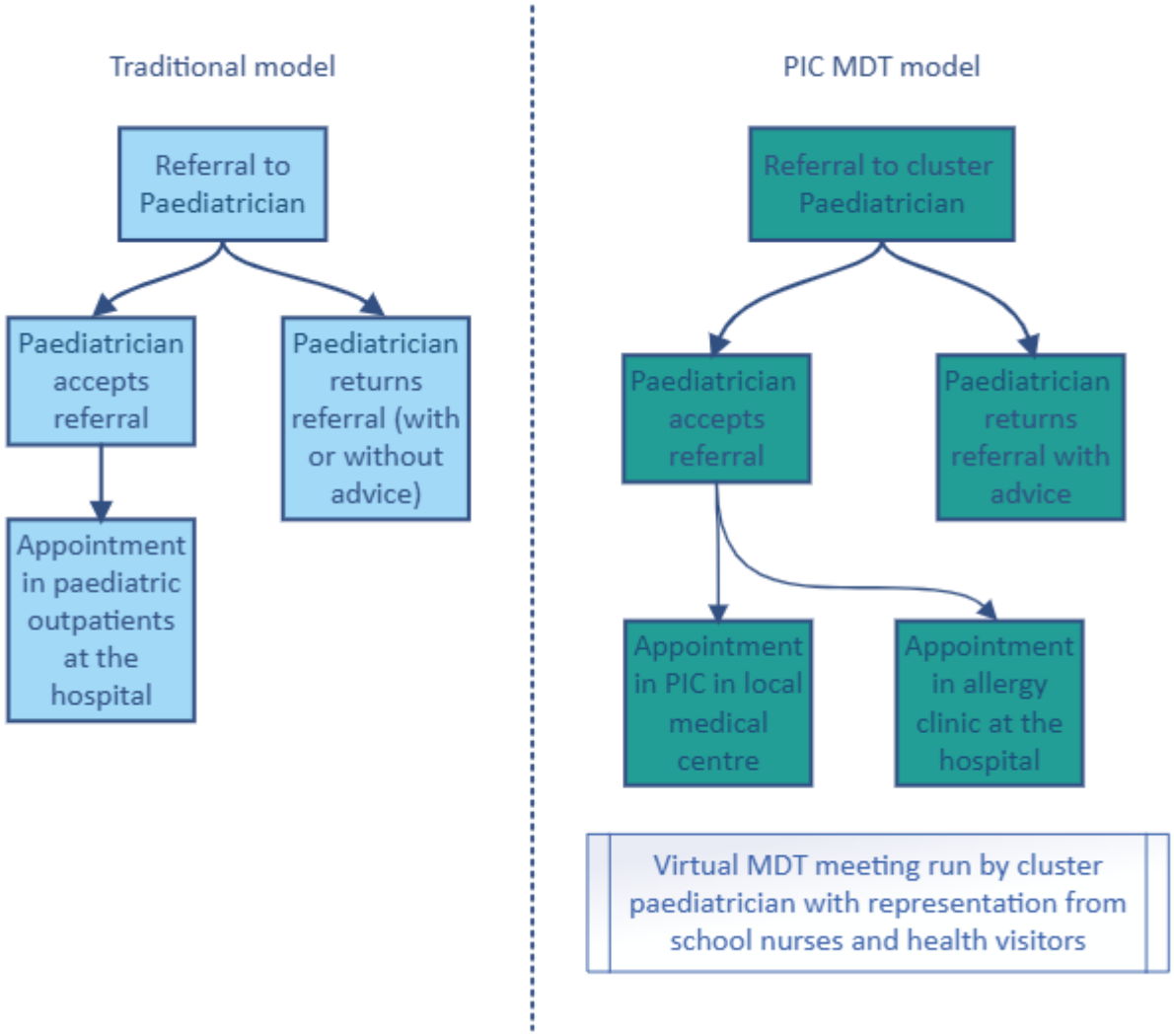


Figure 2 Referral process for the PIC MDT model compared to the traditional standard care model

2.1.2 What activities will be included in the SROI?

The SROI will cover the delivery, and staff and patient experiences of the PIC MDT model. Development and set up will not be covered, as the focus is on capturing the benefits as if it was routine care, rather than the implementation.

2.1.3 What time period will the SROI cover?

The first PIC MDT clinic was set up in 2019 within the Cardiff South West cluster, with subsequent expansion to 2022 in the Cardiff East and Cardiff Central Vale clusters. For staff experiences and outcomes, the SROI will cover the period of time they have been involved with the PIC MDT model. However, as patients generally are not under long-term follow-up within the PIC MDT model, we will be asking about their most recent experience, and as such will be covering the period November 2024 to January 2025.

All surveys will be cross-sectional in nature and will only pick-up one-timepoint, in the period March 2025 to July 2025.

2.1.4 Which type of SROI will be used?

A retrospective SROI will be used looking at key stakeholders' experiences of their involvement in the PIC MDT model to date.

2.2 Involving stakeholders

The purpose of involving stakeholders is to understand who contributed to the intervention and identify the outcomes that matter to them. Stakeholder mapping with a focus on the PIC MDT project team was undertaken by the clinical team leading the PIC MDT model. CEDAR evaluation scientists adapted this stakeholder mapping to focus on the patient (Figure 3) and to capture the interaction of the patient and family with healthcare professionals. Based on this diagram CEDAR evaluation scientists then determined which stakeholders were appropriate to include or excluded, and the mode of consultation (Table 1).

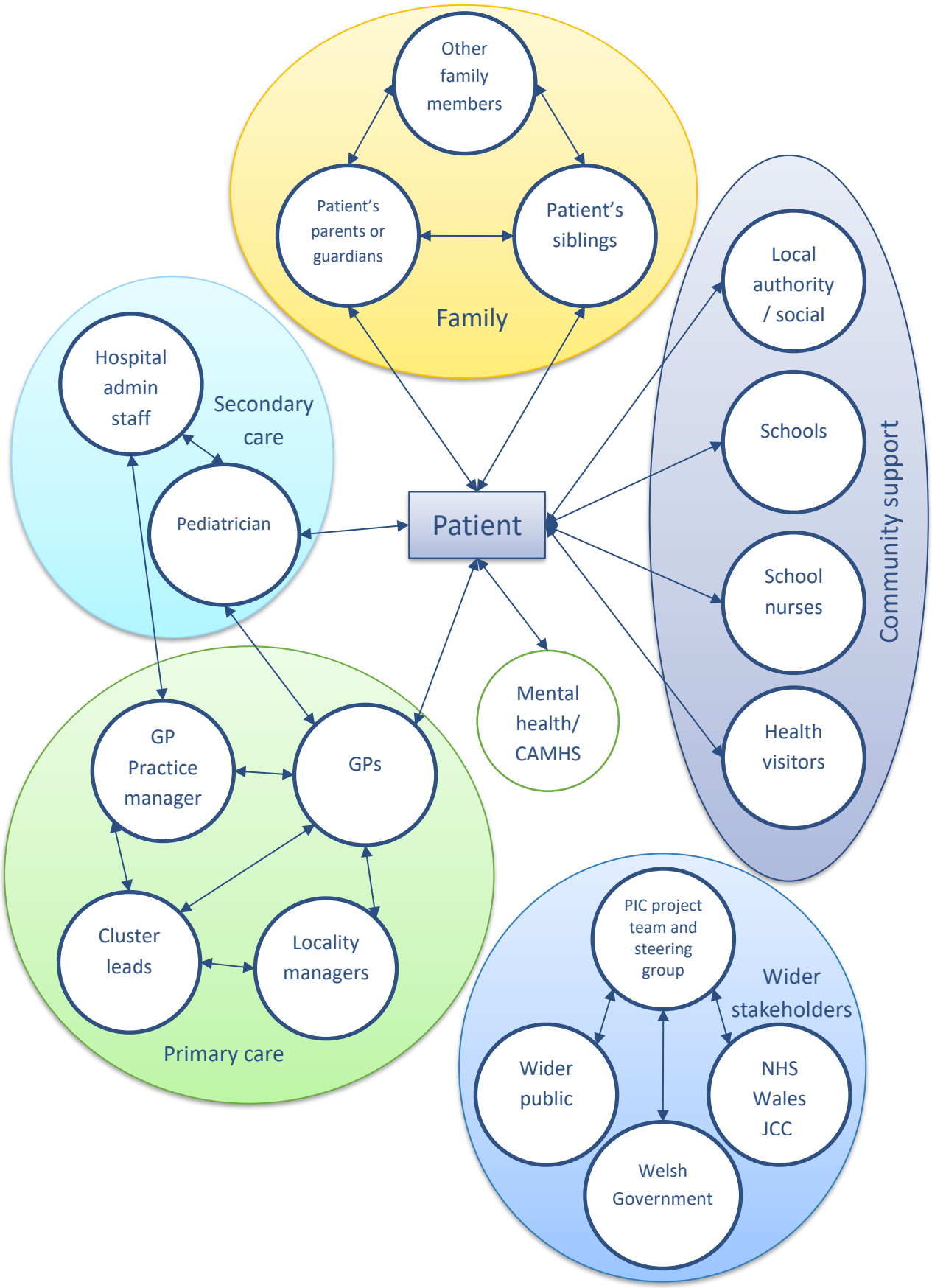


Figure 3 Stakeholder map of the PIC MDT model, focused on the patient

Table 1 Stakeholder engaged as part of the SROI

Stakeholder	Mode of engagement†	Rationale
Patients (Children)	Interviews (Aged over 10 years = 1) and survey (Aged over 7 years = 20)	Children experience the change in outpatient delivery.
Family		
Parents / guardians	Interviews (n = 7) and survey (n = 43).	Parents experience the change in outpatient delivery.
Patient's siblings	Excluded.	Having local appointments which require less time may mean siblings are less likely to be brought along to the appointment as well. However, the amount of change from the sibling's perspective is likely to be small and would not happen in every appointment.
Primary care		
GPs, GP trainees, Advance nurse practitioner and physician associates	Interviews (n = 2 [GPs only]) and survey‡ (n = 20).	Primary care healthcare professionals are a key stakeholder in supporting the outpatients' appointments.
Cluster lead	Interviews (n = 1). *	The cluster leads, and managers are key stakeholders in organising and supporting the delivery of the PIC MDT models within their clusters.
GP Practice managers	Interviews (n = 1).	
Locality managers	Interviews (n = 1).	
Secondary care		
Paediatricians and Paediatric associate specialists	Interviews (n = 3) and survey (n = 8).	Paediatricians are key to delivering the PIC MDT model.
Hospital administrators	Interviews (n = 0).	Two invitations were sent for interviews, but no response received.
Community support		
Health Visitors	Interviews (n = 1) and survey (n = 0).	Health visitors and school nurses experience outcomes through the MDT sessions.
School nurses	Interviews (n = 1) and survey (n = 2).	

Schools	Excluded.	Although schools and the local authority may benefit from school nurses/ health visitors obtaining more information, these are secondary outcomes (i.e., reduce school absenteeism), and difficult to define and quantify.
Local authority / social support	Excluded.	
Other stakeholders		
Mental health/ CAMHS	Excluded.	If the primary presenting issue is related to mental health, then the child may also be seen by CAMHS. In this case CAMHS do not take part in the PIC MDT model, as they are a standalone service.
PIC project team	Commissioners of the SROI. Provided contacts, service information and helped engage stakeholders.	
Wider public	Excluded.	The impact on the wider public would be at a health system rather than individual level and therefore have not been included.
Welsh Government	Excluded.	The impact on the PIC MDT on these stakeholders would be indirect, if any. Welsh Government and NHS Wales JCC are more involved with funding and commission decision.
NHS Wales Joint Commissioning Committee (JCC)	Excluded.	

Footnotes:
† Interviews were undertaken with those who had experienced the PIC only, whereas surveys were complete with those who had experience the PIC MDT model and those who had experienced standard care.
* Cluster leads may have completed the survey, but the survey only indicated if they were a GP, and not if they have a subsidiary role as a cluster lead. Therefore, if there were responses they have been placed within the GP total.
‡ The totals for the staff survey are based on the number of responses, irrespective of whether the response was complete or partially complete. Therefore, these numbers will not match those reported elsewhere which account for missing data.

2.3 Data collection

Two data collection methodologies were used. Firstly, in-depth interviews with all stakeholders were used to obtain outcomes that mattered to them. All staff interviews were undertaken on Microsoft Teams, with an evaluation scientist from CEDAR. Opinions from service users were captured from (i) parents/guardians alone and (ii) parent/guardians together with children over the age of 12 years old, either in-person, or using Microsoft Teams, or telephone. All interviews were guided using the topic guides in Appendix 2, Appendix 3 and Appendix 4.

Secondly, selected outcomes were quantified using bespoke structured surveys and routine data. Surveys were deployed online via email using Redcap, hosted at Cardiff and Vale University Health Board (Harris, Taylor et al. 2009, Harris, Taylor et al. 2019), for the staff survey (Appendix 5) and in-person verbally for the parent/children's survey (Appendix 6) by an evaluation scientist using a tablet and MS Forms.

A case-control approach was taken with the survey deployed to both those who had experience the PIC MDT model and those with experience of standard care.

Children/parents were asked at the end of their clinic appointment if they would like to complete a survey. Interested participants were directed to the researchers that were sat in a nearby consulting room or a quiet area of the waiting room. Four PIC clinics and three general paediatric outpatient (standard care) clinics at University Hospital of Wales were attended. All clinics were morning sessions during school term time, between March – July 2025 and had an average response rate of full survey completions of 81%.

Staff were identified by collating contact list of consultants, GPs and school nurses/health visitors. Staff were sent an email (in December 2024) inviting them to complete the survey, with follow-up emails, as required up until the survey deadline (March 2025).

2.4 Outcomes and impact

2.4.1 Defining outcomes identified

During the analysis of the data collected during in-depth interviews with both staff and children/parents, individualised outcome maps for each stakeholder group were created. These were compared to the assumptions made in the theory of change model describe above, and to illustrate how each stakeholder saw the benefits and outcomes of the PIC SROI. All outcomes could either be positive or

negative, and the direction of the outcome is determined by the comparison between the PIC MDT model and standard care in the case-control approach.

Staff involved in the PIC advised how staff engagement and interactions lead to increased personal learning about providing paediatric care, increased level of co-ownership and confidence in the delivery of paediatric care. This improves the level of communication between primary and secondary care, and increases the mutual understanding among colleagues. Although the majority felt that communication between primary and secondary care colleagues had improved, there were a few reports where the level of communication remained the same. Staff felt that by having an increased confidence and improvements in mutual understanding between colleagues, therefore the number or type of referrals being received changed (i.e., referral for advice). A change in referral practices results in more children being treated within primary care and a greater emphasis on self-care. Better communication and staff relationship was also reported to improve the ease of follow-up in secondary and primary care. Other social outcomes reported including supporting a holistic wider family approach, due to primary care staff being involved in conversations about the children. This holistic approach could in turn lead to the provision of care or support for the parent and also improvements in accessing hard to reach families by using local familiar environments and developing their relationship with the paediatrician. The PIC MDT model was also reported by staff to reduce the number of test requests and the number of Did Not Attends (DNAs), but there was an increase in travel time, and the time required to attend the clinic and/or MDT on top of their normal duties.

The outcomes obtained from the staff interviews (Figure 4) were on the whole consistent with the theory of change model; the main difference was the addition of learning opportunities. Each of the outcomes identified in the staff interviews are defined and evidenced in Table 2.

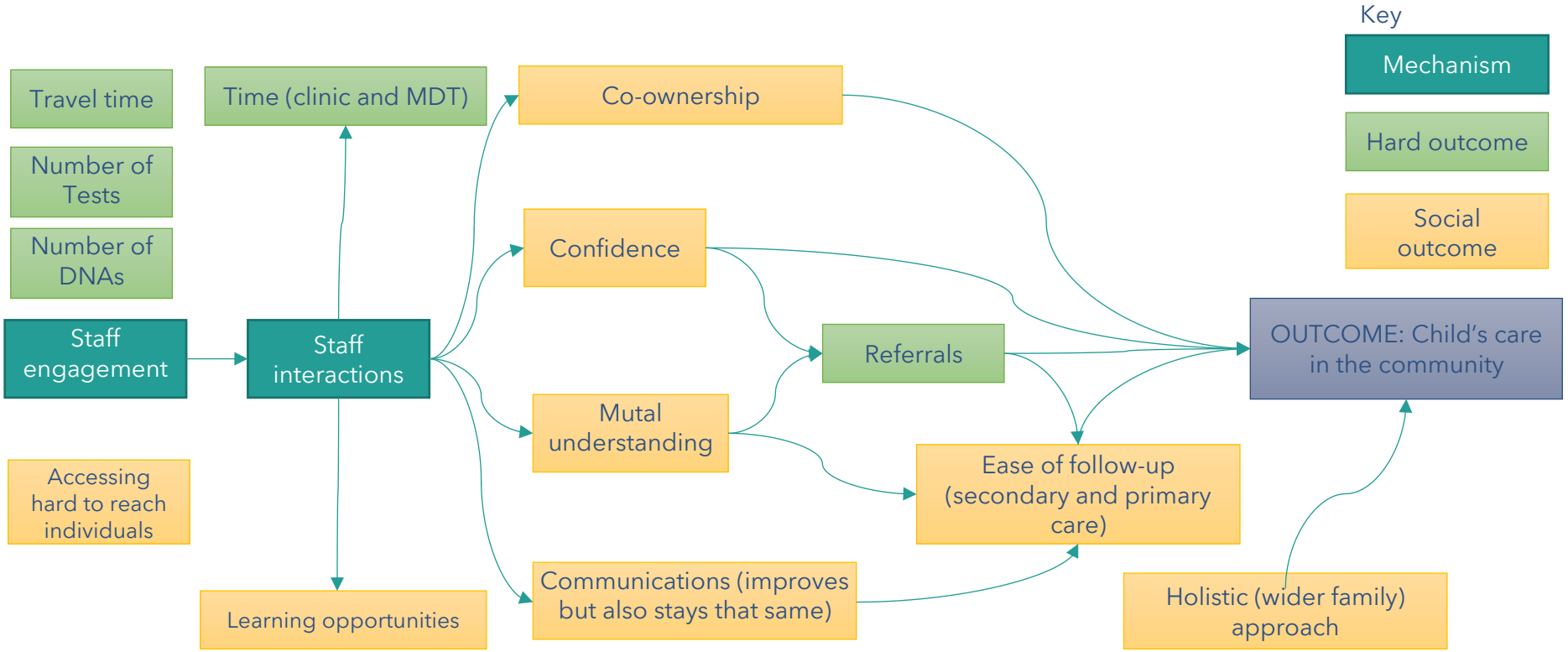


Figure 4 Mapped outcomes from the staff interviews

Table 2 Outcomes identified from the staff interviews

Outcome	Definition	What changed?	Evidence	Included
Hard outcomes				
Did not attend (DNA) rate	The rate at which patients do not turn up to their allocated appointment.	By having an appointment locally, they are easier to get to and require less time to attend. Therefore, the reduction in barriers increased attendance.	*Participant 4: "My DNA rate isn't brilliant, but I think it would be even worse if it wasn't there [at the local GP surgery], so I think people actually are more likely to attend."*	Exclude – Due to the continued roll out and the time required for establishing the PIC, the change in DNA rate was not reflected within the data. The reduction was identifiable in the South West cluster, and was therefore used within a sensitivity analysis (see section 3.4.5)
Facilities	The quality of facilities (e.g., access to weighing scale and functioning IT equipment) and cost of being able to use the facility (e.g., overheads).	The set-up of GP surgeries is different to a hospital outpatient clinic, in terms of access to IT systems, availability of paediatric equipment, and funding models.	*Participant 3: "The equipment isn't always very reliable."*	Exclude – In PSSRU* overheads are included as part the staff costs, and therefore have not been added as an individual input to avoid double counting. Furthermore, the quality of the facilities is difficult to quantify and show how it impacts on the quality of care given.

Number of accepted referrals	The number and quality of accepted referrals	By improving engagement, mutual understanding and confidence in providing paediatric care more referrals are likely to be returned with advice Furthermore, closer working relationship allows for informal conversation for advice before completing a referral, which leads to a change in when referrals are made and their quality.	*Participant 3 "I think there was always that risk that when you start and you get a better relationship that maybe you get more referrals initially that people are happier because they kind of know you and they think, Oh well, I'll just double check this, especially the advice stuff."* *Participant 11: "Our referral rate has gone down."*	Exclude - Although the reduction in the number of accepted referrals is the main rational within the business case, the data was not available to assess the number or the quality of referrals. However, a sensitivity analysis (see section 3.4.4), was undertaken to explore the impact of a reduction in demand for appointments which may occur in the long-term.
Number of tests	The number of unnecessary tests (e.g., bloods, X-rays, ECGs) requested by the paediatric consultant.	As tests cannot be undertaken on or after the appointment in a GP practice setting, it was felt that these tests were less likely to be requested.	*Participant 4: "So I generally don't really test very much anyway, so I suppose that hasn't really changed."*	Exclude – There were mixed reports on the volume of tests, with some being undertaken in the secondary care setting and others in the primary care setting. Therefore, obtaining a true number of necessary tests will be challenging.

Staff time	The amount of time a staff member engages in an activity directly relating to the MDT PIC model (e.g., running consultation, attending lunch time MDT, identifying patients on case load) and the time for the paediatric consultant to travel to the GP surgery.	Additional activities, leads to the perception of more time required.	*Participant 9: "It is time consuming because they want a GP in the consulting room, so you've got to bear that in mind that you're taking one GP out of clinical time."* *Participant 5: "It's much more work for me to do this model of care, which isn't a bad thing, but I now have to drive twice a month."*	Excluded. Additional time for completing these activities was accounted for within the input.
Social outcomes				
Active engagement in child's care	A staff member is activity engaged with the child's care, rather than being passive or directed.	Being involved in conversations leads to a more active role the child's care.	*Participant 16: "I've sort of pushed for the GP, who's in the consultation to have access to full records because I think without that you sort of sit in the consultation a little bit like a medical student cause, you can't do anything instead of being an active partner. But actually, it's very*	Exclude – There is some overlap between active engagement and co-ownership of care plans. In addition, it is unlikely that we will capture information from staff who are passive in their engagement.

			passive and you don't do an awful lot."	
Communication	The level of written and oral communication of important information (e.g., medical history, family context, care decisions) between Paediatrician, GPs and school nurse/health visitors.	By having established relationships and being involved in conversations this leads to improved communication between primary, secondary and communication care colleagues, giving a greater job satisfaction.	*Participant 26: "We are aware of what's happening with that child and vice versa. The [cluster] paediatrician can ask us about any updates that we may have because we are the professionals that are directly involved in their care within the community setting and completion of home visits. So I think that's why it works well, in the sharing of information and in a timely manner."*	Include – as a proxy of job satisfaction.
Confidence	The level of confidence a staff member has in providing paediatric care.	Working with colleagues and exposure to learning opportunity leads to an increased confidence in providing paediatric care in a primary and community care setting,	*Participant 11: "Gives us the confidence, but the whole practice team itself with the nurse involved, shows we can manage this [health condition in primary care]."*	Include – as a proxy of job satisfaction.

		giving a greater job satisfaction.		
Co-ownership of care plans	The joint ownership of the care plan and decision making between all staff types involved.	Being involved in decision-making, leads to the co-ownership of care plans, giving greater job satisfaction	*Participant 9: "It is really helpful having that sort of secondary care involvement here at the surgery."*	Include – as a proxy of job satisfaction.
Holistic whole family approach	Providing care and support, not just for the child but for the whole family (e.g., parents).	Involving GPs with the child's care means the GHP can action parental care needs if they are identified in the appointment, which leads to parents receiving appointments and care within the primary care setting	*Participant 9: "I suppose it's a whole holistic approach of the whole family."*	Exclude – Measuring the impact and changes to care on the wider family was only reported by two staff members and would be challenging to quantify and measure. Furthermore, this outcome will be strongly confounded by a GP's attendance and engagement.
Job satisfaction	The amount of satisfaction a staff member receives from working with paediatric patients.	The combined impact of communication, co-ownership of care plans, learning opportunities and mutual understanding between colleagues, leads to a greater level of job satisfaction.		Include.

Learning opportunities	Opportunities to learn more about paediatric health and healthcare, through working with paediatric consultants and attending the lunchtime MDT meeting.	Being present with the appointments and the MDT session, enables learning about the delivery of paediatric care, which leads to a greater job satisfaction.	*Participant 25: "[The consultants] teaches about their health needs. So to me it's a very valuable."*	Include – as a proxy of job satisfaction.
Mutal understanding between colleagues	The change in relationship and respect of colleagues involved with a child's care.	By working together, there is an increased mutual understanding between colleagues, giving a greater job satisfaction.	*Participant 16: "You've got someone that you've just got a better relationship with that you can have a bit of a two-way conversation with."* *Participant 25: "Respecting that we've all got a different role in the team.*	Include – as a proxy of job satisfaction.

Footnote: * PSSRU = Personal Social Services Research Unit, who provide yearly Unit Costs of Health and Social Care. (Jones, Weatherly et al. 2024, Jones, Weatherly et al. 2025)

Parents and children who had experience of the PIC MDT model reported that having an appointment at a health centre that is close to home leads to less time required for the appointment. This leads to less time off from work/usual actives or school, as well as reducing challenges with arranging childcare, all of which leads to a reduction in the stress experienced by the parent. By improving communication between primary and secondary care, parents feel more confidence in the outcomes, reducing the after-appointment anxiety experience. Anxiety is also diminished through a reduction in waiting time, and preference towards the primary care setting (i.e., familiar environment) for both parents and children.

The outcomes obtained from the children/parent interviews (Figure 5) were, on the whole, consistent with the theory of change model. Each of the outcomes identified in the children/parent interviews are defined and evidenced in Table 3.

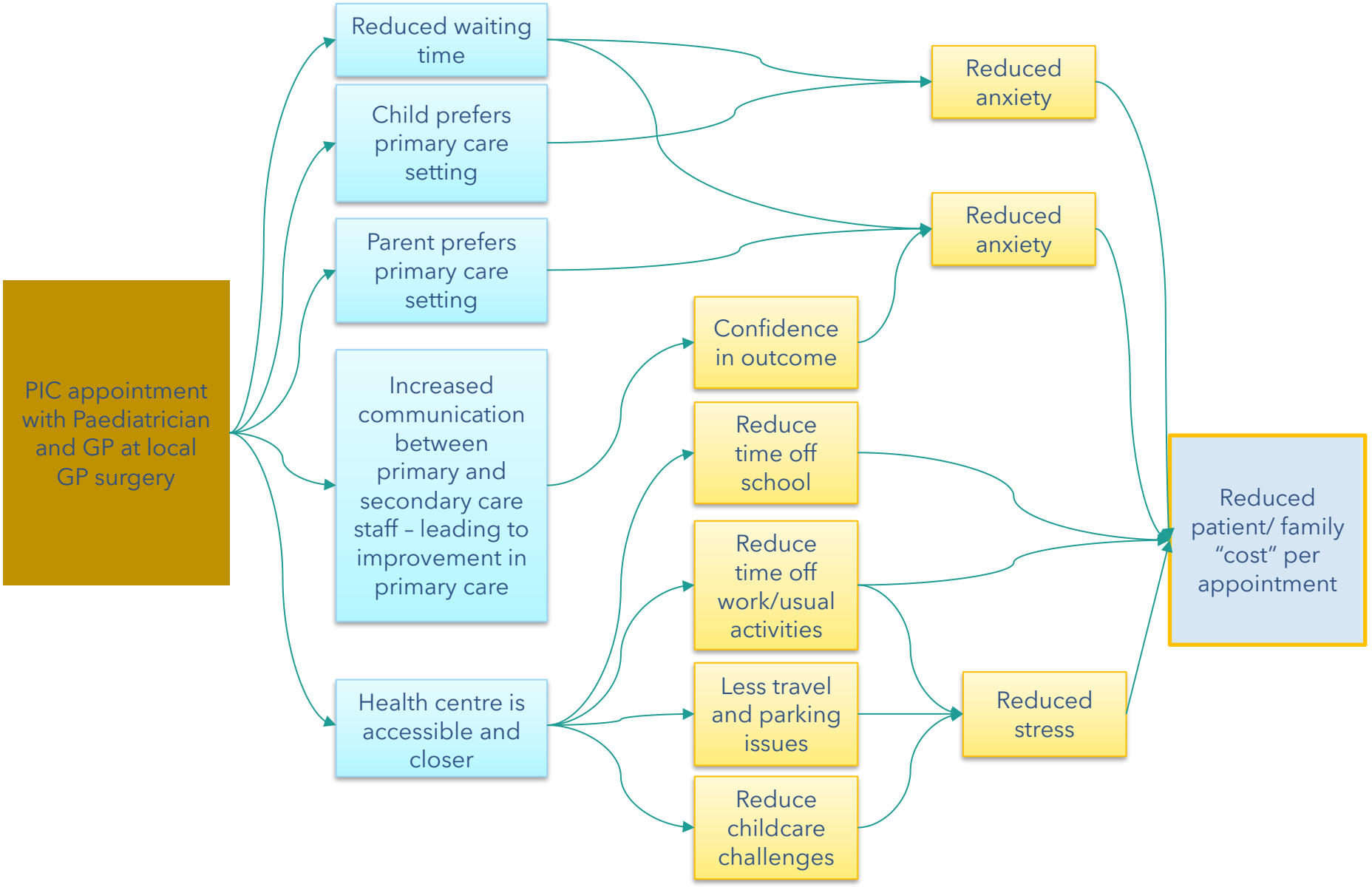


Figure 5 Mapped outcomes from the parent/children interviews

Table 3 Outcomes identified from the interviews with parent/guardians and children

Outcome	Definition	What changed?	Evidence	Included
Hard outcomes				
Travel costs	The cost of transport to the location of the outpatient clinic.	*A reduction in distance travels leads to lower transportation costs.*	*Parent 16: "Well I used to have to catch two buses up to Llandough."*	Included in a sensitivity analysis (section 3.4.2) as a carbon footprint cost.
Social outcomes				
Time off work or usual activities	The time taken away for work or usual activities (e.g., childcare for sibling, housework) to attend the outpatient appointment.	*Due to a reduction in the time required to travel and park at a local health centre, there is a reduction in the time spent away from usual activities.*	*Parent 30: "To go at the hospital, it takes you half an hour to park. Half an hour to find where you're going. It's just a lot of legwork, isn't it? And petrol."*	Include.
School attendance	The time spent out of school to attend the outpatient appointment.	*Due to a reduction in the time required to travel and park at a local health centre, there is a reduction in the time spent off school.*	*Parent 4: "So to get from [GP surgery] to school is no more than a 15-minute journey."*	Include.
Anxiety	Anxiety, before, during and after the appointment due to waiting time for an appointment, sitting in the waiting room, number of healthcare professionals present	*Due to the familiar environment, level of communication between healthcare professionals leads to a reduction in anxiety around the appointment and care*	*Parent 16: "Well with [child] he is so used to going to the hospitals and the doctors. But I think he would prefer to go to the Doctors. Because, the challenge with [child] is that he has*	Include these three elements as a combined measure of emotional response.

	and clarity of outcome.	*received, which improves wellbeing.*	*anxiety and he panics they are going to take blood off him at the hospital, even though they don't. So I think he benefits [child] much better at the doctors"*
Stress	The stress of attending the appointment, due to travel, parking, familiarity of the environment.	Not having to find a parking space at the hospital, a reduction in travel time and a familiar environment leads to a reduction in stress, which improves wellbeing.	*Parent 2: "[Not having to navigate the hospital] It took a lot of stress off, to be honest in the morning."*
Confidence in outcome	How confident the parents and children are in the outcome or the care received in relation to the child's illness.	With engagement and communication between healthcare professionals, parents have a greater confidence in the outcome, which reduced stress and anxiety, leading to greater wellbeing.	*Parent 30: "Because I don't have to constantly be like, oh no, this happened on this day, this day or this day. They [the GP] were there. They know when it happened. They've got the record of, you know, over here. I think they were in that conversation. So they know what's going on."*

Childcare	The requirement to provide alternative childcare for siblings.	Reducing the time required to attend the appointment or being able to take siblings along to the appointment, leads to the reduction in the need to find childcare.	*Parent 8: "And then when you have got little ones in nursery it [having the appointment at the hospital] makes it then a bit more challenging to get back."*	Exclude.

2.4.2 Quantifying outcomes identified

A mixture of bespoke staff survey, bespoke parent/child survey and routine data were used to quantify the included outcomes identified in Table 2 and Table 3.

Table 4 Description of where and how outcomes are quantified

Outcome	Where is the item collected from?	Description of measure
Staff		
Communication, confidence, co-ownership of care, learning opportunities relationship/respect as a function of job satisfaction	Section 2 and 3 of the Staff questionnaire (Appendix 5).	Each element was rated on a visual analogy scale, to determine how much difference the PIC MDT model made to these outcomes.
Parents		
Emotional response	Section 2 on parent/child questionnaire (Appendix 6).	The emotional response experienced by parents, before, during and after the appointment, captured on a scale of 0-10.
Time of work or usual activities	Question 7 on parent/child questionnaire (Appendix 6).	The time spent (in hours) away from usual activities such as employment, looking after the home, that was as a result of attending the appointment.
Children		
Emotional response	Section 3 on parent/child questionnaire (Appendix 6).	The emotional response experienced by children at their last appointment on a scale of 0-10, for children aged over 7 years. Visual analogy scales are usually validated for children over 7 years old.
School attendance	Question 8 on parent/child questionnaire (Appendix 6).	The time spent (in hours) out of school, as a result of the appointment attendance.
Across both stakeholder groups		

Carbon footprint	Question 6, 7, 12 and 13 on Staff questionnaire (Appendix 5) [PIC MDT model paediatricians staff only] and Question 5 and 7 on parent/child questionnaire (Appendix 6).	The carbon footprint weas based on the distance and/or time travel. The self-reported mode of transport used to get to and from the clinic, with the following answer options car, train, bus, taxi, walk, cycle, other.
Rate of DNA for 2024	Routine data.	

2.5 Valuing outcomes

Table 5 document how each of the outcomes were valued, including sources of cost and calculations.

Table 5 Cost derivation for each of the outcomes

Outcome	Description	Value
Staff		
Communication (11%), confidence (16%), co-ownership of care (15%), learning opportunities (11%) and mutual understanding between colleagues (21%) as a function of job satisfaction*	The value of job satisfaction was calculated using the wellbeing valuation methods (Fujiwara and Campbell 2011) with the UK longitudinal household survey (UKLHS Wave 13) (University of Essex Institute for Social and Economic Research 2025). Participants were asked to assign what percentage contribution the outcome made to their overall job satisfaction. The valuation was based on the average percentage of the job satisfaction valuation.	£6,282.53 per 1 point increase in wellbeing on a 10-point scale
Parents		
Emotional response	Financial proxy of an average adult private counselling appointment (Counselling Hub Wales)	£60
Time of work or usual activities	Financial proxy of minimum wage. (2024/25 financial year) (Gov.UK)	£11.44
Children		
Emotional response	Financial proxy of an average child's private counselling appointment (Counselling Hub Wales)	£60
School attendance	Financial proxy of a tutoring session (Tutorful)	£32
Across both stakeholder groups		
Carbon emissions	Financial proxy of the market-traded carbon values – 2024 (Department for Energy Security & Net Zero 2024)	£37 per tCO_2e
Rate of DNA for 2024	Cost of one clinic appointment (see section 3.1 for calculation)	£74
Footnote: * Calculation and explanation in Appendix 7		

2.6 Causality

2.6.1 Deadweight

Deadweight - Definition: the amount of the outcome that would have happened if the activity did not take place.

Attribution - Definition: how much of the outcome was caused by other organisations or people

By taking a case-controlled approach, the change between standard care (e.g., general paediatric outpatient at a secondary care site) and the PIC MDT model has been accounted for. Therefore, it is unlikely that the outcomes could be influenced by other organisations or people. Deadweight and attribution were therefore not included within the SROI value map.

2.6.2 Displacement

Definition: displacement how much of the outcome has displaced other outcomes.

The PIC MDT model enables the upskilling of primary/community staff, increased communication and joint care planning, which supports effective management within primary and community care, rather that within secondary care setting. This could lead to higher demand within primary/community care; however, this could not be quantified through existing data. Therefore, using the estimate from the business case, if 41% of appointments were avoided in one year (i.e., referrals returned with advice), this could lead to a maximum extra 173 GP appointments across the three clusters, which is 0.02% of the estimated number of GP appointments in the three clusters in the financial year 2023/24. As not all of these children will require a GP appointment and the proportion of displaced appointment was estimated to be very low, there would be little impact if it was included it within the analysis.

2.6.3 Drop off

Definition: The change (reduction) in outcomes over time.

The appointments are time limited events, meaning that the outcomes occur as short-term wellbeing events.

Although some parents and children may have multiple visits, the impact of the service is based on the total visits per year, and therefore this is accounted for. There is an assumption that the impact on parents and children is the same at each visit, and that it only has a short duration.

For staff, the PIC MDT model is permanently implemented and is expected that over time it becomes embedded and outcomes such as learning opportunities and confidence would be sustained or increase. Therefore, no drop off is included for either staff or parents and children.

3 Social Return Calculation

3.1 Cost of the service

The PIC MDT model and standard care appointments were costed based on staff time using Personal Social Services Research Unit (PSSRU) unit costs (Jones, Weatherly et al. 2024, Jones, Weatherly et al. 2025), which include overhead costs. Table 6 documents the items and quantity included for each clinic model, per clinic. A total cost for the year was based on there being 52 clinics and 26 fortnightly MDT sessions per year. Clinic activity was based on the number of sessions, rather than a per appointment cost. As the PIC MDT model clinic was undertaken in a GP surgery, the overhead costs for facilities and estates were removed from the consultant cost. Administration costs of a band 4 medical secretary/MDT coordinator (0.5 WTE), band 3 GP practice administrative staff (0.6 WTE), band 6 data manager (0.2 WTE) were not included within the total cost of running the clinic, as these were equivalent to the administrator costs already included with the consultant and GP PSSRU costs. The difference between the two models was used as the input for the service within the SROI value map.

Table 6 Input of total cost of running the two clinic models per clinic

PIC MDT model			Standard care		
Item	Quantity	Source	Item	Quantity	Source
Clinic			Clinic		
Consultant (medical)	1.5 sessions ‡	PSSRU 2023 inflated to 2024.* (not including non-staff overheads and capital overheads)	Consultant (medical)	1.5 sessions ‡	PSSRU 2023 inflated to 2024.*
General Practitioner	1 session ‡	PSSRU 2024 - Per hour of patient contact			
Clinic coordinator (AfC band 3)†	0.96 hours	PSSRU 2024	Clinic coordinator (AfC band 3)†	0.4 hours	PSSRU 2024
Triage			Triage		
Consultant (medical)	0.97 sessions	PSSRU 2023 inflated to 2024.*	Consultant (medical)	0.22 sessions	PSSRU 2023 inflated to 2024.*
MDT					
Consultant (medical)	0.31 session	PSSRU 2023 inflated to 2024.*			
School nurse (AfC band 6)	30 minutes	PSSRU 2024			
Health visitor (AfC band 6)	30 minutes	PSSRU 2024			

Abbreviations: PSSRU = Personal Social Services Research Unit; AfC = Agenda for change
References: PSSRU 2024 - (Jones, Weatherly et al. 2025), PSSRU 2023 - (Jones, Weatherly et al. 2024)
Notes: * - There was an error in the reported consultant values in PSSRU 2024, therefore, the values from 2023 were used and inflated to 2024. † PSSRU does not contain values for band 3 and below, therefore band 3 was calculated based on the difference between band 4 and 5, which was subtracted from the band 4 values. ‡ A consultant session is equivalent to 3.75 hours, whereas a GP session in equivalent to 4 hours.

3.2 How much change was observed?

3.2.1 Number of stakeholders experiencing the change

The number of staff members experiencing the outcome was based on three consultants (one from each cluster), 3 GPs/Physician associates (based on the average number attending from each cluster) and 2 school nurses/health visitors (based on the average number attending from each cluster).

The number of parents and children experiencing the outcomes, was based on the number of PIC MDT model clinic appointments within the year 2024 (n=623). It was assumed that one parent/guardian would attend per appointment, however, there would be cases where more than one parent/guardian would attend. Furthermore, it could not be determined if a child had more than one appointment in a year (i.e., a new appointment and a follow-up), therefore each appointment was assumed to be a different parent and child.

The routine data on the number of appointments was for all children aged 0 – 15 years, without reporting the age groups. One of the outcomes for children only validated and asked for children over 7 years (i.e., emotional wellbeing), and another outcome, school attendance only affected school aged children (i.e., age 5 years and over). Therefore, an assumption for the number of children attending aged 7 – 15 years and 5 - 15 years was made. It was assumed that appointments were split equally between age ranges, resulting in 56% of appointments being attended by children aged 7 years and over and 69% of appointments being attended by children aged 5 years and over. Amount of change per stakeholder for each outcome

3.2.1.1 Staff outcomes

Overall higher median scores were observed in staff involved in the PIC compared to those who were not involved (Figure 6), where 0 is the worst score and 10 is the best score, with a difference in the median score of 4 for mutual understanding, 4.4 for provision of context, 3.3 for co-ownership of care plans, 5.9 for learning opportunities and 3.6 for confidence in providing paediatric care (Appendix 8).

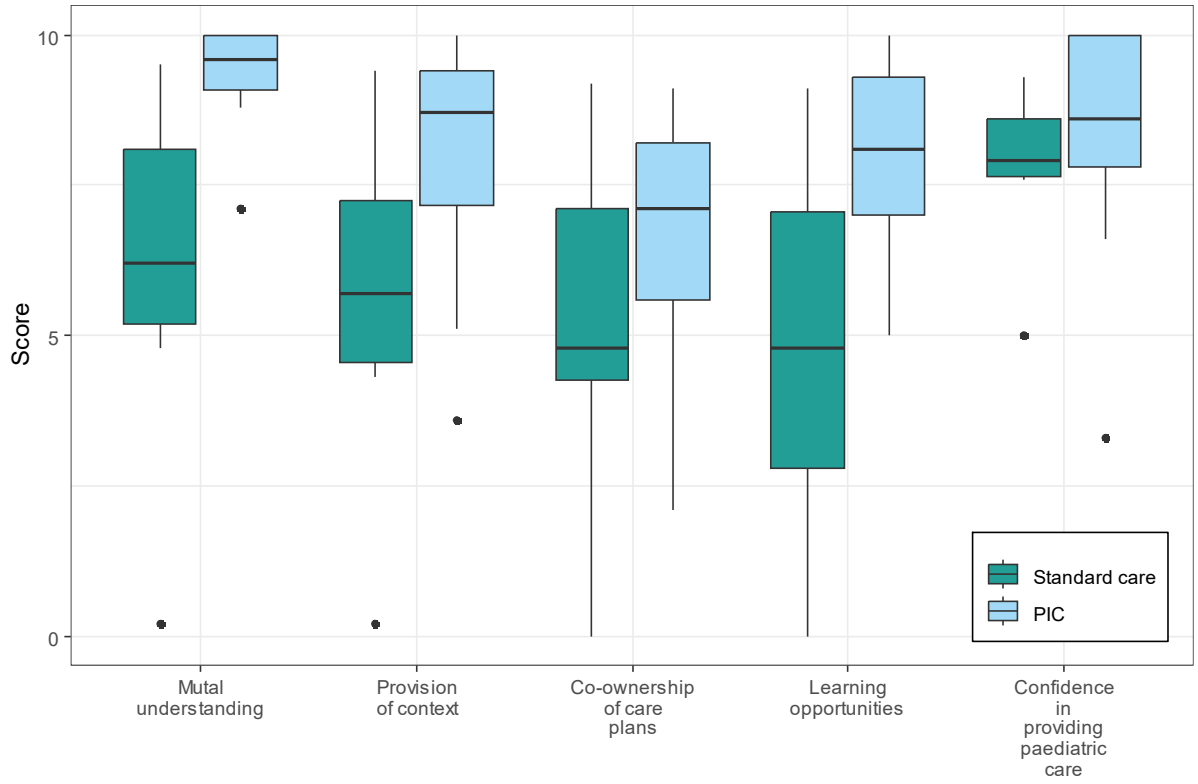


Figure 6 Box plot of each of the five staff outcomes scored from 0 (worst score) – 10 (Best score). Number of responses: PIC =12, standard care = 8. (Appendix 8).

3.2.1.2 Parent and child outcomes

On average both parents and children attending the PIC spent less time away from usual activities (median difference: 1.75 hours) and school (median difference 1.5 hours), respectively, compared to those attending standard care (Figure 7; Appendix 9).

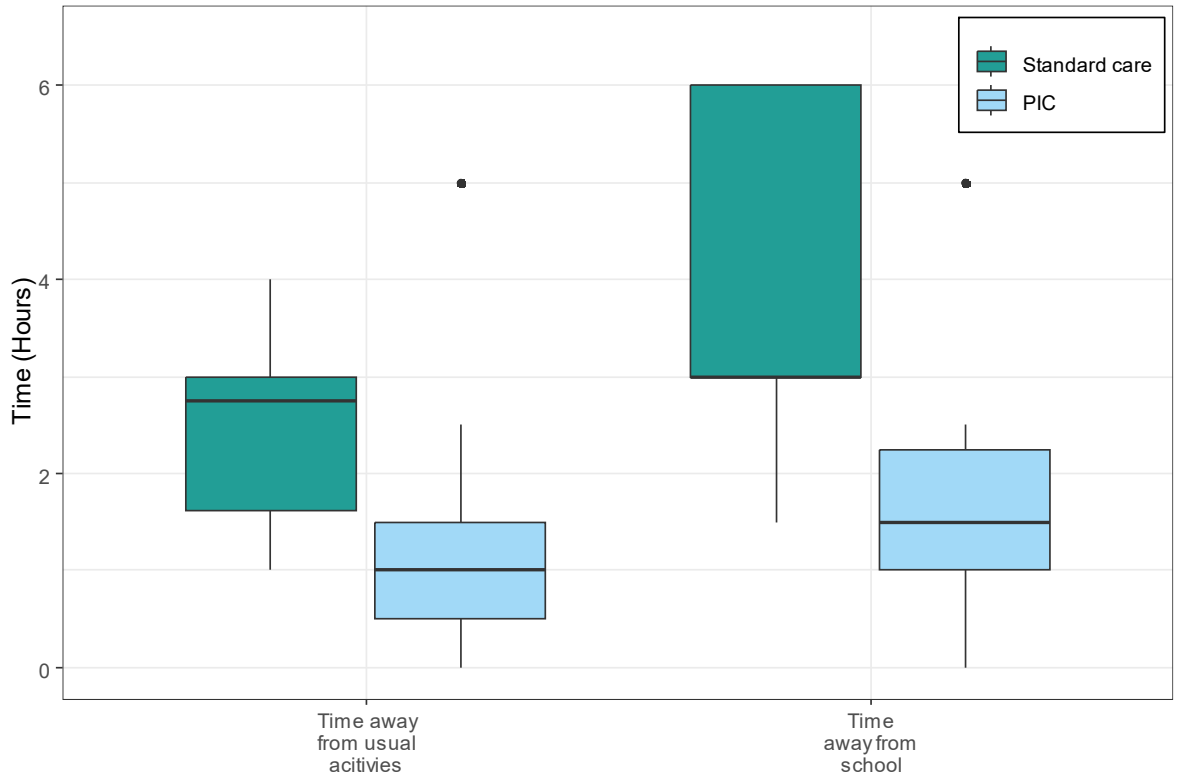


Figure 7 Box plots of the time spent away from usual activities and school for parents and children respectively, by the type of clinic attended.
Number of responses: Parents - PIC = 29, standard care = 14.
Children of school age – PIC = 23, standard care = 9.

Parents were asked to score how they felt about the logistics of getting to the appointment, during the appointment and after the appointment. The greatest median difference between the PIC and standard care was in the logistics, with a median 3.5-point change (Figure 8; Appendix 9). However, there was a smaller change observed during the appointment (median difference: 1) and after the appointment (median difference: 1).

On the other hand, children attending the PIC have a 1-point median higher score (i.e. poorer wellbeing) than those attending the standard care when asked about how they felt at their most recent appointment.

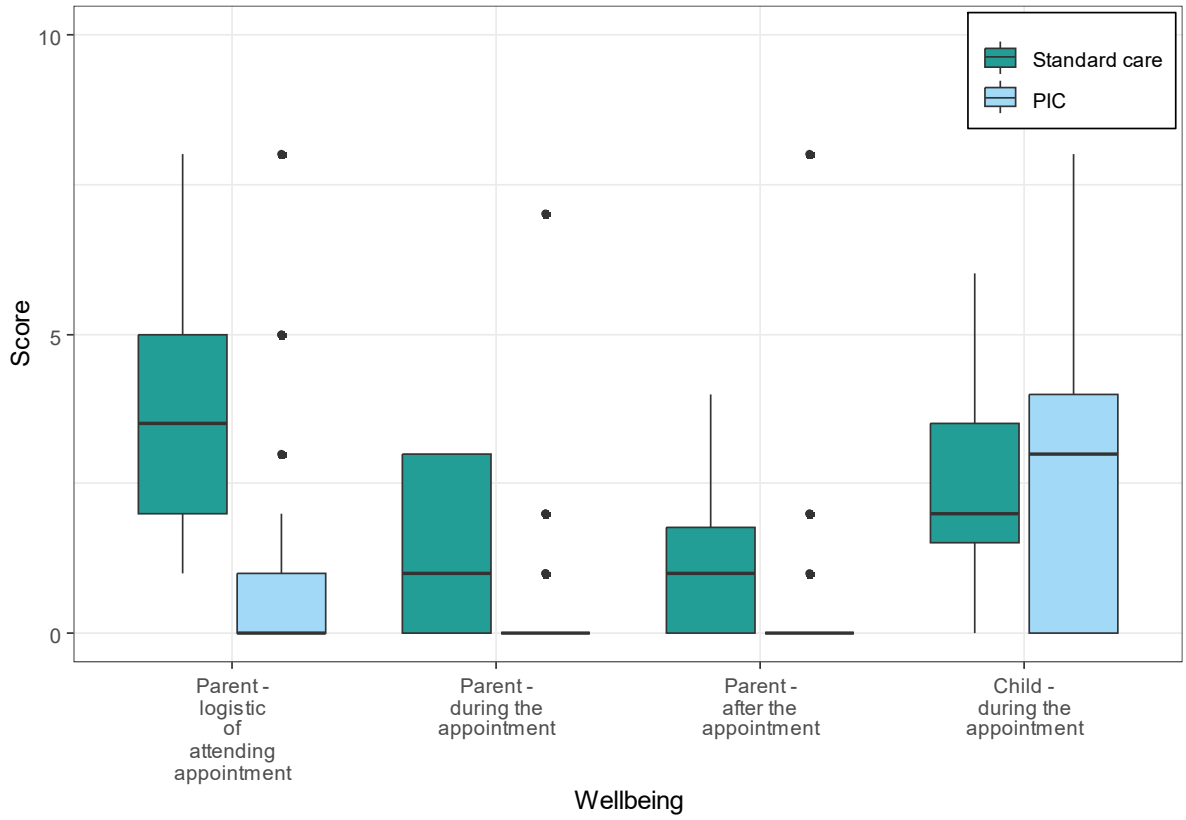


Figure 8 Box plots of Wellbeing scores (0 = best score, 10 = worst score) for parents and children by clinic attended.
Number of responses: Parent - PIC = 29, standard care = 14.
Children aged over 7 years - PIC = 13, standard care = 7

3.3 SROI results

The amount of change, valuation per item and the total overall impact of the outcome for a year of service provision is summarised in Table 7. For staff, the valuation reflects the impact per staff member for a whole year. For parents and children, the valuation reflects a short-term impact per appointment. The two largest contributors were the improved emotional wellbeing of parents and an increase in mutual understanding between colleagues for staff. Comparatively, time off work/usual activities for parents and time off school only had small contributions to the overall result.

Table 7 Impact map for each of the included outcomes

Outcome	Number of people	Amount of change	Valuation per person or event	Impact over 1 year
Staff				
Increased provision of context between secondary and primary care*	12	4.4	£3,040.75	£36,489.02
Increased confidence in providing paediatric care*	12	3.6	£3,618.72	£43,424.64
Increased co-ownership of care plan*	12	3.3	£3,109.85	£37,318.25
Increase learning opportunities*	12	5.9	£4,077.37	£48,928.46
Improved mutual understanding between staff members*	12	4	£5,277.32	£63,327.84
Parents				
Reduced emotional impact of appointment	623	1.83	£110.00	£68,530
Reduced time off work or usual activities appointment	623	1.75	£20.02	£12,472.46
Children				
Reduced emotional impact of appointment (children over 7 years only)	349	-1	£-60.00	£-20,940.00
Reduced time off school	430	1.5	£48.00	£20,640.00
Footnote: * Details of calculations for staff outcomes can be found in Appendix 6				

With a cost difference between the two clinic models being £55,267.19 (PIC MDT model = £95101.50; standard care = £39834.31) the resultant SROI was £5.61 for every £1 invested

3.4 Sensitivity calculations

3.4.1 Changing valuation methods

Table 8 shows which outcomes had alternative valuation explored. Unsurprisingly, the change in valuation for the emotional impact on the parents had the largest change in the SROI ratio, in part due to this outcome being of a high proportion in

the original ratio and the valuation is half of its original value. However, the new SROI ratio still remains similar to the original value.

Table 8 Outcome with alternative valuations

Outcome	Previous valuation	Previous SROI	New valuation	New SROI ratio
Parent - Reduced emotional impact of appointment	£60	£5.61	£32 – Wellbeing calculation using UKLHS Understanding Society data. (University of Essex Institute for Social and Economic Research 2025)	£5.03
Reduced time off work or usual activities appointment	£11.44	£5.61	£18.64 – Average hourly wage in the UK in 2024 (Office for National Statistics 2024)	£5.75
Reduced emotional impact of appointment (children over 7 years only)	£60	£5.61	£56 – Wellbeing calculation using Understanding society data.	£5.64

3.4.2 Changing cost of service

The costs in the main analysis were calculated using session-based costings. An alternative method would have been to use the appointment times for new and follow-up appointments and add in the required travel time for the consultant. By using per appointment costs, the cost difference between the two models was reduced from £55,267.19 to £42,658.53. As expected, a lower cost of the service increased the SROI ratio, resulting in an SROI ratio of £6.79 for every £1 invested.

3.4.3 Addition of carbon emissions costs

The PIC introduces a change in transportation needs for both paediatricians running the outpatients' appointments and the families attending. Parents and children are more likely to walk to their local health centre compared to those attended the standard care (Figure 9). The use of a car also increases with the paediatrician attending the health centres. Taking both groups into consideration,

there is 63% average reduction carbon emissions in the PIC MDT model compared to the standard care. Carbon emissions were costed at £37 per tonne of CO_2e, which, when combined with the level of activity led to a social value gain of £15.98 for the whole year. When added to the SROI value map there was no change to the SROI ratio.

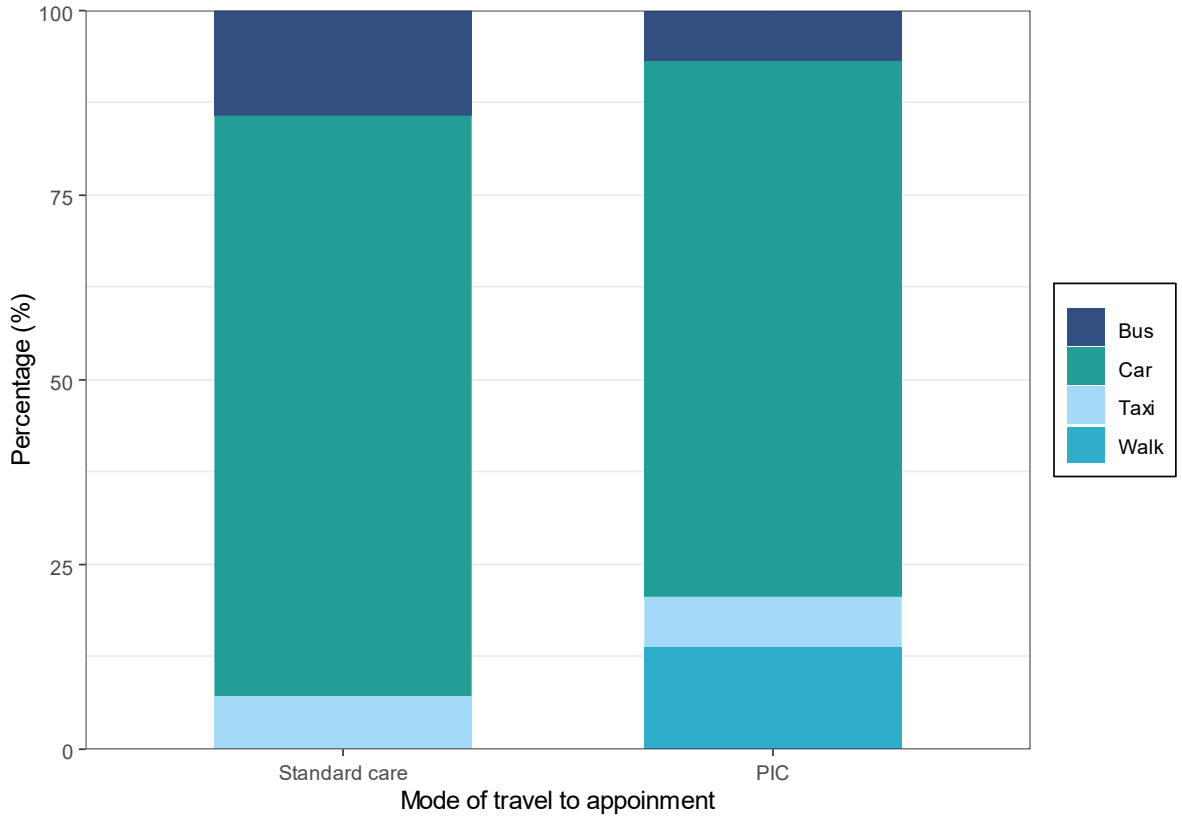


Figure 9 Percentage difference in the type of transport used by parents to attend the appointment in the PIC compared to standard care

3.4.4 Change in number of appointments needed

The reduction in demand, due to lower number of accepted referrals and greater discharges at first appointment is difficult to illustrate in the current data available across all of the clusters. Using the predicted information used in the business case, based on the findings for the initial pilot run in the South West Cluster, an exploratory analysis was undertaken to explore the impact a reduction in the number of appointments needed would have on the SROI ratio. The business case indicated that there would be a 41% reduction in new appointments and a 35% reduction in follow-up appointments needed. This percentage was used to inflate the number of appointments in standard care to 1,024, making the cost £64,347.74 per year, up from £39,834.31 per year. Therefore, the required inputs

costs reduce to £30,232 per year, which ultimate increased the SROI ration to £10.11 for every £1 invested.

3.4.5 Impact of reducing DNA rate

Due to the continued roll out and difference in length of time the PIC MDT model has been running in the clusters, only the South West cluster has illustrated a reduction in DNA rates, below that of standard care (Table 9). As the numbers were too small look at on a cluster level, we explored the impact if all clusters were able to reduce their level to that of the South West cluster, using the average for the last three years. DNA rates were valued at the cost of one standard care appointment (£63.84), and the quantity of avoided DNAs (i.e., the difference between general paediatric outpatients and the cluster DNA rates).

Table 9 Difference in DNA rate across the three clusters and general Paediatric outpatient between 2022-2024

	2022	2023	2024
Cardiff Central Vale PICs	15%	13%	12%
Cardiff East PICs	16%	26%	17%
Cardiff South West PICs	5%	4%	6%
Standard care	12%	12%	10%

As the reduction in DNA was small (6%), this did not have a noticeable impact on the overall SROI ratio (£5.66 per £1 invested).

4 Discussion

The delivery of the paediatric integrated care MDT clinic model within three clusters in CAV UHB has social and environmental benefits compared to the traditional hospital outpatient model. Staff have an improved job satisfaction, and families spend less time off work and school, reduced travel, and increased wellbeing. These social and environmental improvements lead to an SROI of £5.61 for every £1 invested, driven by improved mutual understanding between staff members, and improved emotional wellbeing for parents. The results of this study have implications for the wider roll out of the PIC MDT model across CAV UHB into all GP clusters, in terms of breaking down barriers and realising benefits within different clusters, which are social demographically diverse.

Staff, parents and children experiencing the PIC MDT model spoke about it favourably, reporting outcomes that were reflective of those within the literature (Sibbald, Pickard et al. 2008, Montgomery-Taylor, Watson et al. 2016). The beneficial impact was also reflected in the difference in response to each of the outcomes in the survey, apart from the child wellbeing score. The survey results showed that children attending the PIC MDT had a lower median wellbeing score, of 1 point on a 10-point scale, that those who attended the standard care. This result may be an artifact of a small sample size and is driven by a few outliers on the extreme end of the scale. Furthermore, it is possible that these children have a poorer wellbeing due to underlying medical conditions or external factors and would have produced the same answer in the standard care appointment, therefore it is probably not a reflection of attending the appointment at the GP surgery. Nevertheless, the case-controlled approach gave a more robust comparator to investigate the magnitude of change, comparative to other methodologies, such as a before and after assessment.

The reduction in demand, due to the fewer accepted referrals and DNAs, was one of the drivers for rolling out the PIC MDT model. However, the delivery is still in its infancy, and these benefits have yet to be realised. The South West Cluster which has been running for the longest are beginning to see these benefits within routine data, indicating that it takes time to build relationships and breakdown barriers. Further investigation is needed as to the role of other factors, such as socio-demographic or geographic factors that may explain the difference seen between clusters, and if findings are transferable to clusters that have yet to have the PIC MDT model deployed. If the PIC MDT model, once well-established does results in a sustained reduction in appointment demand, a greater social value could be realised.

As discussed in section 2.6.2 there could be the potential that other activities and outcomes maybe displaced as a result of the PIC MDT model, due to demand shifting from paediatric secondary care to primary and community care. Whilst not including displacement within the SROI value map, is a limitation, there is currently not enough evidence to accurately quantify the level of displacement of appointments. GP, health visitor and school nurse time for PIC MDT activities as the extra requirements are funded, and should not displace their usual activities. In reality funding and time allocation is complex within the NHS and may not be reflected in the perception of individual staff members, where it may be perceived as an additional time requirement. Further work would be required to fully understand how other activities are displaced by the MDT model, and if a displacement value can be ascertained, this would be likely to reduce the SROI ratio. Furthermore, the cost of delivering the service was estimated based on time allocations and PSSRU costings, and did not include admin time to avoid double counting.

The PIC MDT model does align with CAV UHB's sustainability and decarbonisation agenda, through a reduction in overall transport emissions. Despite a clear reduction in carbon emission, there was little impact on the SROI ratio, as other outcomes (e.g., parent wellbeing) had significantly larger contributions. Nevertheless, any reduction in carbon emission is beneficial even if there is little observed social value within this setting. However, the distances travelled were only approximations based on the self-reported time taken to travel for parents/children, which may be subjected to response bias, and would not reflect traffic/road conditions. Furthermore, the average vehicle emission was used, as we did not obtain the type of vehicle (i.e., diesel, petrol, electric), however, this is likely to be similar between the two group.

5 Conclusion

Staff, parents and children were favourable towards the PIC MDT model, highlighting that on the whole they experienced positive outcomes, which were reflected in the comparison between the PIC MDT model and standard care. Overall, for every £1 invested, the PIC SROI generated a £5.61 social return on investment. The PIC MDT model is still being rolled out with staff relationships, ways of working and service delivery mechanism being refined. Further work is required to assess the generalisability and impact of the PIC MDT model for the whole of CAVUHB health board. These results indicate that there is potential for other specialities could benefit from this approach, which would also align with the Welsh Government's care closer to home and Value-Based healthcare agenda.

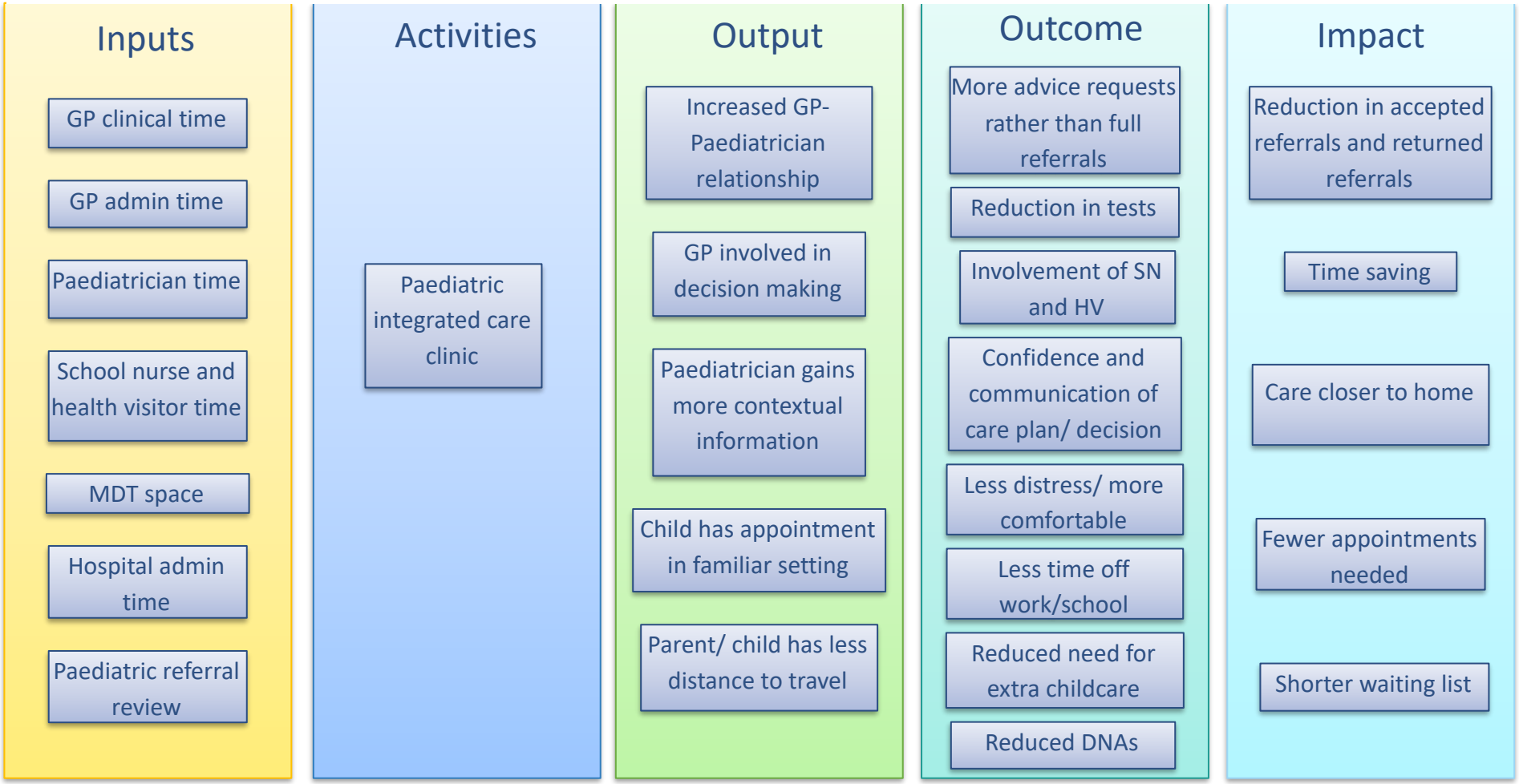
References

Counselling Hub Wales. Retrieved 29/09/2025, from https://counsellinghubwales.co.uk/price-list.
Department for Energy Security & Net Zero. (2024). "Traded carbon values used for modelling purposes, 2024." Retrieved 29/09/2025, from https://www.gov.uk/government/publications/traded-carbon-values-used-for-modelling-purposes-2024/traded-carbon-values-used-for-modelling-purposes-2024.
Fujiwara, D. and R. Campbell. (2011). "Valuation Techniques for Social Cost-Benefit Analysis: Stated Preference, Revealed Preference and Subjective Well-Being Approaches." Retrieved 29/09/2025, from https://assets.publishing.service.gov.uk/media/5a7b9e3be5274a7318b8fd4c/greenbook_valuationtechniques.pdf.
Gov.UK. "National Minimum Wage and National Living Wage rates." Retrieved 29/09/2025, from https://www.gov.uk/national-minimum-wage-rates.
Harris, P. A., R. Taylor, B. L. Minor, V. Elliott, M. Fernandez, L. O'Neal, L. McLeod, G. Delacqua, F. Delacqua, J. Kirby and S. N. Duda (2019). "The REDCap consortium: Building an international community of software platform partners." Journal of Biomedical Informatics **95**: 103208.
Harris, P. A., R. Taylor, R. Thielke, J. Payne, N. Gonzalez and J. G. Conde (2009). "Research electronic data capture (REDCap)–A metadata-driven methodology and workflow process for providing translational research informatics support." Journal of Biomedical Informatics **42**(2): 377-381.
Heath, G., E. Cameron, C. Cummins, S. Greenfield, H. Pattison, D. Kelly and S. Redwood (2012). "Paediatric 'care closer to home': stake-holder views and barriers to implementation." Health Place **18**(5): 1068-1073.
Hiscock, H., O. L. R, R. Pelly, C. Laird, J. Holman, K. Dalziel, S. Lei, D. Boyle and G. Freed (2020). "Strengthening care for children: pilot of an integrated general practitioner-paediatrician model of primary care in Victoria, Australia." Aust Health Rev **44**(4): 569-575.
Jones, K., H. Weatherly, S. Birch, A. Castelli, M. Chalkley, A. Dargan, D. Findlay, M. Gao, S. Hinde, S. Markham, D. Smith and H. Teo (2025). Unit Costs of Health and Social Care 2024 Manual, Technical report. Personal Social Services Research Unit (University of Kent) & Centre for Health Economics (University of York), Kent, UK.
Jones, K. C., H. Weatherly, S. Birch, A. Castelli, M. Chalkley, A. Dargan, J. E. Forder, J. Gao, S. Hinde and S. Markham (2024). Unit costs of health and social care 2023 manual, Technical report. Personal Social Services Research Unit (University of Kent) & Centre for Health Economics (University of York), Kent, UK.
Macaulay, C., J. Spicer, W. Riches and M. Lakhanpaul (2017). "Learning Together 1: an educational model for training GPs, paediatricians: initial findings." Educ Prim Care **28**(1): 29-35.
McLeod, H., G. Heath, E. Cameron, G. Debelle and C. Cummins (2015). "Introducing consultant outpatient clinics to community settings to improve access to paediatrics: an observational impact study." BMJ Qual Saf **24**(6): 377-384.

Montgomery-Taylor, S., M. Watson and R. Klaber (2016). "Child Health General Practice Hubs: a service evaluation." Arch Dis Child **101**(4): 333-337.
Nicholls, J., E. Lawlor, E. Neitzert and T. Goodspeed. (2011). "A guide to Social Return on Investment." Retrieved 20/05/2024, from https://static1.squarespace.com/static/60dc51e3c58aef413ae5c975/t/60f7fa286b9c6a47815bc3b2/1626864196998/The-SROI-Guide-2012.pdf.
Office for National Statistics. (2024). "Employee earnings in the UK: 2024." Retrieved 20/06/2025, from https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/bulletins/annualsurveyofhoursandearnings/2024.
Saint-Pierre, C., V. Herskovic and M. Sepúlveda (2018). "Multidisciplinary collaboration in primary care: a systematic review." Fam Pract **35**(2): 132-141.
Sibbald, B., S. Pickard, H. McLeod, D. Reeves, N. Mead, I. Gemmell, J. Coast, M. Roland and B. Leese (2008). "Moving specialist care into the community: an initial evaluation." J Health Serv Res Policy **13**(4): 233-239.
Tutorful. "Find an expert tutor in Cardiff." Retrieved 29/09/2025, from https://tutorful.co.uk/search/tutors-in/cardiff.
University of Essex Institute for Social and Economic Research (2025). Understanding Society. UKHLS Wave 13
Welsh Goverment. (2016). "Prudent healthcare." Retrieved 29/09/2025, from https://www.gov.wales/prudent-healthcare.
Welsh Goverment. (2024). " Healthier Wales: our Plan for Health and Social Care." Retrieved 29/08/2025, from https://www.gov.wales/sites/default/files/publications/2024-11/2024-plan-for-health-and-social-care.pdf.
Wolfe, I., J. Forman, E. Cecil, J. Newham, N. Hu, R. Satherley, M. Soley-Bori, J. Fox-Rushby, S. Cousens and R. Lingam (2023). "Effect of the Children and Young People's Health Partnership model of paediatric integrated care on health service use and child health outcomes: a pragmatic two-arm cluster randomised controlled trial." Lancet Child Adolesc Health **7**(12): 830-843.

Appendix

Appendix 1 Logic Model



Appendix 2 Staff topic guide

Thank you for taking the time to speak to me today. My name is Katherine, and I am a research scientist who works for the NHS, based at Cardiff & Vale University Health board.

You may be aware of the evaluation being undertaken into the Paediatric Integrated MDT Clinic Model. CEDAR has been asked to undertake a social return on investment analysis as part of this assessment. As a member of staff that is involved with the delivery of the Paediatric Integrated MDT Clinic Model, I would like to talk to you about your experiences of this service. Please be as honest as possible about your experiences. This information will be used as part of the social return on investment analysis of the Paediatric Integrated MDT Clinic Model.

The responses you given today will remain anonymous and but anonymised quotes maybe used in the reports we produce.

Do you have any questions?

Are you happy to proceed with the interview? Y/N

Are you happy for me to record the interview? Y/N

1. Please tell me a bit about your current role?
2. What is your involvement with the Paediatric Integrated MDT Clinic Model?
    a. Prompt: How long?
3. In your own words could you tell me what your understanding of the Paediatric Integrated MDT Clinic Model is?
    a. Prompt: How do you think it differ from a traditional model?
4. What is your experience with the Paediatric Integrated MDT Clinic Model?
5. What do you think works well?
    a. *Communication*
    b. *Time*
    c. *Decision making*
    d. *Involvement*
6. What do you think doesn't work as well?
    a. *Time*
    b. *Referral process*
7. Do you prefer this model over the more traditional secondary care model? And Why?
8. Is there anything you would like to see done differently?

Appendix 3 Parent topic guide

Thank you for taking the time to speak to me today. My name is Katherine, and I am a research scientist who works for the NHS, based at Cardiff & Vale University Health Board.

You may be aware of the evaluation being undertaken into the Paediatric Integrated Care clinic, where you see the paediatrician and GP within a local GP surgery to you. CEDAR has been asked to look into the social benefits of this service. As a user of this service, I would like to talk to you about your experiences of this service. Please be as honest as possible about your experiences. This information will be used as part of our assessment of the social benefit of the Paediatric Integrated Care clinic.

The responses you given today will remain anonymous and but anonymised quotes maybe used in the reports we produce.

Do you have any questions?
Are you happy to proceed with the interview? Y/N
Are you happy for me to record the interview? Y/N

1. Please tell me a bit about your reason for attending the PIC?
2. Did the GP explain the reason for the referral and how it works?
3. Did you feel you had enough information prior to the appointment?
4. What was your experience of the appointment with the paediatrician?
    a. *Information*
    b. *Test*
    c. *Decision making*
5. Did you find the resolution satisfactory?
6. Were you given information on the next steps?
    a. *Care plan for GP*
    b. *Contacting SN/HV*
    c. *SOS [Seen on Symptoms]*
7. Did you find it useful having your GP in the appointment as well?
8. Were you happy having the appointment at your local GP/ local medical centre? What made it better or worse?
    a. *Distance travelled*
    b. *Accessibility*
    c. *Time of work/school*
    d. *Childcare for siblings*
9. Overall, were you happy with the service provided?
10. What would you have like to have seen differently?
11. Have you ever had or experienced (even with another child) a referral to a paediatrician at the hospital?
    a. If yes, which one did you prefer and why?

Appendix 4 Child topic guide

Thank you for taking the time to speak to me today. My name is Katherine, and I am a research scientist who works for the NHS, based at Cardiff & Vale University Health board.

I understand that you have recently seen a specialist doctor, called a paediatrician, at your local health centre. I would like to talk to you today about how you found this appointment. I am working on a project looking at the social benefit of these appointments, so the information you give to me today will be really useful for the assessment. I would like to hear about the good things and the bad things.

The responses you given today will remain anonymous and but anonymised quotes maybe used in the reports we produce, meaning nobody will know it is you.

Do you have any questions?

Are you happy to proceed with the interview? Y/N

Are you happy for me to record the interview? Y/N

1. Firstly, do you know why you went to see the specialist doctor? If yes, can you tell me a bit about it?
2. Did the GP explain why you needed to the specialist doctor and how it worked?
3. Did you feel you had enough information prior to the appointment?
4. What was your experience of the appointment with the paediatrician?
    a. *Was Information provided in a way you understood?*
    b. *Were you happy with the test or examination?*
    c. *Were you involved in the discussion?*
5. Do you know what decisions were made in the appointment? Were you happy with these decisions?
6. Do you know what is going to happen next?
7. Did you find it useful having your GP in the appointment as well? Why?
8. Were you happy having the appointment at your local GP/ local medical centre?
    a. *What did you like about it?*
    b. *What did you dislike about it?*
9. Overall, were you happy with your appointment?
10. What would you have wanted to be different?
11. Have you ever been to the hospital to see a specialist doctor?
    a. If yes, which one did you prefer and why?

Appendix 5 Staff survey

CEDAR are currently undertaking a social return on investment (SROI) analysis of the Paediatric Integrated MDT Clinic Model, where children see the paediatrician in a local GP surgery rather than in a hospital outpatient clinic. We are particularly interested in finding out the social value of this new way of delivering paediatric healthcare, and therefore we want to collect data from staff who experience the current standard outpatient approach as well as those involved in the Paediatric Integrated MDT Clinic Model.

CEDAR have already run interviews with staff members to understand qualitatively their experiences of the Paediatric Integrated MDT Clinic Model and what matters most to them – we call these "outcomes" in an SROI. CEDAR now need to quantitatively understand how many staff members experience these outcomes, from both staff members who have and have not been involved with Paediatric Integrated MDT Clinic Model.

This survey will ask for some information about you and your involvement (if any) in the Paediatric Integrated MDT Clinic Model, followed by some questions on your experiences of providing paediatric care from your perspective (e.g., outpatient secondary care, primary care or community care).

Some of you may have never heard of the Paediatric Integrated MDT Clinic Model – this is ok. We still want to hear from you about your experience of how you normally provide paediatric care.

What will I have to do?
Taking part will involve completing one short questionnaire, which will take approximately 5 mins to complete.

The response you give will be anonymous. All information which you provide will be confidential. The handling and storage of personal information will follow NHS data protection standards.

Do I have to take part?
It is up to you whether or not to take part. If you decide to take part you are still free to change your mind and withdraw ***at any time*** and without giving a reason.

Data protection statement

Cardiff and Vale UHB is the data controller for any personal data that is collected.

The lawful basis for processing data under the UK GDPR is Article 6(1)(e) and Article 9(2)(h)

Data will be retained in line with the Records Management Code of Practice for Health and Care 2022

For any complaints in relation to how your data has been handled, please contact Uhb.Dpo@wales.nhs.uk

To see more information in relation to see how your information is processed, please see our privacy notice at https://cavuhb.nhs.wales/use-of-site/privacy-policy/

6 A bit about you….

1. Are you involved with or have you got experience with the Paediatric Integrated MDT Clinic Model in your current role?

Yes – I am the paediatric consultant or associate specialist that runs the Paediatric Integrated MDT Clinic Model for my assigned cluster.	
Yes – I am the primary care representative (e.g., GP, GP trainee, Advance nurse practitioner, physician associate) attending alongside the paediatric consultant	
Yes – I am a school nurse/health visitor that attends the MDT meetings or engages with the Paediatric Integrated MDT Clinic Model.	
No – I am a paediatric consultant or associate specialist that runs outpatient clinic from a hospital setting only.	
No – I am from primary care, school nursing or health visiting with no involvement or experience of the Paediatric Integrated MDT Clinic Model.	
Not sure	

2. Which staff group do you belong to?

Paediatric consultant	
Paediatric associate specialist	
General practitioner (GP)	
GP trainee	
Advanced nurse practitioner	
Physician Associate	
School nurse	
Health visitor	
Other, please state	

3. Which cluster do you work in? [allow to select multiple]

Cardiff East	
Cardiff South East	
Cardiff City & South	
Cardiff West	
Cardiff South West	
Cardiff North	
Eastern Vale	
Central Vale	
Western Vale	
I am not assigned to a particular cluster	

[ONLY PIC STAFF]

4. How long have you been involved in the Paediatric Integrated MDT Clinic Model?

<1 year	
1-2 years	
3-4 years	
5+ years	

5. How many hours, in an average month, do you spend undertaking activities with the Paediatric Integrated MDT Clinic Model? (If you attend the Paediatric Integrated MDT Clinic on a rotation basis, please think about a month where you have been rostered to attend) [exclude consultants]

_____

[All Consultant only]

6. How do you travel to your normal work base (e.g., UHW)?

Car	
Bike	
Walk	
Bus	
Train	
Taxi	
Other	

7. On average how long (in minuets) does it take you to travel from home to your base (e.g., UHW)?

_____

8. How many miles is it from your home to your base (e.g., UHW)?

_____

9. Please provide the post code of your home address.

_____

[PIC STAFF ONLY]

10. When you travel to the PIC Clinic do you usually travel from home or your base (e.g., UHW)?

Home	
Base	
Other	

11. Do you have a different mode of transport to your PIC clinics?

Yes	
No	

12. If yes, what mode of transport do you used to the PIC clinics?

Car	
Bike	
Walk	
Bus	
Train	
Taxi	
Other	

13. On average how long (in minuets) does it take you to travel to your PIC clinic?

_____

14. How many miles (on average) is it to your PIC clinic?

_____

15. Do you return home or to your base after the PIC Clinic?

Home	
Base	
Other	

7 Your experience of providing paediatric care

On the sliders for each question to place where you feel you sit, with the left representing a low value and the right representing a high value.

16. How would you describe your mutual understanding and level of mutual respect with fellow colleagues involved in paediatric outpatient care (i.e., paediatric consultants, GPs, School nurses, health visitors)?

Low mutual understanding and respect _____ Very established mutual understanding and high respect

17. How much context and perspective are adequately available to you either prior to, during, or after the child's appointment with the paediatric consultant by colleagues (e.g., GPs, paediatric consultants, school nurses, health visitors) or parents, which is important to help provide care for a child under your care?

No context and perspective_____ Adequate context and perspective

18. How much co-ownership do you feel you have in a child's care plan and decision making?

No co-ownership (i.e., a single responsible person (yourself or someone else) or no one has ownership at all) _____ High level of co-ownership (i.e., all parties involved)

19. Do you feel you have mutual learning opportunities to improve your understanding of paediatric care and decision making (e.g., learning from paediatric consultant, GPs, school nurses or health visitors)?

No mutual learning opportunities _____ Adequate mutual learning opportunities

20. Considering your current way of working, overall, how confident are you in providing paediatric care?

Not confident _____Very confident

8 Job satisfaction

On the previous page you answered questions on your relationship with colleagues, co-ownership, communication, learning opportunities and confidence in providing paediatric care. These, together with factors such as salary and work load are all factors that contribute to job satisfaction. Therefore, from your perspective how much do each of the elements contribute to your job satisfaction when providing care to children.

Please place a number (percentage) in each of the boxes, with the overall total of the boxes being 100.

Element of job satisfaction	Percentage contribution
Confidence in providing paediatric care	
Co-ownership of care	
Good communication	
Learning opportunities	
Reasonable salary	
Reasonable workload	
Relationships with colleagues	
Other	
Total	100%

Appendix 6 Parent and child survey

Cardiff and Vale University Health Board are currently exploring the best way to provide paediatric outpatient care. They have been piloting clinics in local GP surgeries instead of in hospital. We would like to find out how you and your child felt about the most recent paediatric appointment that you attended with you child. This could have been at the hospital outpatient department or at a local GP surgery.

What will I have to do?

Taking part will involve completing **one short questionnaire of 12 questions**, which will take approximately 5 minutes to complete.

The last question asks about your child's feelings as we want to understand how your child felt at the appointment. If your child is aged 7 years old or above, ideally, we would like your child to complete this question themselves although you can provide help if needed. Alternatively, you can respond on your child's behalf.

The responses you and your child give will be anonymous. All information which you provide will be confidential. The handling and storage of personal information will follow NHS data protection standards.

Do I have to take part?

It is up to you whether or not to take part. If you decide to take part you are still free to change your mind and withdraw ***at any time*** and without giving a reason.

Data protection statement

Cardiff and Vale UHB is the data controller for any personal data that is collected.

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9 The appointment….

21. Where did you attend your most recent paediatric (children's) appointment?

University Hospital Wales/Heath hospital	
University Hospital Llandough	
Woodlands surgery	
Canna Surgery	
Ely Bridge surgery	
Taff Riverside Practice	
West Quay Medical Centre	
Waterfront Medical Centre	
Llanrumney Health Centre/ Llanrumney Health Centre	
Brynderwen Surgery	
Not sure	
Other, please state	

22. Was this your child's first appointment or a follow-up?

First appointment	
Follow-up appointment	

23. How old is your child (in years)?

_____

24. How did you feel about how long it took to get your child's appointment?

The wait was shorter that I'd expected	
The wait was about as long I'd expected	
The wait was longer that I'd expected	

25. How did you travel to your child's appointment [tick all that apply]

Car	
Train	
Bus	
Taxi	

Walk	
Cycle	
Other	

26. In total, how much time did it take you to travel to your child's appointment (i.e., the from leaving your house to sitting down in the waiting area)?

_____

27. In total, how much time in hours did you spend away from usual activities (e.g., work, childcare or looking after the home) to attend your child's appointment

_____

28. In total how much time in hours did your child spend off school to attend your child's appointment (if any)?

_____

10 Parent questions

Thinking about your child's most recent appointment……

29. On the scale of 1-10 how did you feel about the **logistics** of attending the appointment (e.g., travel, parking, getting time off work, organising childcare)

1	2	3	4	5	6	7	8	9	10
Reassured			OK		A Little Worried		Stressed/ anxious		Overwhelmed

1. On the scale of 1-10 how did you feel **while at the appointment** including waiting to be seen and interactions with healthcare staff.

1	2	3	4	5	6	7	8	9	10
Reassured			OK		A Little Worried		Stressed/ anxious		Overwhelmed

1. On the scale of 1-10 how did you feel **after the appointment** in relation to the care your child received? (including communication with you, communication with the GP surgery, and agreed plans of action)

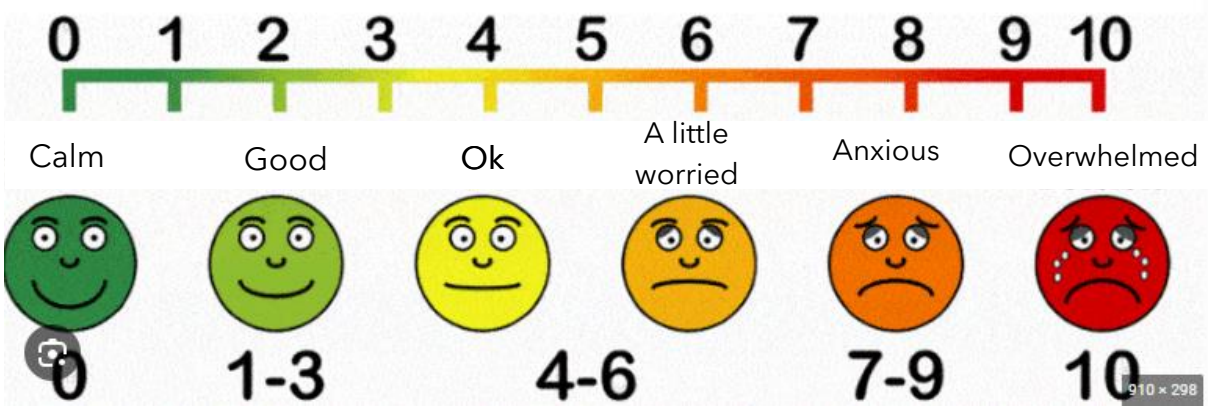
1	2	3	4	5	6	7	8	9	10
Reassured			OK		A Little Worried		Stressed/ anxious		Overwhelmed

[only appear if the child is aged over 7 years old]

We want to understand how your child felt at the appointment. Ideally, we would like your child to complete this question, but you can provide help if needed. Alternatively, you can respond on your child's behalf, but please tick the box "I am responding on behalf of my child"

11 Child's question

Which face best describes how you felt the last time you saw the children's doctor (paediatrician)?



I am responding on behalf of my child	
My child has responded with help	
My child has responded on their own	

Appendix 7 Outcome results from those staff that completed the whole survey and outcome valuation calculation

Staff outcome	Median response for PIC Staff	Median response for standard care staff	Average (mean) percentage contribution to job statistics	Valuation of job satisfaction from Understanding Society	Valuation for 1-point change	Difference in median responses	Valuation (Difference x valuation for 1-point change)
Mutal Understanding	9.6	5.6	21%	£6282.53	£1319.33	4	£5277.33
Context	8.7	4.3	11%	£6282.53	£691.08	4.4	£3040.75
Co-ownership	7.1	3.8	15%	£6282.53	£942.38	3.3	£3109.85
Learning	8.1	2.2	11%	£6282.53	£691.08	5.9	£4077.36
Confidence	8.6	5	16%	£6282.53	£1005.21	3.6	£3618.74

By using the median of the response was chosen as the data was highlight skewed and ordinal. In an exploratory analysis to investigate the difference between using the mean and the median, then there is negligible difference in the SROI ratio reducing it to £5.60 per £1 invested (mean) compared to £5.61 per £1 invested (median).

Appendix 8 Staff survey result for all responders

	Standard care (N=8)	PIC (N=15)	Total (N=23)
Staff group			
Paediatric consultant	4 (50.0%)	3 (20.0%)	7 (30.4%)
Paediatric associate specialist	1 (12.5%)	0 (0.0%)	1 (4.3%)
General practitioner (GP)	2 (25.0%)	8 (53.3%)	10 (43.5%)
GP trainee	1 (12.5%)	0 (0.0%)	1 (4.3%)
Advanced nurse practitioner	0 (0.0%)	2 (13.3%)	2 (8.7%)
Physician associate	0 (0.0%)	1 (6.7%)	1 (4.3%)
School nurse	0 (0.0%)	1 (6.7%)	1 (4.3%)
Health visitor	0 (0.0%)	0 (0.0%)	0 (0.0%)
Other	0 (0.0%)	0 (0.0%)	0 (0.0%)
How would you describe your mutual understanding and respect with fellow colleagues involved in paediatric outpatient care (i.e., paediatric consultants, GPs, School nurses, health visitors)?			
Median	6.2	9.6	9.1
Range	0.2 - 9.5	7.1 - 10	0.2 - 10
Missing	1	3	4
How much context and perspective are adequately available to you either prior to, during, or after the child's appointment with the paediatric consultant by colleagues (e.g., GPs, paediatric consultants, school nurses, health visitors) or parents, which is important to help provide care for a child under your care?			
Median	5.7	8.7	7.35
Range	0.2 - 9.4	3.6 - 10	0.2 - 10
Missing	1	4	5
How much co-ownership do you feel you have in a child's care plan and decision making?			
Median	4.8	7.1	6.65
Range	0 - 9.2	2.1 - 9.1	0 - 9.2
Missing	1	4	5
Do you feel you have mutual learning opportunities to improve your understanding of paediatric care and decision making (e.g., learning from paediatric consultant, GPs, school nurses or health visitors)?			
Median	4.8	8.1	7.8
Range	0 - 9.1	5 - 10	0 - 10
Missing	1	4	5
Considering your current way of working, overall, how confident are you in providing paediatric care?			
Median	7.9	8.6	8.5
Range	5 - 9.3	3.3 - 10	3.3 - 10
Missing	1	3	4
Proportion of job satisfaction			
Good communication			
Median	10	20	15
Range	0 - 25	10 - 25	0 - 25
Missing	2	4	6
Learning opportunities			
Median	10	10	10

Range	0 - 20	5 - 20	0 - 20
Missing	2	4	6
Reasonable salary			
Median	10	10	10
Range	0 - 20	0 - 20	0 - 20
Missing	2	4	6
Reasonable workload			
Median	10	10	10
Range	0 - 20	5 - 20	0 - 20
Missing	2	4	6
Relationships with colleagues			
Median	14	15	15
Range	10 - 20	10 - 50	10 - 50
Missing	2	4	6
Other			
Median	0	0	0
Range	0 - 20	0 - 13	0 - 20
Missing	5	12	17

Appendix 9 Parent and children survey responses

	Standard care (N=14)	PIC (N=29)	Total (N=43)
Clinic attended			
Cathays Terrace	0 (0.0%)	7 (24.1%)	7 (24.1%)
Rumney Primary care centre	0 (0.0%)	7 (24.1%)	7 (24.1%)
Taff Riverside Practice	0 (0.0%)	7 (24.1%)	7 (24.1%)
West Quest Medical centre	0 (0.0%)	8 (27.6%)	8 (27.6%)
University Hospital of Wales	14 (100.0%)	0 (0.0%)	14 (100.0%)
Appointment type			
First appointment	5 (35.7%)	15 (51.7%)	20 (46.5%)
Follow-up appointment	9 (64.3%)	14 (48.3%)	23 (53.5%)
Child's age			
Median	6	6	6
Range	0.5-13	0.5-15	0.5-15
Expected wait for appointment			
As expected	5 (35.7%)	12 (41.4%)	17 (39.5%)
Longer than expected	4 (28.6%)	3 (10.3%)	7 (16.3%)
Shorter expected	5 (35.7%)	14 (48.3%)	19 (44.2%)
Mode of transport to appointment			
Bus	2 (14.3%)	2 (6.9%)	4 (9.3%)
Car	11 (78.6%)	21 (72.4%)	32 (74.4%)
Taxi	1 (7.1%)	2 (6.9%)	3 (7.0%)
Walk	0 (0.0%)	4 (13.8%)	4 (9.3%)
Time to get to appointment (Minutes)			
Median	22.5	10	15
Range	1 - 60	1.5 - 30	1 - 60
Time away from usual activities (hours)			
Median	2.75	1	1.2
Range	1 - 4	0 - 5	0 - 5
Time out of school (Hours) [school aged children only]			
N	9	23	32
Median	3	1.5	2
Range	1.5 - 6	0 - 6.5	0 - 6.5
Wellbeing score - logistics of attending appointment			
Median	3.5	0	1
Range	1 - 8	0 - 8	0 - 8
Wellbeing score - during the appointment			
Median	1	0	0
Range	0 - 3	0 - 7	0 - 7
Wellbeing score - after the appointment			
Median	1	0	0
Range	0 - 4	0 - 8	0 - 8
Child (over 7 years) wellbeing score during appointment			
N	7	13	20
Median	2	3	2.5
Range	0 - 6	0 - 8	0 - 8

Abbreviations: N = number of observations.