



**Dissertation submitted as partial requirements for the
Degree of
Master of Professional Studies,
Faculty of Health, Medicine and Society
University of Chester**

Dissertation Title:

Examining the impact of the Maternal Early Childhood Sustained Home-Visiting (MECSH) programme on developmental scores (ASQ 3) of two-year-old children and the significance of programme visit completion on developmental outcomes: A quantitative approach.

Student Name:

Michelle Cumming.

Student Number

J25681

Supervisors:

Dr Hazel McWhinnie

Dr Moyra Journeaux

Date of submission:

27.5.24.

Declaration

I hereby declare that this thesis is my own work and effort and that it is has not been submitted elsewhere for any award. Where other sources of information have been used, they have been acknowledged.

Table of Contents

List of abbreviations and acronyms.....	5
List of tables.....	6
List of figures.....	6
Abstract:.....	7
Chapter 1: Introduction	9
Chapter 2: Literature Review	14
2.1 Boolean operators and truncations.....	14
Identification	Error! Bookmark not defined.
Eligibility.....	Error! Bookmark not defined.
Included.....	16
Screening.....	16
2.2 Critical appraisal	17
2.3 The value of home visiting programmes	17
2.4 Which programmes are effective?	18
2.5 Outcome measurement	18
2.6 Why some programmes are effective?	19
2.7 Outcomes of intensive home visiting programmes.	20
2.8 Which programme is the most suitable local fit?.....	22
2.9 Conclusion of critical appraisal of the literature review.	22
Chapter 3: Research design and methodology	24
3.1 Aims of the study	24
3.2 Research process.	27
3.3 Sample.....	28

3.1.1 Sample participants and setting.	29
3.4 Programme requirements and staff profile	30
3.5 Data collection method	31
3.6 Ethical considerations.....	34
3.6.1 Ethical principles.	34
3.6.2 Respect and Consent (non-maleficence/beneficence).	35
3.6.3 Confidentiality.....	36
3.6.3 Data.....	36
3.6.3 Justice	37
Chapter 4: Data Findings.....	40
4.1 Non- MECSH ASQ 3 scores.	41
4.3 MECSH– (Completed) ASQ3 scores.	45
4.4 MECSH – (not completed) ASQ 3 scores.....	46
4.5 Visit/Dose Data.	47
Chapter 5: Discussion	51
Chapter 6: Limitations.....	56
Chapter 7: Conclusion	57
Chapter 8: Chapter Recommendations	60
8.1 Implications for research.	60
8.2 Implications for practice	61
References	63
Appendices	73

List of abbreviations and acronyms

Key Term	Definition
ASQ 3	Ages and Stages Questionnaire (third edition).
EMIS	Egton Medical Information Systems
FNP	Family Nurse Partnership
HCP	Healthy Child Programme
HV	Health Visitor (Specialist Community Public Health Nurse).
INVP	Intensive Home Visiting programme
MECSH	Maternal Early Childhood Sustained Home Visiting
MHP	Mental Health Practitioner
NFP (USA)	Nurse Family Programme
NHVP	Nurse Home Visiting Programme
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analyses.
RCT	Randomised Controlled Trial
UK	United Kingdom

List of tables

Chapter 2

2.1. Table 1. PRISMA flowchart.....	16
-------------------------------------	----

Chapter 4

4.0 Table 2. Overall sample categorisation of children assessed by ASQ...	40
4.1 Table 3. Non-MECSH cohort ASQ3 scores.....	42
4.2 Table 4. MECSH (All) cohort ASQ3 scores.....	44
4.3 Table 5. MECSH (completed) cohort ASQ3 scores.....	45
4.4 Table 6. MECSH (not completed) cohort ASQ3 scores.....	46
4.5 Table 7. MECSH (All) percentage of visits complete.....	47
4.5 Table 8. MECSH (completed) percentage of visits completed.....	48
4.5 Table 9. MECSH (not completed) percentage of visits completed.....	49

Chapter 5

5.0 Table 10. Summary table for ASQ3 scores	50
5.0 Table 11. Summary table of MECSH completed visits.....	51

List of figures

Chapter 3

3.2 Figure 1. The research process (Walliman, 2020)	27
3.4 Figure 2. Participant categorisation.....	30

Chapter 4

4.5 Figure 3. Visits for MECSH (completed).....	48
4.5 Figure 4. Visits for MECSH (not completed)	49

Abstract:

This study assesses the developmental outcomes of children at age 2 years who participated in an intensive home visiting programme called the Maternal Early Childhood Sustained Home visiting programme (MECSH), using the Ages and Stages Questionnaire, Third Edition (ASQ-3) tool, and compares these outcomes with those of children receiving a standard health visiting service. The research also examines the significance of the number of home visits, by the Health Visitor (HV), on these developmental outcomes. The intensive programme provided frequent, support visits by trained health professionals, focusing on enhancing parental skills and child development from birth to age 2 years.

A quantitative methodology was employed, involving 97 families engaged in MECSH and 740 families receiving a standard health visiting service who were born in 2018 and measured in 2020. Developmental assessments using the ASQ-3 questionnaire covered 5 key domains in communication, gross motor, fine motor, problem-solving, and personal-social skills. Data were analysed to compare developmental scores and to assess the impact of the number of home visits on these scores.

Key findings indicate that 82% of non-MECSH children and 75% of MECSH children were meeting developmental milestones in all 5 domains. Highlighting that MECSH children were doing less well than the Non- MECSH children. The MECSH cohort scored lower in all domains except gross motor. However, the two groups compared favourably in the communication domain with scores of 88% and 87% respectively. For those children on the MECSH programme they received only 58% of the scheduled visits with a lower percentage in those families who did not complete the programme (53%). However, the frequency of visits did not positively correlate with better developmental outcomes, in all other domains of development, suggesting that more intensive support does not necessarily lead to more substantial benefits, across all areas of development.

The study concludes that although intensive home visiting programmes, such as MECSH, have evidenced that they significantly enhance early developmental outcomes and the number of visits play a crucial role, there is a need for further research. Research where a larger sample size and increased control measures are applied and with additional cohorts of those children who met MECSH criteria but did not experience the programme. This would potentially establish a benchmark for what developmental scores would be expected for children on MECSH, compared to those eligible but did not engage with intensive support and those who have no additional need and in receipt of a standard HV service.

Chapter 1: Introduction.

The benefits to child and family outcomes attributed to health visiting in the UK are documented in a seminal paper entitled 'Why health visiting?' by Cowley et al. (2015). These include support of breastfeeding, immunisation, nutrition and parenting, as well as facilitating access to other services, working with 'seldom heard' populations, contributing to child protection and evidenced-based home visiting programmes. These outcomes are achieved through the uniqueness of, and approach to, the client-health visitor relationship, whereby a salutogenic approach (health creating) rather than a pathogenic approach (disease causing) is taken to home visiting and health needs assessment. The focus of this local study is to examine a particular Health Visitor (HV) intervention and study how this facilitates outcomes for children through structured home visiting.

The importance of the health visiting service in terms of its integration of child health and development and supporting positive parenting through home visiting, is extensively discussed and positively regarded (Asmussen & Brims, 2018; Cowley et al. 2022; WHO, 2020). The authors examine each area of service offer, when it is offered, how it is delivered and by whom, alongside its benefits, drawing from this a rationale for its ongoing existence. The current service delivery in the UK is based upon the Healthy Child Programme (HCP) (Government UK, 2023a).

Although health visiting service predates the HCP which was launched in 2009 and reviewed in 2023, it has now been delivered in line with this evidence-based programme for some fifteen years. The HCP drives a service of standard client contacts. Uniquely, this is within the family home and at the convenience of the family and so termed as an 'offer' rather than statutory. Each contact is reviewed for its frequency and effectiveness. The breadth of the service offer is dependent upon the client needs. It begins at a universal, population level of need through to targeted and specialist intervention. In effect, the universal offer

enables child, and family needs to be identified, and a progressive service response where required, in line with emerging and sometimes complex child and family needs. This concept of 'progressive universalism' is unique to HV practice where the service needs align with client needs across a continuum and into a high level of intensity, where required (Hogg, Kennedy, Gray & Hanley, 2013).

At a universal level this offer is a matter of client choice and may not be taken up by families, but it becomes a multiagency expectation where safeguarding risks arise. Cowley et al. (2013) highlight the importance of the client and HV positive relationship is core to the effective outcomes of this service, where its strengths facilitate change and build resilience.

Over recent years the HV service has been eroded. This is not solely because of reduced funding but also reflects training and development issues within a wider workforce development context. The picture is concerning as the Institute of Health Visiting (IHV) (2023) highlight in their summary of the NHS Long-Term Development Plan for England (NHS, England 2023). It proposes a plan that will not address the continuing shortfall of HV in England. The crisis for training, development and recruitment of this workforce is evident locally. This circumstance drives leaders to utilise scarce resource to its maximum effect, including focussing on how the most vulnerable clients' needs are met. One such consideration is intensive home visiting programmes (IHVP) that are evidenced to improve health and development outcomes for children and families experiencing adversity (Avellar & Supplee, 2013).

In this context a decision was made locally to introduce a HV programme in 2015 which would provide an intensive home visiting service for vulnerable families. The programme is entitled the Maternal Early Childhood Sustained Home visiting programme (MECSH) although it also known by other titles internationally (Kemp et al. 2018). The HV identifies the children and families who meet the vulnerability and disadvantage criteria required of this programme (Appendix1) and then, with client consent, embarks upon a HV service that

begins in the antenatal period until the child is two years of age. There are up to 25 prescribed visits within MECSH over that period of time.

This programme is delivered by trained nurses internationally and Health Visitors in the UK. Other home visiting programmes delivered, over a sustained duration and by paraprofessionals, are not a focus for this research. The measurement tool Ages and Stages Questionnaire (third edition) ASQ 3, at 2 years of age, is applied, as it is in standard in UK practice.

There are several outcomes of the MECSH programme identified by Early Childhood Connect (2023) that include a positive impact upon parenting confidence and the ability to cope and self-manage, despite the adversity families' experience. Kemp, Cowley and Byrne (2017) indicate that outcomes are also proposed for child development, specifically, language development. This research will focus upon one specific outcome, aligned to MECSH, regarding child development and highlights outcomes for the cohort of MECSH children compared to the non-MECSH children. The aim is to identify whether development compares favourably, equally or less well, with one another in five domains of child development (Squires & Bricker, 2009).

The developmental measurement tool ASQ3 (Bricker et al., 1999) has been applied locally during the same MECSH period, since 2015, to the general population of children age 2 years, by HVs. This tool is completed by the parent and within a visit with HVs. It is a validated, reliable tool that is used internationally and translated into multiple languages (Squires and Bricker, 2009). Comparisons of developmental outcomes taken from the ASQ3 at 2 years between MECSH children and the general population of non-MECSH children have not been drawn previously and will be the focus of this research.

Only those children who have experienced the MECSH programme will be compared with the universal 2-year-old cohort. A null hypothesis is then tested

that there is no difference in developmental outcomes at 2 years between MECSH and non-MECSH infants.

In addition, the research will explore if the number of prescribed visits, within the duration of the MECSH programme, has a significant impact upon those developmental outcomes, identified via ASQ3 scores, in its five developmental domains.

In this way the study examines whether MECSH positively impacts child development but also studies whether the level of client engagement is significant to those same child development outcomes. The provisional expectation would be that the greater the engagement then the more likely the programme outcomes are attained for the children. Parental outcomes for MECSH are not included in this research.

Two research questions are therefore posed.

- Is there a relationship between the developmental scores for children on the intensive home visiting programme called the Maternal Early Childhood Sustained Home Visiting programme (MECSH) compared to a cohort of children who have not experienced the programme at age two years?
and
- Does the dose, or number of completed visits, impact the developmental outcomes of the children on MECSH?

The first null hypothesis for this research proposes that there is no significant difference in developmental scores for children on the intensive home visiting programme compared to a cohort of children who have not experienced the programme when assessed at age two years. Also, that the dose of intervention (MECSH) does not correlate with child developmental outcomes measured by ASQ3 and therefore that there is no significant difference with the number of visits completed, compared to the developmental outcomes for the child.

Within the next chapter a critical appraisal of the literature relating to home visiting programmes by trained nurses and their associated outcomes will be presented.

Chapter 2: Literature Review

A literature search was undertaken which took a scoping approach and a broad view of the subject which incorporates the value and effectiveness of home visiting programmes, how it is best delivered and with what content alongside consideration of the common UK adopted programmes for delivery. The area of research chosen in this dissertation sits in a gap in the literature where outcomes for child development following completion of a nurse home visiting programme (NHVP) are a specific focus.

A literature search was conducted on CINAHL and MEDLINE and ebook collection (EBSCOhost) electronic databases. With an additional search on google scholar and request to the University of Western Australia for any relevant research on the MECOSH programme, as this is the academic centre for this international programme. This yielded 9 documents but added only 2 additional papers to the original search. MECOSH was of specific interest as this is the chosen programme in Jersey. The evidence base for ASQ3 was also added as none of the literature had identified it as a tool of measurement for children.

2.1 Boolean operators and truncations

Key words were searched and Boolean operators applied including child development, AND a MeSH term; 'child outcomes or effects or benefits or child problems' AND intensive home visiting OR sustained home visiting OR home visiting programs AND the truncations for Nurs*, health visit* to elicit the appropriate practitioner in focus of the research question. That is any nurse or health visitor role. This yielded 26,074 articles to which 'limiters' were applied which included only research from 2015 and also excluded those not in the English language as there was no means of translation. This then yielded 4,149 articles. Full text available were 2,131 articles and their abstracts were reviewed. 60 articles were deemed relevant plus 2 further MECOSH articles. 6 articles were repeated leaving 56 to read in full text.

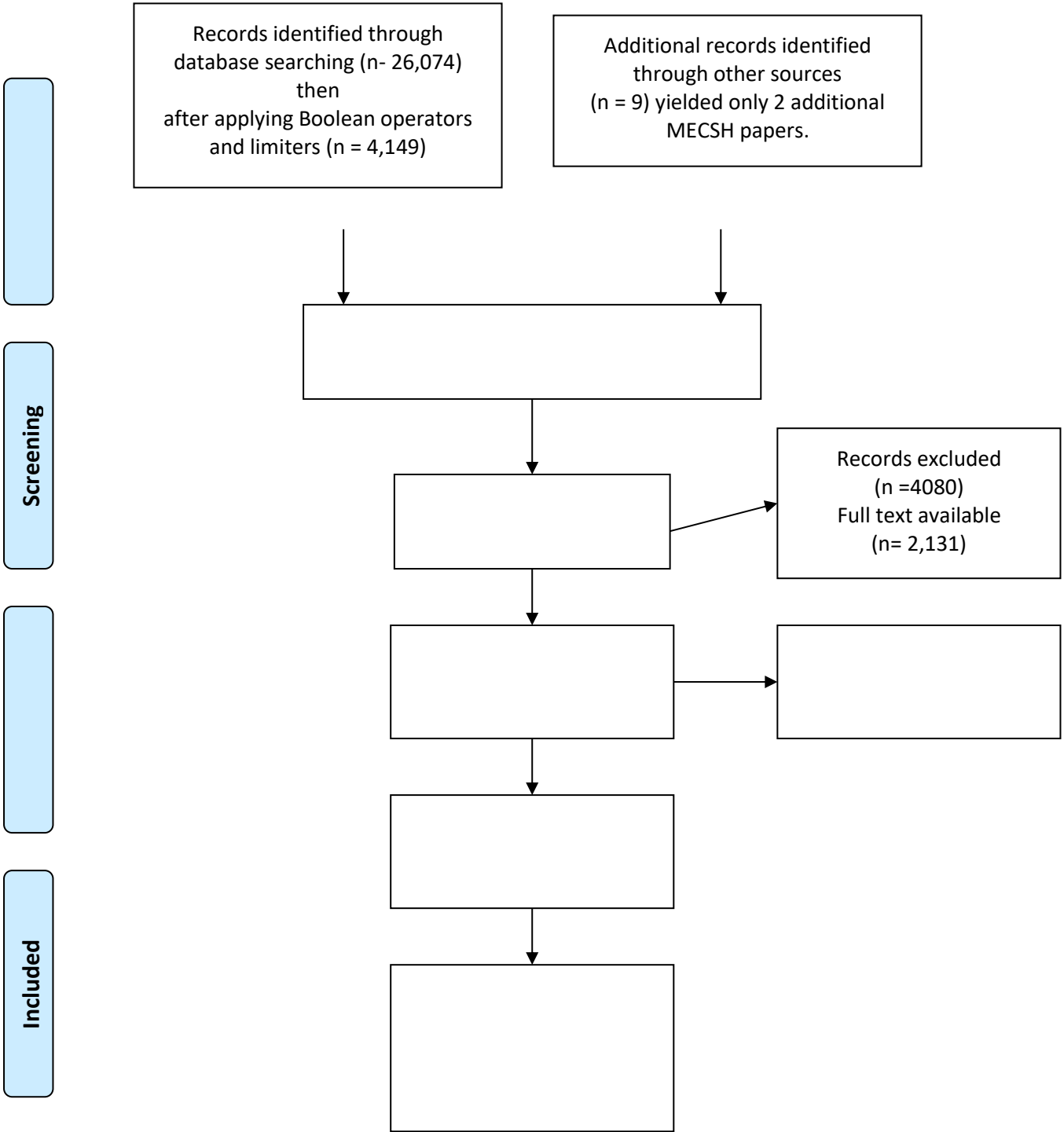
28 were not relevant for the purposes of the research question as they focussed upon maternal or parental outcomes, adult rather than child focussed outcomes, post-operative children or children with medical conditions; proposed research with no results, client experience, and economic outcomes, not led by trained nurses or about home visiting rather than a programme of delivery. This was necessary as the impact of frequency of practitioner contact was key to the understanding required of the research question.

Of the relevant full text articles reviewed the quantitative paradigm was predominant and numbered 18. The greater majority of these utilised secondary data for analysis whilst 2 were of the qualitative paradigm, 3 utilised mixed methods and 2 more recent studies undertook systematic reviews of home visiting programmes.

The greater representation of the quantitative approach in the literature and the use of secondary data for the interpretation of findings with relevance to the subject area chosen for this research, was affirming. This was because it reinforced the decision making around taking this same approach to answer my research question posed.

The framework, Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA, 2024) was applied to the literature search. This framework provides a standard for the minimum set of criteria required for reporting of systematic reviews and meta- analyses (Table 1).

Table 1. PRISMA flowchart.



Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). *Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement*. PLoS Med 6(6): e1000097. doi:10.1371/journal.pmed100009

2.2 Critical appraisal

The following literature review elicited evidence for review that was categorised in order to build a narrative regarding the value of home visiting programmes with a focus upon the UK context, consider which of them is effective, their evidence-based outcomes and methods of measurement, with the aim of exploring why a local choice of programme was MECSH, in 2015.

2.3 The value of home visiting programmes

There is a broad agreement in the literature that home visiting programmes can be valued and successful. This is specifically identified where there is maternal social disadvantage such as socio-economic issues and where children are expected to have poorer health and developmental outcomes (Kemp et al., (2011). Goldfield, Price and Kemp (2018) argue that where there is socioeconomic and psychosocial adversity that programmes targeted at supporting such families can be successful in closing the gap of inequity within communities, especially where those of greatest need are the least able to access health and social support services. They argue that this impact is more robust and long-term when programmes are also embedded within the other universal services.

Visiting at home is widely adopted as a means of service delivery to facilitate intervention for vulnerabilities and disadvantage in children at risk of maltreatment and poor development (Roggman & Cardia, 2016). In the UK such home visiting is offered universally through the Healthy Child Programme (HCP) (HM Government, 2023a) and is a means of identifying vulnerability and risks which forge a gateway to targeted service Including intensive, sustained home visiting programmes such as the Family Nurse Partnership (FNP) (Sanders et al. ,2019) and MECSH (Kemp et al.,2022). These programmes predominate in the UK and are delivered and led by HVs.

The delivery of Nurse Home Visiting Programmes (NHVP) by trained nurses is supported in the literature (Dodge, 2015). Programmes delivered by

paraprofessionals are outside of the scope of this literature search as the focus in this study is around HV delivery.

2.4 Which programmes are effective?

The literature highlighted that the range of programmes do differ in terms of their goals, frequency of visiting and their various inclusion criteria. This leads to a lack of clarity in what makes programmes effective and what leads to successful outcomes. Mothers perceive it includes the importance of building trusting, positive relationships with the nurse, how much time is spent with them, the availability of the nurse and the levels of nurse responsiveness (Zapart, Knight & Kemp, 2016). As a consequence, their confidence in parenting skills and abilities increased, improved stimulation and interaction with their children and led to behaviours which supported the child's development. The limitation of this study is that it looked at the mothers' perception only and not directly upon the impact on the child. Although there was a suggestion that the benefits could be longer term for subsequent children born into the same family.

Whereas In their literature search of three home visiting programmes Goldfield, Price and Kemp (2018) argue that the requirements for success are skilled, specifically trained and qualified nurses, whose visits begin in the antenatal period and continue over a prolonged time period and to those client experiencing adversity. The literature highlighted that, in general, the NHVP programmes began in pregnancy and until the child was aged two years. These early years are widely viewed as critical to long term positive outcomes and enabling children the best start in life (HM Government, 2021).

2.5 Outcome measurement

No one study used ASQ 3 as a developmental measurement and in general tended to look at more specific areas of health and development outcomes such as cognitive development, birthweight, breastfeeding, immunisations, sleep (Robling et al.,2016) and not the broader five developmental domains measured in ASQ3. It is not clear why this is the case as it is the UK wide tool

of measurement within the HCP. Sharma and Cockerill (2007) state that development is commonly grouped into physical (fine and gross motor), social –emotional, behavioural (wellbeing, attention) and communication (speech and language development and interaction skills). They develop over time and are influenced by biological, social and environmental factors, commonly termed as milestones. The ASQ 3 measures these milestones and offers an opportunity to intervene with strategies to promote health and development where delay is identified. Its application to a child cohort who have completed MECOSH is significant, as it can indicate the success of the programme in terms of outcomes for children. ASQ3 is also applied as part of a universal service at age 2 years. This offers the opportunity to compare these two cohorts of MECOSH and non- MECOSH children with one another locally with the intention of gaining insight into programme impact.

2.6 Why some programmes are effective?

The literature also revealed that the number, or dose of visits, the content of delivery, focus of intervention and what outcomes are measured utilising various tools, all differ. This makes comparisons of programmes challenging and establishing the most effective programme of delivery, problematic. Despite outcomes not being well reported a systematic review of seven programmes by Beatson, Molloy, Perini, Harrop, and Goldfeld, (2021) does attempt to identify some key similarities such as having seven core components of content, duration starting in the antenatal period until the child is aged two years, at least nineteen scheduled visits, delivered by qualified nurses with similar caseload size and in receipt of regular supervision. It does fall short of identifying which programmes are the most effective for specific populations and calls for the need to evaluate the evidence base further. This should then inform policy development and investment.

The commencement point and duration of delivery commonly began antenatally and covers the early years, as with the Family Nurse Partnership (FNP) in the UK and which is called Nurse Family Partnership (NFP) in the USA literature and MECOSH programmes. Beasley, Ridings, Smith, Shields, Beasley

and Bard (2018) argue that parenting programmes which begin in the antenatal period and early postnatally hold potential for positive impact on child and maternal outcomes. The attrition rates are also significant with the assumption being that the more visits engaged with by clients then the better the outcomes. MECSH suggests fidelity of programme delivery is met if more than 75% of families received more than 75% of visits, one of which should be an antenatal contact (Goldfeld, Price & Kemp, 2018).

Hernandez et al., 2019) highlight that 35 % of USA NFP clients complete the two-and-a-half-year programme with clients' chaotic lives being cited as being the primary cause for the significant drop out number. In addition clients discontinued at points in the programme where milestones were reached or when they felt they had gained enough knowledge and skills which could be applied to their parenting. This poses the question, should program evaluation assess on child/parent achievement of milestones rather than longevity or duration of the programme and the drive to meet all program visits? Especially where the number of visits differ across programmes, as NFP in the USA has 64 visits whereas MECSH has up to 25 home visits in the same duration of programme delivery. No rationale for the differences in number of visits was highlighted in the literature.

Hernandez et al. (2019) also looked at how realistic the number of visits were for clients from the nurse perspective. They suggested a lesser number of; and duration of visiting and to add in greater flexibility so as to accommodate a range of client needs. The success of the programme could then be established on what clients could accommodate, was appropriate to them and celebrate the success identified by the parents themselves.

2.7 Outcomes of intensive home visiting programmes.

In terms of successful outcomes for children then three Randomised Controlled Trials (RCT) in USA on NFP demonstrated maternal and economic outcomes and included improved child cognitive performance, reduced child injuries, decreased abuse and neglect (Eckonrode et al (2010); Olds, Sadler & Kitzman,

2007) and increased school readiness and reduced mental health issues (Heckman, Holland, Makino, Pinto & Rosales- Rueda, 2017). In 2017, Goldfield et al. conducted an RCT on 'Right @home', a title used instead of MECSH in one jurisdiction in Australia, where they demonstrated greater positive outcomes than for 'usual care' by promoting a supportive home learning environment for the child, as well as improved parenting. In 2018, Kemp et al. conducted a quasi-experimental study comparing 3 cohorts on a sustained nurse home visiting programme in Australia which demonstrated favourable outcomes once again. In a German home visiting programme called "Pro Kind", targeted at disadvantaged first time mothers from pregnancy until the child's second birthday, identified children with higher developmental scores compared to the control group within standard community service provision. This is a result that might be anticipated within the findings of this research study but there is a dearth of similar studies to reinforce this anticipation.

No research was identified in this review where intensive home visiting measured child developmental outcomes with an ASQ3 tool as a means of demonstrating these scores as significant to any NHVP intervention. Therefore there is no comparator to the findings in this study.

Further, there is no research to suggest that the duration which a child is engaged within a NHVP, or the dose of visits administered, has a significant impact upon developmental outcomes at age 2 years. Specifically, in the 5 broad child developmental domains which include communication, gross motor, fine motor, problem solving, and personal; -social development measured in the ASQ3. This study therefore holds the potential of filling a gap in current research and add new knowledge to the subject area.

Even where short term outcomes are identified then Sawyer, Kaim, Mittinity, Jeffs, Lynch and Sawyer (2019) study brings into question if programme outcomes can be sustained over time even where there may have been initial positive results. In their study of a 2-year post-natal NHVP, delivered to socially disadvantage families which measured child development at 5 years of age, it

was concluded that there was no difference between the intervention and comparison group at age 5.

2.8 Which programme is the most suitable local fit?

MECSH and FNP are prevalent in the UK and MECSH is implemented locally. MECSH was chosen because the criteria for FNP is first time, teenage mothers and this is not a prevalent, local indicator of need. MECSH inclusion criteria (Appendix 1) is broader and applicable to a wider client group in need of health, development and parenting support.

FNP in the UK is subject to RCT by Robling et al. (2016). It differs from MECSH in its inclusion criteria and its number of visits which are 64 versus up to 25 for MECSH. FNP measures smoking in pregnancy, birthweight and emergency department attendances and reducing the number of subsequent pregnancy which are not measured in MECSH. FNP showed no short-term benefits in its primary outcomes in these areas of focus. Whereas a mixed method study by Kemp, Elcombe, Sumpton, Hook and Byrne (2022) of MECSH in England identified multiple perceived parent and child impacts, such as increased parenting confidence and support for child development which aligned with the positive outcomes for MECSH in Australian trials. These included benefits to children and their development, to mothers and longer breastfeeding duration, creating a stimulating home environment and less vulnerable children at school entry.

2.9 Conclusion of critical appraisal of the literature review.

The findings in review of the literature highlight the value of home visiting which is enhanced where those visits are offered intensively. The relevance and effectiveness of this offer, by trained and skilled nurses, is also explored. The differences, in the main, surrounded the content of the programme, its duration and the number of visits to the families they targeted, were broad and lacked a consistency. This made comparisons difficult where one programme could be

established as dominant or most effective. MECSH appeared in the literature and is adopted locally. As a consequence, determining if MECSH was the best programme for the local community and elicited positive outcomes became a focus. Specifically, in terms of child development outcomes. There was no one identified method of determining the value or outcomes and the ASQ 3 is presented a means of achieving this. These findings gave rise to the area of study and is presented in the aims that follows within the research design and methodology chapter.

Chapter 3: Research design and methodology.

From the literature review, the following aim and objectives emerged for this research study.

3.1 Aims of the study

The research question posed in this study is twofold. The first is aimed at highlighting if there a relationship between the developmental scores for children on the intensive home visiting programme called MECOSH, compared to a cohort of children who have not experienced the programme at age two years. Secondly, does the dose also referred to as the number of completed visits, impact the developmental outcomes of the children on MECOSH?

The worldview or beliefs held by a researcher can influence the practice of research. These views are sometimes referred to as paradigms, ontologies and the study of knowledge and epistemologies or the world view of how that knowledge is gained (De Vaus 2001; Creswell & Creswell, 2017). May and Williams (2002 p 69) state that 'All philosophical positions and their attendant methodologies, explicitly or implicitly, hold a view about social reality. This view, in turn, will determine what can be regarded as legitimate knowledge. Thus the ontological shapes the epistemological.'

Walliman (2020) argues that if the researcher wants to establish correlations between 'social facts' then there would be a bias towards collecting official data. However, if there is a desire to study 'social meanings' then interviews and observations are appropriate. Whereas a more scientific method is required where technical performance is under study. This does not mean that one approach is better than another, rather that the characteristics of the research, determine the approach. It therefore follows that as this study incorporates the analysis of data that it takes a scientific approach which is aligned to the positivist approach to research as opposed to a constructivist approach.

Walliman (2020) argues that Positivism has a philosophical foundation that the researcher can establish truths about reality that can be universalised, where the researcher is neutral and detached and takes a scientific method to reveal fundamental laws. In this instance, the methodology, quantitative analysis, is utilised to validate, reject or refine the hypothesis. This commonly incorporates scientific experiments or quasi experimental applications. This study utilises secondary data findings and so is quasi-experimental in approach.

Constructivism takes the view that everyone sees reality from a different perspective and so it is impossible to establish truths that are universal, that these differences need to be highlighted, where the researcher plays a part in the research process and ultimately uncovers meanings from the research subject. This qualitative methodology mostly includes questions, interview and observation by the researcher, in order to reveal meaning, relationships and effects of their interactions.

Constructivism commonly aligns with HV practice and its research which is based upon a social model of health and advocates working in partnership with clients, is immersed in the client's lived experiences and grounded in relational practice. This paradigm is a foundation to qualitative research. Meaning and theory is generated through understanding the social context of humanity and life experience. Cody (1999) argues that these lived experiences and client perspectives emerge through data collection, often in the form of interviews; and themes or patterns emerge as a result of the process. These are then collated to represent significant findings, often representative of a broader population. However, a positivist paradigm was apposite to this research proposal here which sits more generally within a quantitative methodology. This position is reinforced by the research identified within the literature review in Chapter 2 where quantitative approaches dominates the studies in the subject area. This paradigm is aligned with cause-and-effect study and reduces variables to a minimum with the aim of containing the area of scrutiny. The research questions within this proposal takes this cause-and-effect stance. Testing laws and theories of the world through observation and measurement to establish an outcome (Curtis & Drennan, 2013).

The question posed by my research is best answered by a quasi-experimental (QE) research approach rather than the experimental design. This is because it uses secondary data where data already exists for interpretation. Smith (2008) argues that it is already compiled as numerical data, in this case child development outcomes, and may have new statistical approaches applied to it. Gray (2021) highlights that primary data is often considered that which the researcher has gathered themselves. In addition, this study is a social intervention, and the sampling is non-randomised rather than randomised, as Keppel (1991) argues would be the case in experimental research. This is considered a drawback of QE and a challenge to its internal validity which refers to the cause and effect of research. A true experimental design would reflect the impact of all variables and therefore influence the broad generalisation of the findings. In non-randomisation then it is not possible to control all the variables that may impact the findings and how transferable the learning becomes.

A mixed methods approach could potentially be considered in conducting this research. This approach is rapidly being recognised as the third major research paradigm (Johnson, Onwuegbuzie, & Turner, 2007) and is a mixture of quantitative and qualitative methodology. One suggestion might be to conduct an explanatory, sequential, mixed method approach where the initial findings of the quantitative research is enhanced by insight gained from a qualitative methodology. Hanson, Clark, Petska and Creswell (2005) argue that combining the two approaches gives a richer understanding and context to what is being researched. For example, the secondary data analysis of child developmental outcomes may reveal a significant difference in one domain of the ASQ 3 results for the MECSH cohort and might be explained in further depth through constructivist research highlighting children's lived experiences. However, this would potentially prolong the research period beyond what is an expected timeframe to complete the research process. It is recognised that qualitative research tends to have smaller samples of study than is suggested by my research. This is a relatively large cohort to study in this way and therefore out

with the scope of this proposal. It is worth considering as a follow up study to complement this initial research.

Taking a systematic approach to the area of study is supported by a research process.

3.2 Research process.

The research process as proposed by Walliman (2020) is presented here.

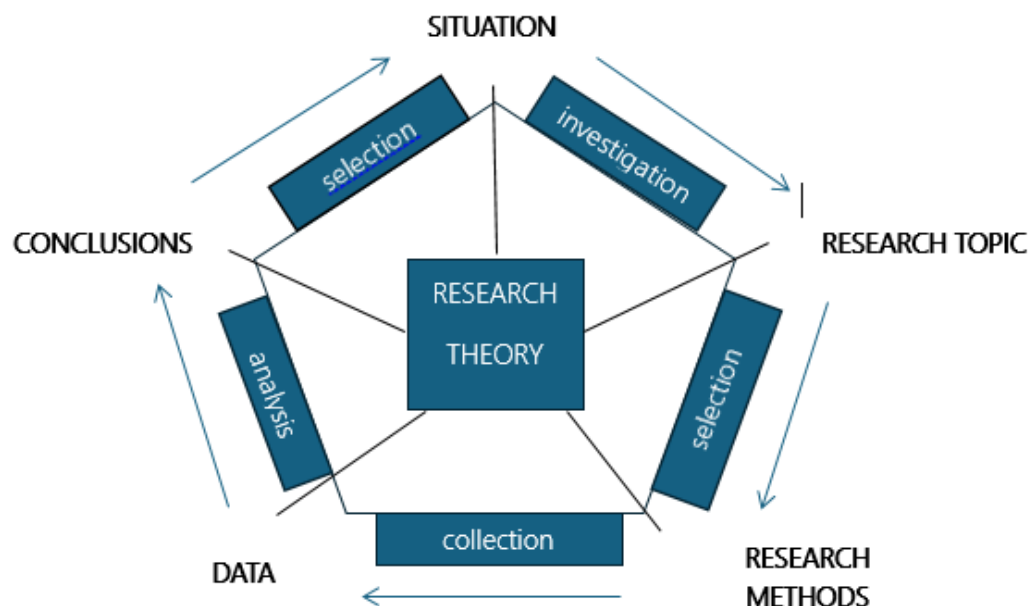


Figure 1

Walliman (2020) proposes a research process that is adopted within this study in order to evidence the steps taken within this specific context. At this point 'the situation' has been established as an area for investigation. This is the child development outcomes at 2 years of age where comparison are made for children who have had a two-year intervention of MEC SH and those who have not. Also, to explore if the number of completed visits are significant to the child outcomes. This has led to establishing the 'research topic' aimed at studying the effectiveness on child development for the intervention (MEC SH), or not. The data collection already exists in numerical format, and this drives a quantitative methodological approach as the 'research method'.

The following sections further elaborate on the research process and will outline elements of how 'data' was collected and its analysis. Finally leading to the drawing of conclusions regarding the findings, including making further recommendations. This commences with presentation of the sample for this study.

3.3 Sample

De Vaus (2001) argues that sample size is dependent upon cost, timeframes, how accessible participants are, how the data is to be analysed and what level of accuracy is sought. In general, the larger the sample the better but there is a case where oversized samples can be unhelpful also. In this study, the sample size is measured using an online calculator 'Qualtrics' to determine the minimum number of necessary samples to meet the desired statistical constraints. This means that a standard confidence level of 95% and 5% margin of error is applied to the population size in order to elicit the ideal sample size. The most common confidence levels are identified as 90%, 95% and 99% (Newbold, Carlson & Thorne, 2013) and indicate the percentage of times that a repeated test or survey will produce a true result. The preferred scientific percentage is 95%. This study had a population size of 740 children measured at age 2 years with the ASQ 3, producing an ideal sample size of 253 children. In this case the MECSH cohort numbered 97 children. In order that this be statistically significant then the margin of error is raised to 9.09% and so a less representative sample of the chosen population than the ideal 253 children. Giving nearer to a 90 % confidence level of findings. The 90% confidence level is often observed in preliminary studies, such as this one, where findings can be tested more rigorously in subsequent research (Cleff, 2014) and supports the recommendation made for this in the final chapter. However, these findings will essentially give a local context and insight into developmental outcomes for MECSH and Non-MECSH children age 2 years and a helpful benchmark

For the requirements of this study then the sample is purposive and simple, not randomized within a quasi-experimental methodology. MECSH has inclusion criteria (appendix 1) and engages clients based on these needs. This means

that not all clients have equal access to it, therefore, clients cannot be randomised to cohorts equally, as their characteristics differ in at least these inclusion criteria. This explicit difference is a desired scenario of this study, in order to answer the research question.

3.1.1 Sample participants and setting.

In 2020 there were 942 children who were offered an ASQ 3 to measure their development as part of a standard service delivery on the national HCP (Government UK, 2023) by a Health Visitor. These were the total number of children aged 2 years in Jersey in 2020. Of these 942 children 740 children had a completed ASQ 3 which indicated that 79% of the whole population of 2-year-olds in 2020 had a completed developmental review. The remainder of children who were offered but parents declined, or did not attend an appointment, were 202 or 21% of children. These do not appear in data findings as there were no developmental outcomes recorded and equally were not on the MECSH programme.

MECSH is a home-based intervention and so these were completed in the home setting with parents, child and HV present. The criteria for the programme have to be met in order for it to be offered by the HV and examples of MECSH criteria are included in appendix 1.

Participants were categorised into 4 sections for presentation of data findings and to facilitate comparisons.

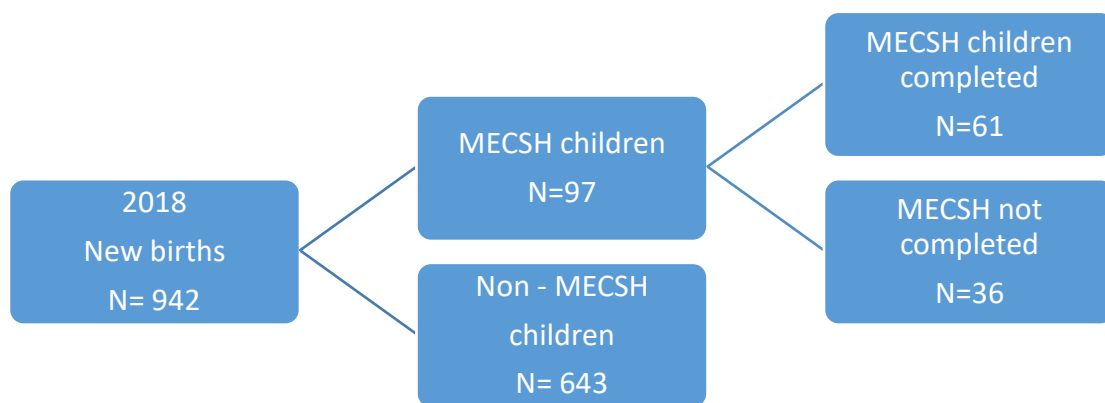


Figure 2. Categories of participants.

3.4 Programme requirements and staff profile

The programme is delivered by Specialist Public Health Nurse (HV) with competencies included in child development and working with families to prevent ill health and promote health (Appendix 2). The programme is licensed for nurse practitioners to deliver from the University of New South Wales, Australia. The programme was adopted and commissioned locally and as a consequence, all of the island Health Visiting team are trained in the MECSH programme and its delivery. HV lead on programme delivery with utilisation of a skill mix of Mental Health Practitioner (MHP) and community nursery nurses to facilitate MECSH groups for families.

The schedule of MECSH visits are presented in Appendix 3 and averages up to 25 visits over 2 years delivery is up 25 visits which begin In the antenatal period. This point of development coincides with the offer of the Healthy Child Programme 2-year developmental contact, measured via the ASQ 3.

This standard visiting schedule within the HCP (HM Government, 2023a) is presented in Appendix 4.

3.5 Data collection method

The Instrument applied for the purposes of measurement is ASQ 3 which is a reliable, validated tool and internationally applied developmental questionnaire (Bricker et al., 1999). It is administered by the health visiting team, in partnership with parents, at population level, universally and via observation and completion of the questionnaire at the client contact. Threshold scores are utilised to determine if a child's development is on track, needs monitoring or further assessment. These cut off scores are given by age and each of 5 developmental domains (Squires, Bricker & Twombly, 2009). Local scores from the ASQ3 were reported in the data for interpretation.

The MECSH cohort data will be extracted from the general population in order to compare data in the 5 child developmental domains. These include communication, gross motor skills, fine-motor skills, problem-solving and personal-social developmental domains.

The organisational EMIS IT System collates numerical data in the form of ASQ3 scores on each child in 5 domains of child development at the level of the individual child. There will be an overall development score for each child as well as a score for each of the 5 domains. Each score determines whether the child is meeting developmental milestones, or not. There is also an overall, annual average of achievement for all children of this age which identifies those children who are at, or above their expected developmental milestones.

ASQ 3 findings are recorded by a HV using an EMIS data template. For this data set, ASQ3 results recorded in 2020 were exported from EMIS along with a unique identifier (EMIS ID). This unique identifier was matched against a separate MECSH dataset in order to identify children who had been both accepted on to the MECSH programme. This allowed us to isolate two distinct populations; Children with ASQ3 results who were not part of the MECSH programme and Children with ASQ3 results who were part of the MECSH programme. The ASQ results regarding children who were typically developing

within the ASQ domains could then be compared between these distinct groups.

Only children who have experienced the MECSH programme will be compared to the rest of the population who have completed the ASQ 3. The remainder have opted out of the assessment by choice or not attended an appointment for its completion.

In addition, the dose of visits, as a further dependent variable, will be applied to the MECSH cohort and described against the independent variable of developmental outcomes.

There will be a plan to provide a discursive analysis, of the data for all the dependent (MECSH) and independent variables (developmental outcomes). This type of analysis is an attempt to apply order within a quantitative approach such as counting the frequency and differences between variables. Jaspal (2020) argues that this approach is effective in terms of qualitative and quantitative methodologies. The categorization and coding of outcomes is presented here in order to achieve a level of objectivity, reliability and potential for generalisation towards the development of new learning. Whilst the sample size of this study limits its generalisability, it does provide a useful local benchmark as well as a foundation for further research. Visual representation will also be provided of the numerical data outcomes.

The aim of the findings is to compare two groups of children (MECSH and Non-MECSH), of the same age, in 5 developmental domains. The MECSH cohort is divided into those who completed the entire programme and those who did not. To identify if the ASQ3 scores are similar or significantly differ and interpret and present findings. Secondly, to identify if levels of engagement on MECSH has had an impact upon developmental outcomes at two-year milestone point.

Data will be presented as 'nominal' rather than 'ordinal' for the primary research question and rank order to developmental scores. These are reported by developmental domain, per quarter and an overall annual summary. To some

degree the data is also rank ordered, more or less than one another, when comparisons are made across the categories. This proposes an ordinal measure of the data also.

When analysing data, the choice between the t-test and the Mann-Whitney U test depends on the distribution of the data. If the data presents as a normal distribution, then the t- test will be applied for the purposes of analysis. This means the data would follow a bell-shaped curve where most of the observations, such as ASQ 3 scores, cluster around the mean or average and the probabilities for values further away from the mean taper off equally in both directions. Not normal distribution will see the Mann Whitney U test applied to the data where it is not assumed a specific distribution for the data. Instead, it relies on the ranks of the data rather than the actual values. This makes it suitable for analysing data that is not normally distributed, such as skewed distributions or data with outliers (Field, 2013).

There are a number of assumptions regarding child developmental outcomes prior to completing this research. One such assumption is that as one goal of MECSH is to benefit child development then it would be reasonable to expect to see that children on MECSH have, at; or above; normal developmental milestones scores, compared to the rest of the ASQ 3 population. Specifically, within the communication domain because one of the main foci of intervention is supporting parents in helping their child to learn to communicate.

Equally, it could be argued that it is a positive outcome if this cohort are at the same score as the rest of the population because those families on MECSH have met criteria of additional health, social, psychological, economic or mental health needs. These children are therefore expected to have poorer outcomes than their counterparts (Kemp et al., 2011). An awareness of such assumptions is vital so as to not impact or bias interpretations and findings.

It is important to identify any bias when providing a narrative to the data and caution taken to not only report positive results, but it is also, in general, less of a risk with numerical data than with qualitative, narrative findings. In terms of

this study then a parent narrative may elicit positive outcomes for building confident parenting skills and effective parent-health visitor relationships but not accurately identify the child's outcomes in terms of their development. Whereas a measurable scoring tool such as ASQ 3 may suggest a greater objectivity in child development outcome results and findings more robust, as a consequence.

3.6 Ethical considerations

Bio ethics has evolved over the years, specifically since the 1970's and covers issues regarding advances in healthcare, medicine and science. This period is underpinned by key documents such as The Declaration of Helsinki (World Medical Association, 1964) superseded by The Belmont Report (1979) (US Department of Health and Human Services. (n.d.) which gives guidance on the protection of human subjects in research. At their core, they hold the principles to respect within research practice. Therefore the ethical considerations made for this research are evidenced in the following sections and in line with the ethical principles.

3.6.1 Ethical principles.

There are four main paradigms to bio ethics including virtue, teleological (focus on the rights of participants), deontological (a moral obligation that principles should never be compromised)) and principlism. Beauchamp and Childress (2001) published a seminal work which offered a 'systematic analysis of the moral principles that should apply to biomedicine' which aligned with principlism. These principles are respect for autonomy of participants as well as their right to protection, non-maleficence, beneficence (do no harm whilst maximising benefits), and justice (equality and fairness). In this instance this regards health service provision. They argued that no one principle took priority and that where conflict exists between them that efforts should be made to balance them. These principles are explored in terms of the research presented here.

There are additional principles that are focussed upon the researcher and participant relationship such as veracity, privacy, confidentiality and fidelity gained by ensuring informed consent, honesty and transparency regarding the research process and the findings (Bowen, 2009). These acknowledge the accountability and responsibility of the researcher.

The process for this research met Ethics Committee standards for the University of Chester and local Ethic board (HCS) in order to ensure the integrity of this research and that it adheres to their associated code of conduct (Appendices 5 & 6).

3.6.2 Respect and Consent (non-maleficence/beneficence).

Participants in a research study are usually required to give their informed consent before participating in the study and preferably informed consent. This would include the area of study, what the requirements are and what the benefits might be. The consent would then be recorded. Secondary data was utilised in this study and so consent was not required of the participants. However, Gladstone, Volpe and Boydell (2007) point out that issues of informed consent and confidentiality are not eliminated in any case. Maintaining confidentiality in order to protect participant's privacy was essential to this consideration and is discussed further in the next section of this dissertation. Essentially, the greater the vulnerability of those being studied, such as MECSH children, then the greater the obligation of the researcher to protect them and cause no harm. A measure taken towards this was to seek permission from the organisation holding the data, giving a rationale for its use.

Secondary data was requested of the organisation via the gatekeeper for the data who is often termed the Caldicott Guardian (HM Government, 2023b). They are a designated role within Data Protection Policy and aligns with the Law (Data Protection Law 2018). A request for their consent was made via a letter (Appendix 7) to the gatekeeper of the data and made the purpose of the request and the research, transparent. Honesty and transparency regarding the process and maintaining the privacy and safety of clients is paramount.

Beneficence was intended in this study as it seeks to search for benefits of an intervention with the aim of improving outcomes for children.

3.6.3 Confidentiality.

Confidentiality and maintaining anonymity of client participants are essential components of ethical research (Wiles, Crow, Heath, & Charles, 2008). Therefore the children are not named or identifiable within this study data collection and are assigned numbers (Unique EMIS numbers) instead, to assure this. In addition, the geographical location is not named.

Confidentiality does pose particular challenges within a small jurisdiction, such as an island, but also is able to potentially highlight issues with a sharper focus because of this same circumstance. There are fewer outside influences and variables can be more contained and controlled. This is specifically true of the health and community services that are delivered locally. Maintaining anonymity of participants and including in how data is managed and presented is vital to achieving this end. For instance, it may be a consideration as to whether these findings are published or not. That is not to say that any new learning or developments from this work do not inform practice moving forwards.

To emphasise this point, children and families on the MECSH programme meet vulnerability criteria (appendix 1) in terms of physical, social, mental, psychological and economic need. Therefore, careful consideration should be given as to ethical issues related to MECSH clients being identifiable or how unfavourable results may impact the wellbeing of clients, how this may impact levels of engagement with MECSH or its acceptability and the ongoing funding of the programme locally. How findings may be shared and disseminated will need a balanced, meaningful and well critiqued approach, as a consequence.

3.6.3 Data

Doucet and Mauthner (2002) argue that data analysis is an ethical issue as it suggests a power differential between the researcher and the participant and

has potential to be harmful, as a consequence. Consideration of not only how these findings are disseminated are essential but also that there is a suitable method and time planned for disposal of data. The data for this research will be disposed of at the end of this academic pathway. The collection, storage and analysis stages has not compromised the participant's right to privacy by ensuring confidentiality throughout.

An honest approach was taken to data analysis and whereas it is recognised that to be totally free from bias is challenging that no distortion of data or ignoring of negative findings was employed in the approach to this research.

The data accessed will remain on the organisational system as a clinical record in line with record keeping policy for health care institutions. This is currently until a child is 25 years of age or 8 years following medical or surgical intervention. This ensures that the accuracy of data findings can be reviewed if required or brought into question at a future date. Whilst held securely on the IT system then manipulation of the raw data is prevented. The data that has been exported to EXCEL in order to produce explicit reports for this study, will be disposed of on completion of this pathway period.

3.6.3 Justice

This concerns the distribution of benefits and burdens within the population. Botes (2000) argues that it is the fair and equitable approach required based on universal principles but there is also a need to balance these needs with those where care is individualised and contextual. The integration of ethic of justice and care are needed to be integrated.

To emphasise this point, all children in receipt of ASQ 3 in 2020 were considered within the data collection and not excluded on additional criteria. The aim of which was to identify the effectiveness of an intensive service offer (MECSH) by measuring child development outcomes. If this is favourable, then the research findings would be aimed at informing service improvements in

order to benefit children. Honesty and transparency in approach is fundamental to effective outcomes. Ameliorating against researcher bias is key to this aim.

As the researcher works within the organisation where the data is held then careful consideration was be given to 'insider' research bias and the necessary boundaries that need to be adhered to so that the trustworthiness and credibility of the research findings are not risked (Asselin, 2003). There are some advantages to being an 'insider' as there is familiarity with the processes and systems and the HV practice which underpins the data. The facilitation of the research was benefitted by professional experience, qualifications and professional relationships which facilitated the research being conducted, however, the risks must also be ameliorated by the design of the study including a clear, documented rationale and decision-making process that is evident within the design and findings. Additionally, reflexivity is a crucial consideration in all types of research. Reflexivity refers to the process of the researcher reflecting on their own role and influence on the research process and its outcomes. The structured and objective nature of quantitative research helps reduce the risks associated with it. By employing standardized methods, objective measures, statistical analysis, predefined hypotheses then quantitative research minimizes the influence of the researcher's personal biases and interactions on the study's outcomes (Cresswell & Cresswell, 2017).

Clear professional boundaries will be drawn as my professional role cannot be utilised to gain access to data without the necessary permissions. It was advisable to look at the area of study with 'fresh eyes' and put assumptions and prior experience to one side and exercise an effective self-awareness and reflective approach to support this robustly. Remaining objective and distant from the data being analysed alongside continuous reflection throughout the process. During the research, there was no direct contact with participants which reduced the risks of expectations and bias from that perspective. However, the HV staff who are involved and will know about the study may look for favourable outcomes, in positive recognition of their practice. Managing these expectations will be key to affecting morale or ongoing relationships within the workplace. Avoidance of confusion of roles is important also. The role

as researcher and as a professional needed to be boundaried and transparent. Personal beliefs, values and perspective views kept to the relative roles and responsibilities thus protecting the study as an academic exercise, with findings that can inform practice and add knowledge to the field.

In support of following on from the research proposal then a plan of work and time schedule was required and the research process mapped out in support of completion. No ethical, unpredictable challenges occurred in undertaking this research and data collection and presentation was not complex. No budget was required as the research was not funded, was completed by the researcher and participants required no financial inducements. This gave amelioration to risks regarding bias and impact upon outcomes.

It is anticipated that there will be interest regarding this research both within and outside of the organisation. The opportunity to inform practice, influence local Commissioning processes and the sustainability of the service provision, within a multiagency context must not be lost where benefits for service users are identified. Curtis, Fry, Shaban, and Considine (2017) argue that translating research findings into practice is 'essential to safe, transparent, effective and efficient healthcare provision'. Arguably, the client experience can only be enhanced by staff who practice with such insight and deliver quality care. Equally, where findings are positive it would be proposed that staff are motivated and positively regard the value in the service delivery.

The aim of quantitative research is to objectively measure statistical, reliable data, test hypotheses, control variables in order to elicit generalisable findings. As in this study, it is often used to evaluate the effectiveness of interventions (Bryman, 2016) such as presented in the following data finding

Chapter 4: Data Findings.

Walliman (2020 p.219) suggests that are five stages in content analysis regarding study of secondary research.

- State the research problem. In this study this is identified within the null hypothesis.
- Employ sampling methods in order to produce representative findings. This is discussed in the previous sampling section where 4 categories of children are presented for comparison.
- Retrieve the coded fragments. This is provided by a coded ASQ3 template completed by a Health Visitor and recorded on EMIS IT system.
- Do quality checks on interpretation such as classification and combination of data.
- Analyse the data. This is presented within this section of the dissertation.

The data is presented sequentially beginning with the overall population sample from which the Non- MECSH and MECSH samples derive. The common factor is that all have an ASQ3 outcome recorded for data outcomes in 2020. This score facilitates the comparisons and analysis necessary to this study. Appendix 8 provides an ASQ3 questionnaire exemplar.

Table 2. Overall sample, category, number and percentage assessed by ASQ3.

Number of births in 2018	942
Number of children ASQ3 assessed at 2 years in 2020	740
% of children assessed	79%

The remaining 21% of children had parents who declined, or did not attend, for completion of the HCP 2-year developmental assessment (ASQ 3) which is an offer and not a statutory contact by the HV.

The ASQ3 outcomes was the primary data for comparison and was matched to MECSH data for MECSH programme completion in 2020 where all children are aged 2 years and the MECSH programme is completed following a two-year period of intervention.

The data is divided into 4 categories with associated scores for interpretation. Each category presents the number of typically developing children by quarters of the year. Quarter 1 is January to March, quarter 2 April to June, quarter 3 is July to September and quarter 4 is October to December in 2020. These are listed in the left-hand column.

The 5 domains of development within ASQ 3 are at the top of each vertical column and the numbers of children then listed below each. These are then represented as percentages in the lower tables, by quarter. Finally, the bottom table gives overall results for all children typically developing by quarter, in each domain. The data is then concluded with an overall average for all children, typically developing, in the bottom right column.

This format is repeated for each of the 4 categories of Non- MECSH children, MECSH (ALL), MECSH (Completed) and MECSH (not completed). Key points highlighted by the data is raised below each table.

4.1 Non- MECSH ASQ 3 scores.

This includes the 643 children who were from the birth population of 942 in 2018 and who have not received the MECSH programme but had a completed ASQ 3.

Table 3 Non-MEC SH cohort ASQ3 scores.**Non-MEC SH**

Quarter		ASQ Communication Score	ASQ Fine motor score	ASQ Gross motor score	ASQ Personal Social score	ASQ Problem Solving Score
Q1 2020	Total	154	154	154	154	154
	Developing typically	139	149	144	141	146
Q2 2020	Total	153	153	153	153	153
	Developing typically	139	147	150	144	148
Q3 2020	Total	163	163	163	163	163
	Developing typically	142	158	155	153	154
Q4 2020	Total	173	173	173	173	173
	Developing typically	149	162	162	157	162
Overall	Total	643	643	643	643	643
	Developing typically	569	616	611	595	610

Quarter	ASQ Communication Score	ASQ Fine motor score	ASQ Gross motor score	ASQ Personal Social score	ASQ Problem Solving Score
Q1 2020	90%	97%	94%	92%	95%
Q2 2020	91%	96%	98%	94%	97%
Q3 2020	87%	97%	95%	94%	94%
Q4 2020	86%	94%	94%	91%	94%
Overall	88%	96%	95%	93%	95%

	Q1	Q2	Q3	Q4	Overall
Number within normal limits across 5 domains	129	129	131	138	527
No of assessments	154	153	163	173	643
	84%	84%	80%	80%	82%

These scores highlight that of the non-MEC SH cohort there are 82 % (527) of children overall who are meeting their developmental milestones, or typically developing, in all 5 developmental domains. Each domain of development has a minimum threshold which indicates that a child appears to be on schedule, in line with their age, for their development (Squires & Bricker, 2009).

Scores suggest that the domain most often not achieving milestone threshold is within the communication domain and this is highlighted in yellow, at 88%. Therefore 12 % (74) of children in the Non-MEC SH cohort are not meeting the expected milestone for their development within communication, in 2020. Whereas 4% (27) are not meeting fine motor development, 5% (32) gross motor milestones, 7% (48) personal social- social level and 5% (33) problem solving skills.

In 2017, a report of 28,530 children by HM Government (2017) highlighted that, in England, 2-year-olds who had ASQ 3 scores recorded, were above the threshold of expected development in 90% of cases. This is a concerning 8% increase on scores within this study data set which has significant implications for practice and service provision, locally. Where there are indications of

potential delays or disorders of child development then intervention and parenting support is essential to avoid further impact upon a child's future outcomes and life chances as a result of ongoing delay, impact upon social skills, behaviour and their readiness to learn (HM Government, 2021). HVs are central to this identification, intervention and referral to specialist services where required (HM Government, 2023a). Increased intervention across all domains of development are indicated especially regarding communication as a similarity was noted between scores in England and local ASQ 3 scores. Both were the lowest level of attainment across all of the developmental domains. This indicator of child communication need has a broad and profound impact upon a child's overall development and should instigate a robust and effective response (Irwin, Carter & Briggs-Gowan, 2002; Johnson, Beitchman & Brownlie, 2010; Lindsay, Dockrell & Strand, 2007).

The reported ASQ 3 data for England was then further analysed by region and locality, gender, ethnicity, first language and levels of deprivation (income) and gave deeper analysis of findings where particular diversity and adversity was correlated to findings. Applying these characteristics to the local findings would be a recommendation in order to achieve the same level of understanding and inform where to target services of support further. If the suggestion made here were to drive change, then a note of caution is drawn within the report, as the data quality was not consistently collected across jurisdictions. This presents challenges to gaining generalisable insights and in making direct comparisons across regions. Further insights into the local context would reassure the targeting of support services for intervention.

4.2 MECSH- (ALL) ASQ 3 scores.

This includes children who have completed, or part completed the MECSH programme and equates to 97 children. This is a small sample of the ASQ3 cohort in 2020 and not a size that would provide statistical significance.

Table 4. MECSH (All) cohort ASQ3 scores.

MECSH (All)						
Quarter		ASQ Communication Score	ASQ Fine motor score	ASQ Gross motor score	ASQ Personal Social score	ASQ Problem Solving Score
Q1 2020	Total	19	19	19	19	19
	Developing typically	18	18	18	17	18
Q2 2020	Total	33	33	33	33	33
	Developing typically	30	32	33	30	31
Q3 2020	Total	22	22	22	22	22
	Developing typically	19	20	21	18	18
Q4 2020	Total	23	22	23	23	23
	Developing typically	17	20	21	21	20
Overall	Total	97	96	97	97	97
	Developing typically	84	90	93	86	87

Quarter	ASQ Communication Score	ASQ Fine motor score	ASQ Gross motor score	ASQ Personal Social score	ASQ Problem Solving Score
Q1 2020	95%	95%	95%	89%	95%
Q2 2020	91%	97%	100%	91%	94%
Q3 2020	86%	91%	95%	82%	82%
Q4 2020	74%	91%	91%	91%	87%
Overall	87%	94%	96%	89%	90%

	Q1	Q2	Q3	Q4	Overall
Number within normal limits across 5 domains	17	28	12	16	73
No of assessments	19	33	22	23	97
	89%	85%	55%	70%	75%

The percentage highlighted in yellow above shows a comparable percentage to Non-MECSH children, developing typically within the communication domain of 87% and represents 13 children. This is significant in that the MECSH cohort is achieving approximately as well as the Non-MECSH in this domain (1% lower). However, it is also noted that the overall attainment is at 75 % (73 children) where the Non-MECSH cohort are at 82 % (527 children). This translates that MECSH (ALL) children are developing less typically than NON-MECSH children by 7%. These poorer outcomes are predicted within the literature (Kemp et al., 2011) and evidenced in these findings.

The biggest impact on these outcomes appears in Q3 where only 10 of 22 children are meeting developmental milestones and cannot be easily explained without understanding the context for each child. Did they have more complex health needs than other 2-year-olds or was this an impact of a Covid lockdown period where they had not been exposed to normal developmental stimulus and play?

The next lowest attainment is seen in the personal-social domain. The effect of which is to decrease the overall statistic for children not typically developing in this cohort. This may also have been a social impact, a rise in parental need where stress, parenting styles and family dynamics may have impacted the child's development during Covid (Costa, Cruz, Alves, Rodrigues & Ferguson, 2022) or perhaps a failing in programme content or delivery where other UK programmes may have been more successful such as FNP which claims mental health issues may be reduced by its delivery (Heckman, Holland, Makino, Pinto & Rosales-Rueda, 2017).

4.3 MECSH– (Completed) ASQ3 scores.

This includes the children who completed the MECSH programme and discharged at 2 years and represented 61 children.

Table 5. MECSH (completed) ASQ3 scores.

MECSH (Completed)						
Quarter		ASQ Communication Score	ASQ Fine motor score	ASQ Gross motor score	ASQ Personal Social score	ASQ Problem Solving Score
Q1 2020	Total	17	17	17	17	17
	Developing typically	16	16	16	15	16
Q2 2020	Total	16	16	16	16	16
	Developing typically	14	16	16	14	14
Q3 2020	Total	14	14	14	14	14
	Developing typically	13	12	13	10	12
Q4 2020	Total	14	13	14	14	14
	Developing typically	10	11	12	13	11
Overall	Total	61	60	61	61	61
	Developing typically	53	55	57	52	53

Quarter	ASQ Communication Score	ASQ Fine motor score	ASQ Gross motor score	ASQ Personal Social score	ASQ Problem Solving Score
Q1 2020	94%	94%	94%	88%	94%
Q2 2020	88%	100%	100%	88%	88%
Q3 2020	93%	86%	93%	71%	86%
Q4 2020	71%	85%	86%	93%	79%
Overall	87%	92%	93%	85%	87%

	Q1	Q2	Q3	Q4	Overall
Number within normal limits across 5 domains	15	13	7	9	44
No of assessments	17	16	14	14	61
	88%	81%	50%	64%	72%

The highlighted percentage here shows 87% (53) of children typically developing within the communication domain. This compares similarly to the Non- MECSH cohort and suggests that where MECSH is completed that these children develop as well as the Non- MECSH, general population. With slightly

decreased percentages in the remaining domains when compared to Non-MECSH scores. The most difference is noted in the personal-social and problem-solving scores. Eliciting a 72 % (44 children) overall typically developing score compared to 82 % (527) in the Non- MECSH cohort.

4.4 MECSH – (not completed) ASQ 3 scores.

This includes children who did not complete the MECSH programme and equates to 36 children.

Table 6. MECSH (not completed) ASQ3 scores.

MECSH (Not completed)

Quarter		ASQ Communication Score	ASQ Fine motor score	ASQ Gross motor score	ASQ Personal Social score	ASQ Problem Solving Score
Q1 2020	Total	2	2	2	2	2
	Developing typically	2	2	2	2	2
Q2 2020	Total	17	17	17	17	17
	Developing typically	16	16	17	16	17
Q3 2020	Total	8	8	8	8	8
	Developing typically	6	8	8	8	6
Q4 2020	Total	9	9	9	9	9
	Developing typically	7	9	9	8	9
Overall	Total	36	36	36	36	36
	Developing typically	31	35	36	34	34

Quarter	ASQ Communication Score	ASQ Fine motor score	ASQ Gross motor score	ASQ Personal Social score	ASQ Problem Solving Score
Q1 2020	100%	100%	100%	100%	100%
Q2 2020	94%	94%	100%	94%	100%
Q3 2020	75%	100%	100%	100%	75%
Q4 2020	78%	100%	100%	89%	100%
Overall	86%	97%	100%	94%	94%

	Q1	Q2	Q3	Q4	Overall
Number within normal limits across 5 domains	2	15	5	7	29
No of assessments	2	17	8	9	36
	100%	88%	63%	78%	81%

The highlighted percentage here, in the communication domain, compares similarly for children typically developing at 2 years, whether MECSH is completed or not and aligns with Non –MECSH cohort statistic at 86 %. Surprisingly, overall those typically developing is at 81%. This demonstrates an increase on MECSH (completed) children of 9% and suggests that where MECSH is not completed that there are improved developmental outcomes for children aged 2 years. The anticipation would be in line with evidence that

children who complete programmes experience better outcomes (Goldfield, Price & Kemp, 2018) but that is not evident in this data.

4.5 Visit/Dose Data.

The following data set concerns the number of MECSH visits delivered by HVs and engaged with by clients. These are also referred to as the dose of visits on the programme. The literature makes an assumption that the more visits engaged with by clients then the better the outcomes and this includes child development (Beasley, Ridings, Shields, Beasley & Bard, 2018). It follows that in these findings the assumption would be that where more visits are completed then the ASQ 3 scores are better.

The number of visits expected overall is at least 19 and up to 23 visits, after the child is born. The potential 3 antenatal visits are not included in this study. Additional contacts include group attendance and Mental Health Practitioner (MHP) visits, but they are also excluded from the data collection as they are not in the home setting or conducted by a HV.

The visits expected to be delivered/engaged with in set periods of a child's life as presented in Appendix 3 and standard HV visits in Appendix 4.

Table 7. Visits completed for MECSH (All) cohort.

MECSH (ALL) 97 children.

Number of visits	0-6 weeks	7-12 weeks	13-26 weeks	27-52 weeks	53-104 weeks	Total visits delivered.
Percentage of completed visits in the time period	70%	42%	50%	76%	82%	58%

This table highlights that 58% of the required visits have been delivered for all clients on the MECSH programme from enrolment in 2018 and ending in 2020 whereas the literature search highlights that the fidelity of MECSH requires 75% of families, receive 75% of visits (Goldfield, Price & Kemp, 2018). Thus suggesting that expected programme outcomes will be potentially, negatively impacted in these findings. This may account for a lower overall ASQ 3 score for MECSH compared to Non-MECSH children.

MECSH (completed) 61 children.

Table 8. Percentage of Visits completed for MECSH (completed) cohort.

Number of visits	0-6 weeks	7-12 weeks	13-26 weeks	27-52 weeks	53-104 weeks	Total visits delivered.
Percentage of completed visits in the time period	77%	38%	49%	77%	81%	69%

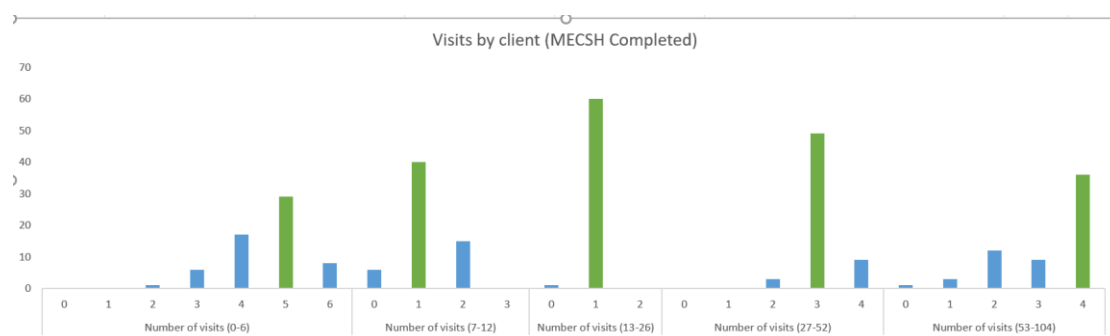


Figure 3. Visits completed for MECSH (completed) cohort.

The left hand, vertical column indicates the number of children and the bottom, horizontal line indicates the number of visits for that period of the programme.

Where a zero is indicated then clients are disengaged at this point in the period of programme delivery but some re-engage at a later point in the programme.

In terms of completed visits then as expected these clients received the higher number of visits (69%) because they complete the 2-year programme. However, 6 clients disengage by period 2 but come back onto the programme by period 3 thus demonstrating an inconsistent engagement for some. These periods of disengagement are seen particularly in 7-26 weeks but then an improved level in the second year of the programme. The literature search argues that family chaotic lives and perceiving that have reached intended goals early, as causation for this this pattern. Equally, how realistic is it for nurse and client to accommodate this high number of visits is questioned (Hernandez et al., 2019).

MECSH (not completed) 36 children.

Table 9. Percentage of visits completed for MECSH (not completed) cohort.

Number of visits	0-6 weeks	7-12 weeks	13-26 weeks	27-52 weeks	53-104 weeks	Total visits delivered.
Percentage of completed visits in the time period	53%	41%	50%	66%	63%	53%

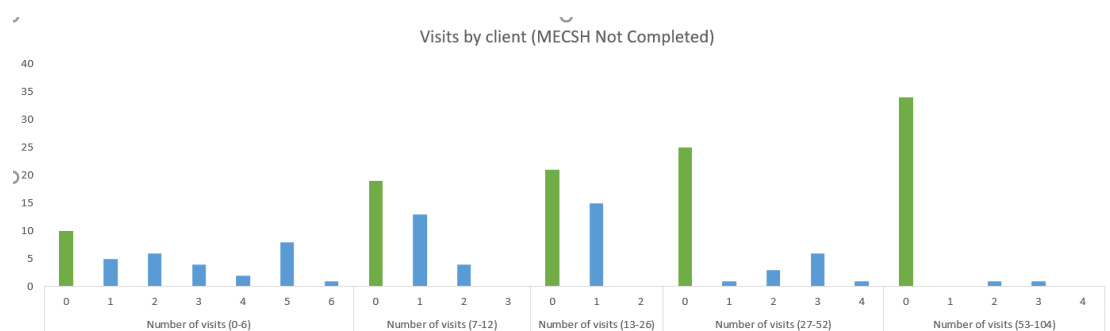


Figure 4. Visits completed for MECSH (not completed) cohort.

This data indicates the lower level of visits completed (53%)

The number zero in this graph is significant as where they occur in the early period then these children do not re-engage with the programme.

Where 9 children are presented in first period as zero then these children do not come back into the programme. Their number is cumulative over the period of the MECSH programme and by the end of the programme in 2020 there are 34 children disengaged. The numbers of disengagement are higher in the first and last period of the programme. Beatson, Molloy, Perinin, Harrop and Goldfield (2021) argue that 19 visits are optimal to positive outcome and this cohort are clearly below that level. However, the ASQ 3 scores for this cohort are better than those who have not completed MECSH which presents an anomaly.

Further discussion regarding the findings are presented in the following section regarding the cross reference of the visits compared to the ASQ3 scores, for the same cohort of children.

Chapter 5 Discussion.

Summary tables are presented here for ASQ 3 scores and followed by visits to facilitate further analysis

Table 10. Summary table for ASQ3 scores.

Cohort	ASQ3 Communication score	ASQ3 Fine motor score	ASQ3 Gross motor score	ASQ3 personal social score	ASQ3 Problem solving	Overall % for all domains
MECSH (ALL) Overall %	87%	94%	96%	89%	90%	75%
MECSH (completed) Overall %	87%	92%	93%	85%	87%	72%
MECSH (not completed). Overall %	86%	97%	100%	94%	94%	81%

Table 11. Summary table of MECSH Visits

Cohort	Visits delivered.
MECSH (ALL)	58%
MECSH (Completed)	69%
MECSH (Not completed)	53%

The Communication domain outcomes are generally consistent across all four categories of the sample. This is seen as a positive outcome, as it is an area of focus within MECSH intervention which uses learning to communicate resources with parents, in order to advantage their child's development (Early Childhood Connect, 2023) It is anticipated that that the children on MECSH are doing at least as well as the non-MECSH children, as a consequence. This consistency in the findings suggest that the number of visits for MECSH

(completed) and MECSH (Not completed) do not have a significant impact upon this outcome. Rather, any MECSH intervention appears to have a positive impact within this domain of development. However, a higher number of visits do not appear to positively impact the other domains of development as there is a worsening picture of ASQ 3 scores in personal-social and problem-solving domains between MECSH (Completed) and MECSH (Not completed).

At this early stage in child development then the ability to be on par with peers gives a foundation for the best start in life (HM Government, 2021) and a positive life trajectory. It is therefore imperative to understand what is making the difference to outcomes, as the literature remains unclear about what content, dose and duration of NHVPs ensure the best outcomes.

Where the Non-MECSH cohort of children have improved ASQ3 scores, regardless of receiving only standard visits (appendix 4) then there are some presumptions that the same Health Visitors who deliver MECSH locally will use skills, knowledge and resource with the Non- MECSH cohort within their practice and this may have an uplift and positive impact upon child development also. Kemp, Cowley & Byrne (2017) call this a 'spill over' effect on the Non-MECSH population. In effect the whole parent population become upskilled in supporting child development as a result of Health Visitors, who are trained in MECSH, utilising the same approach in their general practice with all families.

It is surprising that results are better for children who have not completed MECSH compared with those who have completed the programme and that overall results for MECSH (not completed), are similar to Non- MECSH experienced children, 82% and 81% respectively. This suggests that the impact on MECSH (completed) child development is lesser than where the programme is not completed. The fact that the overall programme delivery reached 58% of the MECSH visits, where expectations would be that this should be higher, may be of the greatest significance in this finding.

In 2019, a study by Kemp, et al., (2019) identified that 87.3% of families completed the MECSH programme, also called 'right@home' in Australia, and

71.9% of those families completed 75% of scheduled visits. One of which was antenatal contact. Their conclusion drawn was that this programme had a higher adherence to visits, the schedule of those visits, its content for delivery and retention rates than other home visiting programmes. This provides a useful benchmark to the findings in this study where the percentage is much lower.

Overall, for all children in receipt of the MECSH programme there were 58 % of visits delivered over the required 2-year duration where the expectation would be that all 19 visits are delivered. It is valuable to look at this percentage in terms of a HV potential to offer and complete a visit as well as the level of client engagement. The Health Visitor may have not adhered to the schedule of visits within time frames and the reasons for this are not captured within the data. Heranadez et al., (2019) argue that a high number of visits can be unrealistic. In addition, it would potentially gain further insight if work force or service issues had impacted this, such as, sickness, high staff turnover impacting the integrity of the programme offer.

Equally, client engagement is key. It is recognised that this client group experience vulnerabilities and may be more challenging to access and engage onto an intensive, home offer with a professional. Issues such as poor mental and emotional health for parents can be prevalent and this scenario provides adversity around making consistent engagement happen (Olds, Sadler & Kitzman, 2007). There is a MECSH MHP to whom parents are referred where this is a parental health need and they home visit also. Consideration could be made that these home visits in support of the programme, also be counted within the visit schedule, as they are not currently. This would improve this percentage of completed visits overall in approximately 10 % of clients, as this is the average number of clients referred to the MHP from the MECSH caseload.

It would also be helpful to understand the reasons why families disengage from the MECSH programme. Indeed, the reasons could be positive and give rise to improved developmental scores seen here. Including, parental choice, as the

outcomes they were wanting to achieve had already been met, as identified in the literature search. These families may have either adapted well to the initial adversity or the vulnerability is now absent. The engaged clients may also have not met the necessary vulnerability criteria and would not have been eligible for the programme in the first instance.

In MECSH (ALL) it is seen that there is a lower percentage for children typically developing in Q3 particularly. This may be a cumulative impact of two lockdowns on infants where their families are also known to be experiencing adversity at a time when normal life, social contact, service and community activity was hugely and negatively changed Johnson et al. (2024) found in their study that there was a slight decrease in ASQ scores post pandemic. A non-Covid year comparator of local data would explore this further to evaluate replication of findings over time.

There may be a variance on recorded ASQ 3 outcomes due to a number of different practitioners who have completed the ASQ 3 with individual children and their parents. There may be difference in practice approach, knowledge and skills impacting the ASQ 3 scores. Equally, where contact with the child has been limited with the HV then there is greater parental influence on achievement scores. This introduces an element of subjectivity as to how those discussions are held and the view on child development by the practitioner and parent regarding the outcome scores. Observation of child development is more informed where MECSH intervention and practitioners have visited intensively and less reliant on parent reported outcomes. Whereas Phillips & Shonkoff (2000) argue that it is the combination of professional and parent in assessment that is the most effective in assessment.

Additionally, practitioners may have missed coding reportable visits on the EMIS IT system which may have skewed results for some of the cohorts and specifically those with smaller number of children.

Ultimately, as this is the first study of this kind then it is not known what standard ASQ 3 outcomes are for children on the MECSH programme. Further study

where Non- MECSH children at 2 years are compared to MECSH children and introduction of a third cohort would hold the potential for further insight. This third cohort would be those offered MECSH because they met eligibility criteria but declined it. This would elicit a comparator between not only those who are on MECSH, or not, but also children experiencing adversity and not gaining the benefit of intensive support. An anticipated trajectory for each might potentially see Non-MECSH children scoring higher than those on MECSH and the MECSH children scoring higher than those who were eligible for the programme but did not receive it.

Chapter 6: Limitations.

This study scopes only those children born in 2018 and their outcomes utilise only one tool of measurement albeit validated and utilised nationally there are potentially other measurement and outcomes that are not encompassed in this study. In addition, this is the first time that this comparator has been made, and it is therefore unknown what the standard ASQ 3 score would be for any of the MECSH categories of children.

This study does not include other outcome measures of MECSH such as parental outcomes.

The island setting is a small jurisdiction and therefore the data provided here is small in number which makes the findings less generalisable. For example, the MECSH cohort is 15% (97 children) of the overall number of 79% (643). A larger study and across diverse settings would potentially afford greater insight that may be transferrable across jurisdictions.

The local ASQ 3 data is not available where greater comparisons can be drawn with ASQ 3 data in England with regards to region, gender, ethnicity, first language and deprivation (income).

Chapter 7: Conclusion.

This study aimed to examine whether there was a significant difference in developmental scores for children on the intensive home visiting programme (MECSH) compared to a cohort of children who have not experienced the programme at age two years, in 2020. The key findings indicated that 75% of MECSH children were meeting their developmental milestones compared to 82% of the general, non-MECSH cohort. This is still significantly less than the 90% benchmark in England and gives rise to a concern in the local context. The ideal expected would have been that MECSH children were doing at least as well as the Non- MECSH cohort after receiving an intensive programme of intervention. This may be idealistic however as children on MECSH cannot necessarily be compared 'like for like' with those Non- MECSH children. They are more likely to experience adversity and poorer outcomes, such as prematurity, Low Birth Weight, syndromes and complex medical needs and may not be expected to achieve the same milestones at the same time, if ever, as their peers.

A further cohort for comparator would be helpful. Including understanding child outcomes where clients have been offered and declined the programme and examining what their developmental outcomes would be. These children are experiencing adversity and expected to have poorer outcomes and do not have an intensive intervention such as MECSH. This would provide a useful benchmark as to how well, or not, the MECSH 2-year-olds are progressing compared to those who met criteria for the programme and had additional needs but did not receive it. This then compared to the population who did not meet MECSH criteria. Offering a potential trajectory of development for three cohorts of children to establish benchmarks for expected development at age 2 years.

There were surprising findings as it appears that children who did not complete MECSH fared better in overall ASQ 3 scores (81%) than those who did (72%), providing somewhat of an anomaly. Understanding what additional variables are at play within the MECSH and Non- MECSH cohort is key to shedding light

on the reasons for this including, why clients left the programme at an early point. It may be proposed that they were not meeting MECSH criteria and vulnerabilities regarding child developmental needs in the first instance and therefore would have met milestones anyway, notwithstanding MECSH intervention. Or perhaps they achieved goals early in the programme and then disengaged. It is worthy to mention that child development outcomes are not the only measure of success for the MECSH programme and that there are other parental criteria identified for programme engagement not within the scope of this study.

A key finding was within the 'Communication' domain of development and that the percentage for achievement is consistent across all cohorts. This is a considerable positive as the focus of MECSH HV visits, for the child, are to support learning to communicate and provide an indication of success for this intervention.

The study also aimed to examine whether the dose of intervention (MECSH) correlates with child developmental outcomes measured by ASQ3. Findings indicate that 58% of MECSH visits were completed in the overall MECSH sample and when broken down further; MECSH (completed) was 69% and MECSH (not completed) at 53%. These findings indicate considerable room for improvement regarding not only engaging parents on the programme but also sustaining its delivery to completion. At the same time it has assisted the researcher in seeking to determine whether the dose of visits makes a difference to the child development outcomes. Such as finding that the greater level of visits completed is as expected, with the MECSH (completed) cohort (69%) compared to 53% in MECSH (not completed). Significantly the ASQ 3 scores are not as expected. Indeed, MECSH (completed) are lower than the MECSH (not completed) and 72 % and 81% respectively. This requires further investigation as the opposite position was anticipated prior to this study.

There are recognised limitations of this research, however, it is the first study of its kind and might be considered preliminary research. As a consequence, there is no baseline comparison or benchmark for these findings. Nevertheless,

it does offer new insight into this arena including some immediate practice and research implications proposed to improve the quality of care, intervention and their outcomes. These are presented within the following recommendations.

Chapter 8: Recommendations.

8.1 Implications for research.

It is important to note that there are no benchmarks before MECSH existed and was implemented across international sites. Therefore it cannot be evidenced where the expected developmental milestones might be for measured outcomes. Evidence suggests that poorer child and maternal outcomes can be anticipated where adversity and vulnerability is experienced. The following recommendations are proposed in order to achieve a further level of study and reflection in this subject area.

It is proposed that this study is repeated on a larger scale and in diverse settings at national and international level. This is a real opportunity as there are MECSH sites across the UK, America, Australia and South Korea. This should include a data collection regarding region, gender, ethnicity, first language and deprivation (income), in order to provide deeper insight and analysis of findings.

Repeating the study for the same 'year on year' outcomes and comparisons would balance out some of the variables such as the Covid impact and provide repeated data findings for interpretation. So, of that specific year lockdowns and service restrictions may have impacted ASQ3 uptake or quality of its completion where the contact was virtual rather than 'face to face' with the family. It may also have impacted child development directly, as some evidence suggests (Costa, Cruz, Alves, Rodrigues & Ferguson, 2022).

Introduce a third cohort of children, for further study, alongside the 2-year MECSH and Non-MECSH 2year olds identified in this study. This would produce outcome ASQ 3 scores to potentially determine if those offered and declined MECSH have poorer outcomes than those who consent to, and engage with, MECSH. This proposed study would examine where there is a vulnerability identified within MECSH criteria, and there is no intensive HV intervention, whether outcomes are poorer for the child, or not, compared to MECSH experienced children.

In order to complement quantitative findings into the subject area then a mixed method of quantitative combined with qualitative approaches holds the potential to elicit findings regarding the broader outcomes of the MECSH programme, such as levels of engagement with MECSH delivery and how parents may be better supported to improve the development of their child.

Finally, understand what level of visits and their distribution, across the duration of the programme, has the desired and positive effect. In this case, that would include one of MECSH programme goals of improved child development. It may be that the duration of MECSH intervention should be reviewed. For example, it may be that a lesser number of visits are required in order for the goals of child development to be achieved.

8.2 Implications for practice

Consideration should be given to other developmental measurement tools. The ASQ3 is validated, reliable and tested for its sensitivity across the domains of development, such as the gross motor (Lamsal, Dutton & Zwicker, 2018) and validated and adapted for UK implementation, as an appropriate and effective tool of measurement, alongside standardised contacts (Squires & Bricker, 2009). However, there are other tools to consider and validated for use in the UK such as the Bayley III Screening test (Nellis & Grindley, 1994) which is often used by paediatrician and therapist for more detailed assessments.

Further, then perhaps consideration should be made for child development measurement at a later period of time in the child's development. There has been a local pilot recently carried out where three-year-old development is reviewed. This takes a unique, integrative approach with HV, parent, child and nursery key worker present within a joint contact. This offers an assessment opportunity a year following MECSH intervention and where developmental progress is measured once again. The original research supporting this practice was conducted in Northern Ireland in 2019 Public Health Agency, 2018).

In reference to the MEC SH (All) cohort then it is perhaps worth considering that where developmental scores are evidencing a deficit, in domains other than communication, these developmental areas have improved resource and support from practitioners, in order to advantage these child outcomes.

Ensuring robust data capture moving forwards is vital, encompassing all MEC SH contacts, including group, where the data indicates that the expected number of visits are not being achieved.

To also include a clearer child demographic and background of need such as gender, birthweight, medical conditions, syndromes, complex needs and complex birth. The development of EMIS recording templates to capture this from practitioner record keeping would provide these data reports for analysis.

Practitioners should gain feedback from clients to understand why their engagement with the programme might be challenging for them, take steps to ameliorate these and determine what the acceptable levels of engagement and attrition for the programme might be, as a consequence. Consideration should be given around this might look differently locally compared to other international sites and offer the opportunity to focus approaches in practice to the individual community. It is recognised that the small size of the island can present with specific challenges in general practice.

HVs should consider the 'spill over' effect on their client caseloads where they are utilising skills, knowledge and resource from their MEC SH training as part of their standard practice delivery. Where practitioners are working in this way with all families then one might expect an uplift in the outcomes at a universal level for parents and children alike.

References.

Asmussen, K., & Brims, L. (2018). *What works to enhance the effectiveness of the healthy child programme: An evidence update*. Retrieved from Early Intervention Foundation website: <https://www.eif.org.uk>

Asselin, M. E. (2003). Insider research: Issues to consider when doing qualitative research in your own setting. *Journal for Nurses in Professional Development*, 19(2), 99-103.

Avellar, S.A., & Supplee, L.H. (2013). Effectiveness of home visiting in improving child health and reducing child maltreatment. *Pediatrics*, 132(2), 90-99.

Bayley, N. (2006). Bayley scales of infant and toddler development. Retrieved from American Psychological Association website: <https://psycnet.apa.org/>

Beasley, L. O., Ridings, L. E., Smith, T. J., Shields, J. D., Silovsky, J. F., Beasley, W., & Bard, D. (2018). A qualitative evaluation of engagement and attrition in a nurse home visiting program: From the participant and provider perspective. *Prevention Science*, 19, 528-537.

Beatson, R., Molloy, C., Perini, N., Harrop, C., & Goldfeld, S. (2021). Systematic review: An exploration of core componentry characterizing effective sustained nurse home visiting programs. *Journal of Advanced Nursing*, 77(6), 2581-259.

Beauchamp, T. L., & Childress, J. F. (2001). *Principles of biomedical ethics*. USA: Oxford University Press.

- Botes, A. (2000). A comparison between the ethics of justice and the ethics of care. *Journal of advanced nursing*, 32(5), 1071-1075.
- Bowen, G. A. (2009). Document analysis as a qualitative research method. *Qualitative research journal*, 9(2), 27-40.
- Bricker, D., Squires, J., Mounts, L., Potter, L., Nickel, R., Twombly, E., & Farrell, J. (1999). *Ages and stages questionnaire*. Baltimore: Brookes publishing.
- Bryman, A. (2016). *Social research methods*. (5th ed.). Oxford university press.
- Cleff, T. (2014). Exploratory data analysis in business and economics. *Exploratory Data Analysis in Business and Economics*. <https://doi.org/10.1007/978-3-319-01517-0>.
- Cody, A. (1999). Health visiting as therapy: a phenomenological perspective. *Journal of Advanced Nursing*, 29(1), 119-127.
- Costa, P., Cruz, A. C., Alves, A., Rodrigues, M. C., & Ferguson, R. (2022). The impact of the COVID-19 pandemic on young children and their caregivers. *Child: care, health and development*, 48(6), 1001-1007.
- Cowley, S., Whittaker, K., Malone, M., Donetto, S., Grigulis, A., & Maben, J. (2015). Why health visiting? Examining the potential public health benefits from health visiting practice within a universal service: A narrative review of the literature. *International Journal of Nursing Studies*, 52(1), 465-480.
- Cowley, S., Whittaker, K., Malone, M., Donetto, S., Grigulis, A., & Maben, J. (2018). What makes health visiting successful or not? 1. Universality. *Journal of Health Visiting*, 6(7), 352-360.

- Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Los Angeles, CA: Sage.
- Curtis, E., & Drennan, J. (2013). *Quantitative health research: issues and methods*. (1st ed.). United Kingdom: McGraw-Hill Education.
- Curtis, K., Fry, M., Shaban, R. Z., & Considine, J. (2017). Translating research findings to clinical nursing practice. *Journal of Clinical Nursing*, 26(5-6), 862-872. <https://doi.org/10.1111/jocn.13586>
- Data Protection (Jersey) Law 2018. Retrieved from <https://www.jerseylaw.je/enacted/Pages/L-03-2018.aspx>
- De Vaus, D. (2001). Research design in social research. *Research Design in Social Research*, 1-296.
- Dodge, K. A. (2015). Nurse home visits for infants and toddlers of low-income families improve behavioural, language and attention outcomes at age 6–9 years; paraprofessional visits improve visual attention and task switching. *Evidence-Based Nursing*, 18(2), 50-51.
- Doucet, A. and Mauthner, N. (2002). Knowing responsibly: Ethics, feminist epistemologies and methodologies, In M. Mauthner, M. Birch, J. Jessop and T. Miller (Eds.), *Ethics in Qualitative Research*. London: Sage; 123-145.
- Early Childhood Connect (2023). *About MECSH*. Retrieved from <https://www.earlychildhoodconnect.edu.au>
- Eckenrode, J., Campa, M., Luckey, D. W., Henderson, C. R., Cole, R., Kitzman, H., ... & Olds, D. (2010). Long-term effects of prenatal and infancy nurse home visitation on the life course of youths: 19-year

- follow-up of a randomized trial. *Archives of Pediatrics & Adolescent Medicine*, 164(1), 9-15.
- Emond, A. (Ed.). (2019). *Health for all children*. Oxford University Press.98-99.
- Field, A. (2013). *Discovering statistics using IBM SPSS statistics* (4th ed.). London: Sage.
- Giombetti, A., Bielawski-Branch, K., & Kemp, L. *Vermont Children's Integrated Services and the MECSH Programme*. Retrieved from https://www.nhvrc.org/content/uploads/Vermont_Children's_Integrated_Services.pdf program
- Gladstone, B. M., Volpe, T., & Boydell, K. M. (2007). Issues encountered in a qualitative secondary analysis of help-seeking in the prodrome to psychosis. *The Journal of Behavioral Health Services & Research*, 34, 431-442.
- Goldfeld, S., Price, A., Bryson, H., Bruce, T., Mensah, F., Orsini, F., ... & Kemp, L. (2017). 'right@ home': A randomised controlled trial of sustained nurse home visiting from pregnancy to child age 2 years, versus usual care, to improve parent care, parent responsivity and the home learning environment at 2 years. *British Medical Journal open*, 7(3), e013307.
- Goldfeld, S., Price, A., & Kemp, L. (2018). Designing, testing, and implementing a sustainable nurse home visiting program: right@ home. *Annals of the New York Academy of Sciences*, 1419(1), 141-159.
- Gray, D. E. (2021). *Doing research in the real world*. (5th ed). London: Sage

- Hanson, W. E., Creswell, J. W., Clark, V. L. P., Petska, K. S., & Creswell, J. D. (2005). Mixed methods research designs in counselling psychology. *Journal of Counselling Psychology*, 52(2), 224.
- Heckman, J. J., Holland, M. L., Makino, K. K., Pinto, R., & Rosales-Rueda, M. (2017). *An analysis of the memphis nurse-family partnership program* (No. w23610). National Bureau of Economic Research.
- Hernández, D., Topping, A., Hutchinson, C. L., Martin, A., Brooks-Gunn, J., & Petitclerc, A. (2019). Client attrition in the Nurse-Family Partnership®: Revisiting metrics of impact in a home visitation program in the United States. *Health & Social Care in the Community*, 27(4), e483-e493.
- HM Government. (2017). *Ages & Stages Questionnaire (ASQ 3) analysis: October 2016 to March 2017*. Retrieved from website GOV.UK
- HM Government. (2021). *The best start for life: A vision for the 1,001 critical days*. Retrieved from website <https://www.gov.uk>
- HM Government. (2023a). *Healthy Child Programme*. Retrieved from website <https://www.gov.uk>
- HM Government. (2023b). *National data guardian on the appointment of caldicott guardians, their roles and responsibilities*. Retrieved from website <https://www.gov.uk>
- Hogg, R., Kennedy, C., Gray, C., & Hanley, J. (2013). Supporting the case for 'progressive universalism' in health visiting: Scottish mothers and health visitors' perspectives on targeting and rationing health visiting services, with a focus on the Lothian Child Concern Model. *Journal of Clinical Nursing*, 22(1-2), 240-250.
- Institute of Health Visiting. (2023). *Health visiting in the NHS Long term workforce plan: In brief*. Retrieved from website <https://ihv.org.uk>

Irwin, J. R., Carter, A. S., & Briggs-Gowan, M. J. (2002). The social-emotional development of "late-talking" toddlers. *Journal of the American Academy of Child & Adolescent Psychiatry*, 41(11), 1324-1332.

Jaspal, R. (2020). Content analysis, thematic analysis and discourse analysis. *Research Methods in Psychology*, 1, 285-312.

Johnson, R. B., Onwuegbuzie, A. J., & Turner, L. A. (2007). Toward a definition of mixed methods research. *Journal of Mixed Methods Research*, 1(2), 112-133.

Johnson, C. J., Beitchman, J. H., & Brownlie, E. B. (2010). Twenty-year follow-up of children with and without speech-language impairments: Family, educational, occupational, and quality of life outcomes. *American Journal of Speech-Language Pathology*.
[https://doi.org/10.1044/1058-0360\(2009/08-0083\)](https://doi.org/10.1044/1058-0360(2009/08-0083))

Johnson, S. B., Kuehn, M., Lambert, J. O., Spin, J. P., Klein, L. M., Howard, B.... & Perrin, E. M. (2024). Developmental Milestone Attainment in US Children Before and During the COVID-19 Pandemic. *Journal of the American Medical Association of Pediatrics*.

Kemp, L., Harris, E., McMahon, C., Matthey, S., Vimpani, G., Anderson, T., ... & Zapp, S. (2011). Child and family outcomes of a long-term nurse home visitation programme: A randomised controlled trial. *Archives of disease in childhood*, 96(6), 533-540.

Kemp, L., Cowley, S., & Byrne, F. (2017). Maternal early childhood sustained home-visiting (MECSH): A UK update. *Journal of Health Visiting*, 5(8), 392-397.

Kemp, L., Grace, R., Comino, E., Pulver, L. J., McMahon, C., Harris, E., ... & Mack, H. A. (2018). The effectiveness of a sustained nurse home

- visiting intervention for Aboriginal infants compared with non-Aboriginal infants and with Aboriginal infants receiving usual child health care: a quasi-experimental trial-the Bulundidi Gudaga study. *BMC Health Services Research*, 18(1), 1-13.
- Kemp, L., Bruce, T., Elcombe, E. L., Anderson, T., Vimpani, G., Price, A., ... & Goldfeld, S. (2019). Quality of delivery of “right@ home”: Implementation evaluation of an Australian sustained nurse home visiting intervention to improve parenting and the home learning environment. *PLoS One*, 14(5), e0215371.
- Kemp, L., Elcombe, E., Sumpton, W., Hook, B., Cowley, S., & Byrne, F. (2022). Evaluation of the impact of the MECSH programme in England: A mixed methods study. *Journal of Health Visiting*, 10(5), 200-214.
- Keppel, G. (1991). *Design and analysis: A researcher's handbook* (3rd ed.). Prentice-Hall.
- Lamsal, R., Dutton, D. J., & Zwicker, J. D. (2018). Using the ages and stages questionnaire in the general population as a measure for identifying children not at risk of a neurodevelopmental disorder. *BioMed Central pediatrics*, 18, 1-9.
- Liberati, A., Altman, D. G., Tetzlaff, J., Mulrow, C., Gøtzsche, P. C., Ioannidis, J. P., ... & Moher, D. (2009). The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate health care interventions: Explanation and elaboration. *Annals of Internal Medicine*, 151(4), W-65.
- Lindsay, G., Dockrell, J. E., & Strand, S. (2007). Longitudinal patterns of behaviour problems in children with specific speech and language difficulties: Child and contextual factors. *British Journal of Educational Psychology*, 77(4), 811-828.

- May, T. & Williams, M. (2002). *An introduction to the philosophy of social research*. London: Routledge.
- Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & PRISMA Group*, T. (2009). Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *Annals of internal medicine*, 151(4), 264-269
- Morton, A., & Adams, C. (2022). Health visiting in England: The impact of the COVID-19 pandemic. *Public Health Nursing*, 39(4), 820-830.
- Newbold, P., Carlson, W. L., & Thorne, B. M. (2013). *Statistics for business and economics* (8th ed.). Pearson.
- NHS England. (2023). *NHS Long Term Work Force Plan*. Retrieved from <https://www.england.nhs.uk>
- Olds, D. L., Sadler, L., & Kitzman, H. (2007). Programs for parents of infants and toddlers: Recent evidence from randomized trials. *Journal of Child Psychology and Psychiatry*, 48(3-4), 355-
- Phillips, D. A., & Shonkoff, J. P. (Eds.). (2000). The science of early childhood development: From neurons to neighborhoods. Washington, DC: National Academy Press.
- PRISMA (2024). PRISMA 2020 flow diagram for new systematic reviews. Retrieved from <https://www.prisma-statement.org>
- Public Health Agency (2018). 3+ Review guidance for pre-school education teachers and leaders. Health and education working in partnership to support pre-school children. Retrieved from <https://www.publichealth.hscni.net>
- Qualtric. Sample size calculator. Retrieved from

- Robling, M., Bekkers, M. J., Bell, K., Butler, C. C., Cannings-John, R., Channon, S., ... & Torgerson, D. (2016). Effectiveness of a nurse-led intensive home-visitation programme for first-time teenage mothers (building blocks): A pragmatic randomised controlled trial. *The Lancet*, 387(10014), 146-155.
- Roggman, L., & Cardia, N. (2016). Home visitation programs. *Springer International Publishing*. [https://doi.org/10, 1007, 978-3](https://doi.org/10.1007/978-3).
- Sanders, J., Channon, S., Gobat, N., Bennert, K., Addison, K., & Robling, M. (2019). Implementation of the family nurse partnership programme in England: Experiences of key health professionals explored through trial parallel process evaluation. *BioMed Central Nursing*, 18, 1-11.
- Sawyer, A. C., Kaim, A. L., Mittinity, M. N., Jeffs, D., Lynch, J. W., & Sawyer, M. G. (2019). Effectiveness of a 2-year post-natal nurse home-visiting programme when children are aged 5 years: Results from a natural experiment. *Journal of Paediatrics and Child Health*, 55(9), 1091-1098.
- Sharma, A., & Cockerill, H. (2007). *Mary Sheridan's from birth to five years: Children's developmental progress*. London: Routledge.
- Smith, E. (2008). *Using secondary data in educational and social research*. McGraw-Hill Education (UK).
- Squires, J., & Bricker, D. (2009). *Ages & Stages Questionnaires. (3rd Ed) (ASQ-3): A parent- completed child-monitoring system*. Baltimore: Brookes Publishing Co.

US Department of Health and Human Services. (n.d.) *The Belmont Report* (1979). Retrieved from <https://www.hhs.gov/ohrp/regulations-and-policy/belmont-report/index.html>

Walliman, N. (2020). *Your research project: designing, planning, and getting started*. (4th ed.). London. Sage.

Wiles, R., Crow, G., Heath, S., & Charles, V. (2008). The management of confidentiality and anonymity in social research. *International Journal of Social Research methodology*, 11(5), 417-428.

World Health Organization. (2020). *Improving early childhood development: WHO guideline*. World Health Organization.

World Medical Association. (1964). Declaration of Helsinki. Retrieved from http://www.Med.or.jp/wma/helsinki02_j.html.

Zapart, S., Knight, J., & Kemp, L. (2016). 'It was easier because I had help': Mothers' reflections on the long-term impact of sustained nurse home visiting. *Maternal and Child Health Journal*, 20, 196-204.

Appendices.

Appendix 1.

Maternal Early Childhood Sustained Home Visiting (MECSH).

Programme criteria.

Normal delivery but antenatal or postnatal conditions present
Single parent
[RFC] High parental anxiety
Teenage pregnancy
Lives with biological parent and step parent
[RFC] Physical disabilities
Social isolation
[V] Problems related to negative life events in childhood
History of domestic violence
[RFC] Drug addiction
[V] Other multiple birth, unspecified
Birth trauma
Financial problem
Adult mental illness - specialty
Alcohol problem drinking
History of sexual abuse
History of physical abuse
Family history of alcoholism
Preterm infant
Aggressive behaviour
Violent environment
Parent-infant attachment difficulties
Sibling has disability
[RFC] Other

NB other encompasses any other vulnerability identified by the Health Visitor at home visits

Appendix 2. Role of the Health Visitor and the service.

Who are health visitors and what do they do?

They are a vital infrastructure, working in partnership with families, communities and professionals



infant - /'ɪnf(ə)nt/
from Latin infant - 'unable to speak'

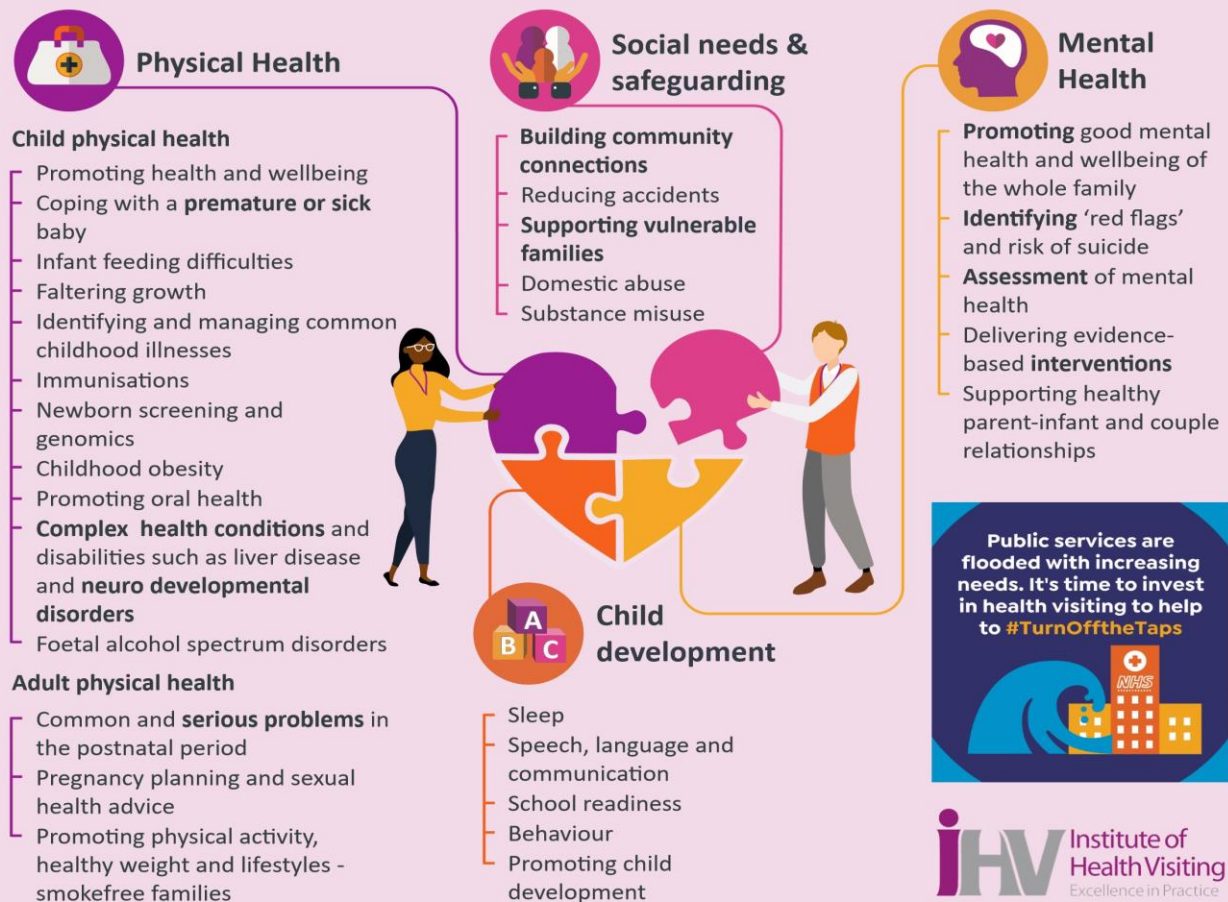
Health visitors speak up for babies and their families



Health creation is at the heart of health visiting

"As we recover from the pandemic, we have huge opportunities and challenges ahead...I am convinced that health visitors will play a key role in addressing the crucial issues amongst the families they work with."

Dr Camilla Kingdon, President of the Royal College of Paediatrics and Child Health



iHV Institute of Health Visiting
Excellence in Practice

APPENDIX 3.

MECSH Programme schedule

MECSH visit schedule (weeks)	Scheduled visit date (pencil in when visits are due)	Healthy Child Programme schedule (weeks/ months)	Learning to Communicate	Satisfaction and Enablement Questionnaires (PSQ & PEI) EPDS.
Antenatal visit 1		Home visit		A/N EPDS
Antenatal visit 2				
Antenatal visit 3				
BIRTH	DOB:	Home visit		
2		New baby review		
3				
4			Session 1	
5				6/52 PSQ & PQI & EPDS
6		6–8-week review		6 weeks
8			Session 2	
10			Session 3	
12			Session 4	
15			Session 5	
19			Session 6	
22			Session 7	
26			Session 8	
32			Session 9	
38			Session 10	
45			Session 11	PSQ & PSQ at 1YR
52		12-month review	Session 12	12 months
61				
70				
78		18 months		
87				
96				
104		2-year check		24 months

Appendix 4.

The Healthy Child Programme standard visiting schedule.



Appendix 5.

Scientific Merit clearance from the University of Chester

AF/BH

21 May 2024



Michelle Cumming
Family Nursing and Home Care (FNHC)
Le Bas Centre
St Saviours Road
St Helier
JE2 4RP

Faculty of Health and Social Care
Riverside Campus
Castle Drive
Chester
CH1 1SL
Email: hscethics@chester.ac.uk

Dear Michelle

Project Title: Is there a relationship between the developmental scores for children on the intensive home visiting programme (MECSH) compared to a cohort of children who have not experienced the programme at age one and two years and does the dose, or number of completed visits, impact the developmental outcomes of the children on MECSH?

Chief Investigator: Michelle Cumming

Educational Supervisor: Dr. Hazel McWhinnie, Jersey

I am pleased to confirm that the above research project has been subject to an independent scientific critique carried out by the Research Ethics Sub-Committee of the University of Chester's Faculty of Health and Social Care. The review included consideration of the research question, methodology, target group and plans for the recruitment of participants.

Overall, the reviewers considered the project worthwhile and of scientific merit, and that the protocol describes appropriate plans for the successful completion of the research.

Yours sincerely

A handwritten signature in black ink, appearing to read "A. P. Finnegan".

Professor Alan Finnegan
Chair, Faculty Research Ethics Sub-Committee

cc Research Knowledge Transfer Office
cc Academic Supervisor

Appendix 6

Health and Community Services favourable opinion letter

Health and Community Services



Health and Community Services
Research Ethics Committee
General Hospital | Gloucester Street | St Helier
Jersey | JE1 3QS

Private and Confidential

Michelle Cumming,
Family Nursing & Home Care
Le Bas Centre
St Saviours Road
St Helier
Jersey
JE2 4RP

Please note: This is a favourable opinion of the REC only and does not allow you to start your study at the research site until conditions are met and until you receive organisational permission to do so.

29/01/2022

Dear Mrs Cumming,

Study title: Is there a relationship between the developmental scores for children on the intensive home visiting programme (MECSH) compared to a cohort of children who have not experienced the programme at age two years?

REC reference: 2021/HCSREC/08

The HCS REC reviewed the above application on 27 January 2022.

Ethical Opinion

The members of the committee gave a favourable ethical opinion of the above research on the basis of the research described in the application and supplementary documentation. There are no conditions and no recommendations attached to this.

The HCS REC acknowledge receipt of the University of Chester clearance for scientific merit and letters confirming their sponsorship and professional indemnity cover.

Membership of the HCS Research Ethics Committee in attendance:

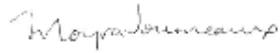
The members of the committee present are listed as:

Dr Moyra Joumeaux (Chair)
Jacqueline Harley (Secretary)
Clare Jouanny
Darren Bowring
Karen McNay
Kevin Davey
Paul McCabe
Rose Parkes
Sarah Evans
Susan Burry
Val Howard
Honor Blain
Aoife Journeaux

You should let us know if there are any significant changes to the proposal that might raise any further ethical issues. Amendments should be submitted to the HCS REC Administrator Dr Aoife Journeaux at: HCSResearchEthicsCommittee@gov.ie

Please let us have a brief final report to confirm the research has been completed.

Yours sincerely



Dr Moyra Journeaux
Chair HCS Research Ethics Committee

D +44 (0)1534 442741

E m.journeaux@health.gov.ie

Copy: Jacqueline Harley (Secretary HCS REC)
Dr Hazel McWhinnie

Appendix 7.

Gatekeeper letter

Dear Michelle,

You are very welcome to use the data we hold as an Organisation for your quantitative research. Thank you for giving assurance that you will follow all our protocols and GDPR privacy regulations. I would love to hear back from you on your findings in due course.

Kindest regards

Rosemarie

Rosemarie Finley | Chief Executive Officer (designate)

Family Nursing & Home Care | Le Bas Centre | St Saviours Road | St Helier | Jersey | JE2 4RP

✉ Email: r.finley@fnhc.org.je | Mobile: 07829 743001 | Web : www.fnhc.org.je

Appendix 8.



24 Month Questionnaire

21 months 0 days through 26 months 30 days



Date ASQ:SE-2 completed: **3/30/15**

Child's information

Child's first name: **Luke** Child's middle initial: **K** Child's last name: **Jones**

Child's date of birth: **2/23/13**

Child's gender: ☒ Male ☐ Female

Person filling out questionnaire

First name: **Lucy** Middle initial: **K** Last name: **Jones**

Street address: **20 First Street**

City: **Baltimore** State/province: **MD** ZIP/postal code: **21230**

Country: **United States** Home telephone number: **410-888-5679** Other telephone number:

E-mail address: **Lucy.Jones@email.com**

Relationship to child: ☒ Parent ☐ Guardian ☐ Teacher ☐ Other:
☐ Grandparent/other relative ☐ Foster parent ☐ Child care provider

People assisting in questionnaire completion:

Program information

(For program use only.)

Child's ID #: **13235457679891384** Age at administration in months and days: **25 months, 7 days**

Program ID #: **243465687819213**

Program name: **Charm City Child Care**

24 Month QUESTIONNAIRE 21 months 0 days through 26 months 30 days



Questions about behaviors children may have are listed on the following pages. Please read each question carefully and check the box ☒ that best describes your child's behavior. Also, check the circle ☒ if the behavior is a concern.

Important Points to Remember:

- ☐ Answer questions based on what you know about your child's behavior.
- ☐ Answer questions based on your child's *usual* behavior, not behavior when your child is sick, very tired, or hungry.
- ☐ Caregivers who know the child well and spend more than 15-20 hours per week with the child should complete ASQ:SE-2.
- ☐ Please return this questionnaire by: _____
- ☐ If you have any questions or concerns about your child or about this questionnaire, contact: _____
- ☐ Thank you and please look forward to filling out another ASQ:SE-2 in _____ months.

	OFTEN OR ALWAYS	SOME-TIMES	RARELY OR NEVER	CHECK IF THIS IS A CONCERN	
1. Does your child look at you when you talk to him?	☒ z	☐ v	☐ x	☐ v	<u>0</u>
2. Does your child seem too friendly with strangers?	☐ x	☐ v	☒ z	☐ v	<u>0</u>
3. Does your child laugh or smile when you play with her?	☒ z	☐ v	☐ x	☐ v	<u>0</u>
4. Is your child's body relaxed?	☒ z	☐ v	☐ x	☐ v	<u>0</u>
5. When you leave, does your child stay upset and cry for more than an hour?	☐ x	☒ v	☐ z	☒ v	<u>10</u>
6. Does your child greet or say hello to familiar adults?	☐ z	☒ v	☐ x	☐ v	<u>5</u>
7. Does your child like to be hugged or cuddled?	☒ z	☐ v	☐ x	☐ v	<u>0</u>
8. When upset, can your child calm down within 15 minutes?	☒ z	☐ v	☐ x	☐ v	<u>0</u>

TOTAL POINTS ON PAGE **15**

P201240100

Ages & Stages Questionnaires®: Social-Emotional, Second Edition (ASQ:SE-2™), Squires, Bricker, & Twombly.
© 2015 Paul H. Brookes Publishing Co., Inc. All rights reserved.

page 1 of 5

24 Month Questionnaire



Check the box ☒ that best describes your child's behavior. Also, check the circle ☒ if the behavior is a concern.

	OFTEN OR ALWAYS	SOME-TIMES	RARELY OR NEVER	CHECK IF THIS IS A CONCERN	
9. Does your child stiffen and arch his back when picked up?	☒ x	☐ v	☐ z	☐ v	<u>0</u>
10. Is your child interested in things around her, such as people, toys, and foods?	☐ z	☐ v	☐ x	☐ v	<u>0</u>
11. Does your child cry, scream, or have tantrums for long periods of time?	☐ x	☐ v	☐ z	☐ v	<u>5</u>
12. Do you and your child enjoy mealtimes together?	☐ z	☐ v	☐ x	☐ v	<u>0</u>
13. Does your child have eating problems? For example, does he stuff food, vomit, eat things that are not food, or ____? (Please describe.)	☐ x	☐ v	☐ z	☐ v	<u>0</u>
14. Does your child sleep at least 10 hours in a 24-hour period?	☐ z	☐ v	☐ x	☐ v	<u>0</u>
15. When you point at something, does your child look in the direction you are pointing?	☐ z	☐ v	☐ x	☐ v	<u>0</u>
16. Does your child have trouble falling asleep at naptime or at night?	☐ x	☐ v	☐ z	☐ v	<u>0</u>
17. Does your child get constipated or have diarrhea?	☐ x	☐ v	☐ z	☐ v	<u>0</u>
TOTAL POINTS ON PAGE					<u>5</u>

24 Month Questionnaire



Check the box ☒ that best describes your child's behavior. Also, check the circle ☒ if the behavior is a concern.

	OFTEN OR ALWAYS	SOME-TIMES	RARELY OR NEVER	CHECK IF THIS IS A CONCERN	
18. Does your child follow simple directions? For example, does she sit down when asked?	☐ z	☒ v	☐ x	☐ v	<u>5</u>
19. Does your child let you know how he is feeling with words or gestures? For example, does he let you know when he is hungry, hurt, or tired?	☒ z	☐ v	☐ x	☐ v	<u>0</u>
20. Does your child check to make sure you are near when exploring new places, such as a park or a friend's home?	☐ z	☐ v	☐ x	☐ v	<u>0</u>
21. Does your child do things over and over and get upset when you try to stop her? For example, does she rock, flap her hands, spin, or _____? (Please describe.) _____ _____	☐ x	☐ v	☒ z	☐ v	<u>0</u>
22. Does your child like to hear stories or sing songs? 	☒ z	☐ v	☐ x	☐ v	<u>0</u>
23. Does your child hurt himself on purpose?	☐ x	☐ v	☒ z	☐ v	<u>0</u>
24. Does your child like to be around other children? For example, does she move close to or look at other children? 	☒ z	☐ v	☐ x	☐ v	<u>0</u>
25. Does your child try to hurt other children, adults, or animals (for example, by kicking or biting)?	☐ x	☐ v	☒ z	☐ v	<u>0</u>
26. Does your child try to show you things by pointing at them and looking back at you?	☒ z	☐ v	☐ x	☐ v	<u>0</u>
TOTAL POINTS ON PAGE					<u>5</u>

24 Month Questionnaire



Check the box ☒ that best describes your child's behavior. Also, check the circle ☒ if the behavior is a concern.

	OFTEN OR ALWAYS	SOME-TIMES	RARELY OR NEVER	CHECK IF THIS IS A CONCERN	
27. Does your child play with objects by pretending? For example, does your child pretend to talk on the phone, feed a doll, or fly a toy airplane?	☒ z	☐ v	☐ x	☐ v	<u>0</u>
28. Does your child wake three or more times during the night?	☐ x	☐ v	☒ z	☐ v	<u>0</u>
29. Does your child respond to his name when you call him? For example, does he turn his head and look at you?	☒ z	☐ v	☐ x	☐ v	<u>0</u>
30. Is your child too worried or fearful? If "sometimes" or "often or always," please describe:	☐ x	☒ v	☐ z	☐ v	<u>5</u>
<u>Luke is hesitant when he is in unfamiliar places and situations.</u>					
31. Has anyone shared concerns about your child's behaviors? If "sometimes" or "often or always," please explain:	☐ x	☒ v	☐ z	☒ v	<u>10</u>
<u>Our day care provider say it takes Luke a while to stop crying when we leave.</u>					

TOTAL POINTS ON PAGE _____

OVERALL Use the space below for additional comments.

32. Do you have concerns about your child's eating or sleeping behaviors? If yes, please explain:

☐ YES

☒ NO

No

33. Does anything about your child worry you? If yes, please explain:

☒ YES

☐ NO

Luke's reaction to being in new situations concerns us because he gets very upset and cries for a long time.

34. What do you enjoy about your child?

When Luke is happy and comfortable, his smile and laughter make everyone around him smile.

24 Month Information Summary 21 months 0 days through 26 months 30 days



Child's name: Luke K. Jones Date ASQ:SE-2 completed: 3/30/15
 Child's ID #: 13235457679891384 Child's date of birth: 2/23/13
 Person who completed ASQ:SE-2: Mother Child's age in months and days: 25 months, 7 days
 Administering program/provider: Charm City Child Care Child's gender: ☒ Male ☐ Female

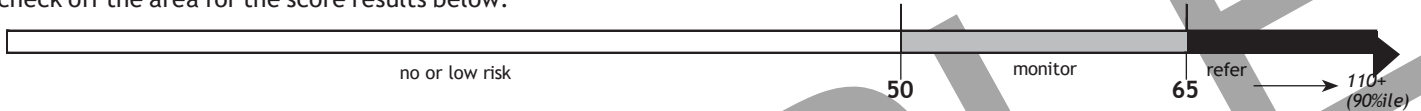
1. ASQ:SE-2 SCORING CHART:

- Score items (Z = 0, V = 5, X = 10, Concern = 5).
- Transfer the page totals and add them for the total score.
- Record the child's total score next to the cutoff.

TOTAL POINTS ON PAGE 1	15
TOTAL POINTS ON PAGE 2	5
TOTAL POINTS ON PAGE 3	5
TOTAL POINTS ON PAGE 4	10
Total score	40

Cutoff	Total score
65	40

2. ASQ:SE-2 SCORE INTERPRETATION: Review the approximate location of the child's total score on the scoring graphic. Then, check off the area for the score results below.



- ☒ The child's total score is in the ☐ area. It is below the cutoff. Social-emotional development appears to be on schedule.
☐ The child's total score is in the ☐ area. It is close to the cutoff. Review behaviors of concern and monitor.
☐ The child's total score is in the ☒ area. It is above the cutoff. Further assessment with a professional may be needed.

3. OVERALL RESPONSES AND CONCERNS: Record responses and transfer parent/caregiver comments. YES responses require follow-up.

- 1-31. Any Concerns marked on scored items? ☒ YES ☐ no Comments: _____
32. Eating/sleeping concerns? ☐ YES ☒ no Comments: _____
33. Other worries? ☒ YES ☐ no Comments: **Adapting to new situations**

4. FOLLOW-UP REFERRAL CONSIDERATIONS: Mark all as Yes, No, or Unsure (Y, N, U). See pages 98-103 in the ASQ:SE-2 User's Guide.

- No Setting/time factors (e.g., Is the child's behavior the same at home as at school?)
No Developmental factors (e.g., Is the child's behavior related to a developmental stage or delay?)
No Health factors (e.g., Is the child's behavior related to health or biological factors?)
No Family/cultural factors (e.g., Is the child's behavior acceptable given the child's cultural or family context? Have there been any stressful events in the child's life recently?)
Yes Parent concerns (e.g., Did the parent/caregiver express any concerns about the child's behavior?)

5. FOLLOW-UP ACTION: Check all that apply.

- No Provide activities and rescreen in _____ months.
Yes Share results with primary health care provider.
Yes Provide parent education materials.
No Provide information about available parenting classes or support groups.
No Have another caregiver complete ASQ:SE-2. List caregiver here (e.g., grandparent, teacher): _____
No Administer developmental screening (e.g., ASQ-3).
No Refer to early intervention/early childhood special education.
No Refer for social-emotional, behavioral, or mental health evaluation.
 Other: _____