“*It’s really tricky to open a can of worms where you have nothing to offer*" An Interpretative Phenomenological Analysis of Health professionals' perspective on the potential introduction of the ACEs screen to a Paediatric Department in New Zealand, using an Implementation Science approach.

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Abstract

The current study aimed to examine how to introduce Adverse Childhood Experiences (ACEs) screening into a Paediatric setting in New Zealand (NZ). At present there are significant health inequities within the NZ population. Research has indicated that an underlying and often unaddressed issue contributing to the development of health inequity is the accumulation of childhood adversities. This phenomenon was named ACEs. ACEs was also found to be a leading cause of early death in adults. The discovery of this public health issue prompted those in the field to identify ACEs early. However, it is yet to be implemented in NZ health settings. Therefore, the current study examines health professionals' perspectives on introducing the ACEs questionnaire into routine practice in a Paediatric Department in NZ. This study used knowledge from Implementation Science (IS) method to identify the most effective way to implement this questionnaire in the hospital setting. The Replicating Effective Program (REPs) Framework was identified as the best IS framework for this project. The focus of this project was on the first stage of the REP framework, the pre-condition stage, particularly identifying the barriers that could impede on the implementation process and the facilitators that can assist in enhancing screening practices. Interpretative Phenomenological Analysis (IPA) was the methodology and analysis utilised for this project. Purposeful selection was carried out and five participants were recruited and interviewed for the project: three Paediatricians and two Allied health workers. Four superordinate themes emerged from the analysis. They are Knowledge, training, and perspective on ACEs; Reflecting on current practices; Questions, concerns, and other barriers; and Suggested improvements. Further subordinate themes also emerged under three of the four superordinate themes. These findings from the study have provided deeper perspectives into barriers that inhibit health professionals from screening for ACEs in daily practices. The findings have also revealed the facilitators that can promote ACEs screening

within the Paediatric Department. These findings has the opportunity to begin the process of ACEs screening in a Paediatric setting in NZ and begin the process of identifying ACEs in an effort to reduce health inequity in the NZ population.

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Introduction

The New Zealand (NZ) government has a long-standing commitment to reducing health inequities through several health services (Goodyear-Smith & Ashton, 2019; Hobbs et al., 2019). Despite these efforts, health inequity persists among vulnerable groups in NZ (Goodyear-Smith & Ashton, 2019; Hobbs et al., 2019). According to the World Health Organization (WHO; 2018), health inequity is defined as systematic disparities in health status or allocation of health supplies across diverse groups of people. Due to the current climate with the COVID-19 pandemic and the Respiratory Syncytial Virus (RSV) outbreak in 2021, health inequity among vulnerable populations in NZ has widened (Elers et al., 2021; Wiki et al., 2021). These issues can lead to substantial social and economic costs to individuals and society (World Health Organization, 2018).

This public health issue of health inequity has prompted many researchers for years to find answers for its underlying cause. One prominent finding from years of research is that health inequity is linked to early exposure to childhood adversity (Nurius et al., 2016). This is because research has found that exposure to childhood adversity in the early years can lead to later detrimental health outcomes (Nurius et al., 2016). These health outcomes, alongside other factors, were found to influence health inequity (Nurius et al., 2016). However, before exploring the underlying issues influencing health outcomes further, we must first understand the context in which these issues exist. Therefore, this section will explore the current context within NZ that is contributing to inequitable health outcomes. This will be done by identifying the NZ health system and the factors contributing to the widening of health inequity in NZ before exploring the underlying factors contributing to ongoing health inequity in NZ.

The New Zealand Health System

Goodyear-Smith and Ashton (2019) state that in 1938 the NZ government established a universal health system funded by taxation. NZ was one of the first countries to develop a tax-funded health system. The government aimed to provide all citizens access to a comprehensive range of health services free of charge (Goodyear-Smith & Ashton, 2019). The government recognised the importance of providing everyone with equal access to the same quality of treatment with a focus on prevention, including providing integrated primary-care and hospital-based care services (Brown & Bryder, 2022; Goodyear-Smith & Ashton, 2019). It is admirable to have a health system dedicated to reducing health inequity; nonetheless, this issue persists in NZ (Health Quality & Safety Commission New Zealand, 2019; Hobbs et al., 2019).

Despite best efforts, the NZ government has struggled over the years to enhance health equity for all New Zealanders and in particular the indigenous, Māori people (Brown & Bryder, 2022; Goodyear-Smith & Ashton, 2019; Hobbs et al., 2019). Since the initial introduction of the NZ health system, successive governments modified the health care system to improve some of its shortcomings (Brown & Bryder, 2022; Goodyear-Smith & Ashton, 2019), but vulnerable populations such as indigenous Māori and Pasifika communities in NZ continue to face inequitable health outcomes (Brown & Bryder, 2022; Health and Disability System Review, 2020; Health Quality & Safety Commission New Zealand, 2019)

Health statistics in NZ have found that Māori and Pasifika communities experience greater health inequities compared to other groups in NZ. One key indicator of this is life expectancy. Both groups show shorter life expectancies when compared to their counterparts (Health and Disability System Review, 2020). Statistics also indicate that health inequity for Māori spans their entire life course (Health and Disability System Review, 2020). Māori and

Pasifika groups are both disproportionally affected by intergenerational poverty, live in deprived areas, are unemployed, live in crowded households, and have low income compared to non-Pasifika and non-Māori populations (Health and Disability System Review, 2020). Inequity among Māori people occurs because of inequitable allocation of socioeconomic determinants of Health (Health and Disability System Review, 2020). Health services also influence the perpetuation of health inequity seen within this population (Health and Disability System Review, 2020). Research indicates that Māori people are not gaining the same health benefits from the health systems that non-Māori people can achieve (Health Quality & Safety Commission New Zealand, 2019). Māori people are less likely to be provided with access to services than non- Māori (Health Quality & Safety Commission New Zealand, 2019). These health statistics highlight the current health inequity faced by vulnerable groups in NZ.

The efforts made by the NZ government to improve health care have not enhanced equity for these vulnerable communities (Health Quality & Safety Commission New Zealand, 2019). All these factors contribute to ongoing inequity in health outcomes for the Māori and Pasifika populations (Health and Disability System Review, 2020). In response to the continued health inequity suffered by vulnerable groups like Māori and Pasifika, the Labour government 2021 proposed changes to the health system (Little et al., 2021). A combination of praise and critiques has followed the announcement to the health system (Radio New Zealand, 2021). However, many are asking if the proposed changes will improve the health system or continue to cause issues for vulnerable groups in the population (Radio New Zealand, 2021).

Widening of Health Inequity. COVID-19 (SARs-Cov2 virus) pandemic and RSV (Respiratory Syncytial Virus) outbreak have contributed to the widening health inequity in NZ. COVID-19 emerged in late 2019 and soon spread across the world, causing death and disabilities to many people (Summers et al., 2020). The introduction of COVID-19 vaccinations prompted vaccine mandates by the government(Ministry of Health, 2022a), especially for those with face-to-face roles in the community (Ministry of Health, 2022a). RSV cases, a common cause of acute respiratory tract infections in infants, increased in 2021 due to the loosening of COVID-19 restrictions in NZ (Grant et al., 2021). COVID-19 and RSV also significantly increased pressure on the healthcare system due to the changes it made to healthcare delivery in NZ (Daalder, 2022; Wilson et al., 2021). The mandates created further pressure on the health system because unvaccinated individuals had to leave their roles in healthcare (Moodie, 2021). The pandemic and the outbreak have caused significant issues for the health sector and the public, specifically vulnerable groups in NZ.

COVID-19 and RSV contributed to the widening health inequities in NZ due to several factors. Elers and colleagues' (2021) work highlights the western approach taken within the NZ healthcare system. They argue that this has created barriers for marginalised and vulnerable groups in NZ to access health care. Elers et al. (2021) assert that COVID-19 exacerbated the structurally established inequalities, especially in health care for Māori, Pasifika, and Refugee communities. The authors also state that this is primarily due to the exclusion of vulnerable groups in decision-making during the development of the response framework to tackle COVID-19. Elers et al. (2021) work indicate that this led people from vulnerable communities to fall through the cracks in the health system because they faced further challenges in addressing their health compared to their counterparts. Other factors contributing to widening health inequity are mass job losses, finding shelter, accessing food, and accessing the wage subsidy (Elers et al., 2021; Sharma et al., 2021). In addition, new challenges emerged as a result of the COVID-19 response taken by the government, such as attendance restrictions on births, funerals, and accessing translators (Elers et al., 2021). All these factors have contributed to the widening health inequity in NZ in the last few years (Elers et al., 2021).

Childhood Adversity, COVID-19, and Health Inequity

The effects of the COVID-19 pandemic and the RSV outbreak have widened the health inequities, highlighting this long-overlooked public health issue in our community. It is essential to highlight that this issue is not unique to NZ; health inequity is an issue shared among many countries worldwide (Sonu et al., 2021). Thus, internationally, researchers have placed efforts to identify the underlying cause of this issue. In the past few decades, studies have uncovered childhood adversity as a pressing and pervasive issue contributing to the continued health inequity for generations, particularly among vulnerable communities (Nurius et al., 2016; Sonu et al., 2021). Nurius and colleagues (2016) state that health inequity is a product of socioeconomic factors and exposure to childhood adversity. Socioeconomic factors have long been recognised as contributors to health disparity through the health-wealth gradient, whereas it is our understanding of the role of childhood adversity as a factor contributing to health inequity is only beginning to emerge in society.

Research on childhood adversity has identified that health inequity experienced in childhood can continue into adulthood, leading to poor physical and mental health consequences for individuals (Xafis, 2020). Those that experience poverty in childhood is more likely to experience higher mortality rates (Raphael, 2011). Experiences of adverse events in childhood include things such as family dysfunction or living with individuals with severe mental health issues or substance abuse issues (Bellis et al., 2017; Loxton et al., 2019; Xafis, 2020). These experiences can significantly affect overall health and wellbeing in childhood and adulthood (Bellis et al., 2017; Loxton et al., 2019; Xafis, 2020). Research on these topics has indicated that health inequity is an issue that stems from childhood (Nurius et al., 2016; Sonu et al., 2021). However, the COVID-19 pandemic has worsened the experience of adversity for many children worldwide, which in turn will negatively influence their long-term health outcomes (Bryant et al., 2020; Calvano et al., 2022; Sonu et al., 2021). This means it is vital to understand how childhood adversity can impact health and find ways to reduce the health inequity experienced by communities, particularly in NZ. Therefore, the following chapter will explore the topic of Adverse Childhood Experiences (ACEs) in depth to identify how they influence health and find ways to mitigate their effects on health, primarily to address this issue post-COVID-19 pandemic.

Thesis overview

This thesis will include five chapters. The first chapter will provide details of the ACEs topic through a literature review. In the second chapter, a literature review will detail the Implementation Science approach that will be utilised in the project. Following the literature reviews, the third chapter of the thesis will outline the current project's method and methodology. Chapter four will provide a synthesis of the results and the findings from the data analysis. Finally, chapter five will present a discussion of the findings in detail.

Chapter One: Adverse Childhood Experiences

Scientists have been investigating single types of childhood adversity for a long time due to the associated, harmful, long-term consequences on individual mental health (Anda et al., 1999; Dube et al., 2001; Dube, Felitti, Dong, Chapman, et al., 2003; Dube, Felitti, Dong, Giles, et al., 2003; Felitti et al., 1998). However, it was in the 1990s that Kaiser Permanente and the Centre for Disease Control (CDC) in the United States of America (USA) discovered the collective impact of childhood adversity and the long-term effects on individuals' lives (Felitti et al., 1998). Felitti and the authors (1998) coined this phenomenon, Adverse Childhood Experiences (ACEs). They found that ACEs are more common than expected and have cumulative effects over time, leading to poorer health outcomes and health behaviours (Felitti et al., 1998). This was a significant discovery, and following this information, interest in the field of ACEs grew rapidly. The current chapter will explore ACEs research that have been conducted globally and in New Zealand (NZ) to find potential ways to mitigate its effect on New Zealanders.

The Origins of ACEs Research. Felitti and colleagues (1998) study began to explore the relationship between childhood abuse and later adult health outcomes. ACEs are not limited to single types of adverse experiences; instead, the focus is the collective impact of a range of adversities individuals may encounter in their childhood (Felitti et al., 1998). Felitti and colleagues (1998) described two categories of ACEs in their study. The first category includes physical, psychological, and sexual abuse (Felitti et al., 1998). The second category includes; household dysfunction; living in a household with substance abuse issues; violence towards the mother; mental illnesses; suicide attempts, or having an incarcerated parent (Felitti et al., 1998). Felitti and colleagues' (1998) study was pivotal in highlighting ACEs as a public health issue. This seminal study found that individuals that have four or more ACEs are more at risk for certain health issues like ischemic heart disease, cancer, chronic lung disease, and more at risk of attempting suicide, drug use, and developing alcoholism (Felitti et al., 1998). The most powerful finding from this research was that the health issues developed due to ACEs could lead to early death in adults (Felitti et al., 1998). The neurobiological mechanisms involved in toxic stress will be explored next to better understand how these findings about ACEs work at a biological level.

Toxic Stress. The relationship between ACEs and their long-term adverse outcomes can be explained by biological mechanisms involved in toxic stress. Toxic stress is a term used to explain constant exposure to trauma and stress (Hornor, 2015). If young people are exposed to intense trauma or stress over time without intervention, it can become toxic (Hornor, 2015). Neurobiology research has found that the Hypothalamic-Pituitary-Adrenal Axis (HPA), which responds to physiological stress, continues to be activated due to toxic stress. In turn, toxic stress can result in changes to the brain structures and chemistry (Hornor, 2015). This can be harmful to young, developing brains, leading to the lifelong development of diseases and unhealthy behaviours (Hornor, 2015). These findings highlight the need to address ACEs early to prevent the development of toxic stress and lifelong diseases which leads to early death.

Critique of the Original Study. Felitti and authors' (1998) work has also received many critiques. One prominent critique of the original study was the lack of diversity (Cronholm et al., 2015; Wade et al., 2016). The study only included white, middle to upper-class, and insured participants (Cronholm et al., 2015; Wade et al., 2016). This hinders the generalisation of the study to other populations (Cronholm et al., 2015; Wade et al., 2016). Another critique uncovered was the limited adversities identified in the study (Cronholm et al., 2015; Wade et al., 2016). The adversities assessed by Felitti and authors (1998) were family-level issues, while other types of adversities, such as neighbourhood and community-level issues, were neglected (Cronholm et al., 2015; Wade et al., 2016). Successive ACEs research has addressed these limitations by exploring the effects of ACEs on different populations in the USA (Cronholm et al., 2015; Wade et al., 2016).

Cronholm and colleagues (2015) study examined the prevalence of the original and expanded set of ACES items among racially and socioeconomically diverse participants. The expanded ACEs items include witnessed violence, discrimination, unsafe neighbourhoods, bullying, and foster care. Cronholm and authors (2015) found evidence to support the concept that greater levels of adversity are experienced by minority and low-income communities. When the original and expanded sets of ACEs were compared to a diverse population, they found that gender, poverty, and race have a stronger association with the expanded ACEs items than with the original items (Cronholm et al., 2015). This indicates that adversity varies across populations and that some groups are more prone to certain types of adversities than others (Cronholm et al., 2015). Thus, the concept of adversity arguably should be expanded when working with other populations (Cronholm et al., 2015). Wade and colleagues (2016) also expanded the ACEs categories to include bullying, safety, and neighbourhood safety. They found that the expanded set of ACEs was significantly associated with health risk behaviours and mental health issues but not physical health issues. However, these connections were not as strongly associated as conventional ACEs (Wade et al., 2016). This allowed them to capture a more accurate representation of the effects of ACEs on socioeconomically and racially diverse communities rather than assuming the same adversities affect all populations. Addressing issues of diversity and expanding the concept of ACEs has allowed researchers to better understanding of how ACEs' effects vary within different populations.

Further Research Supporting ACEs. The original seminal study by Felitti and colleagues (1998) was followed by research that was also eager to investigate the effects of ACEs. This was because scientists were interested in understanding more about the link found between collective childhood trauma experiences and their long-term impacts on individuals’ physical health and health behaviours (Anda et al., 1999; Dube et al., 2001; Dube, Felitti, Dong, Chapman, et al., 2003a; Dube, Felitti, Dong, Giles, et al., 2003b; Edwards et al., 2003; Felitti et al., 1998). Similar to the findings from the original study, subsequent studies also found that ACEs can increase the chance of developing a range of health issues and health behaviours. They also found more evidence linking various types of problematic health behaviours through their study, such as drug use and addiction, suicide attempts, smoking, alcoholism, a high number of sexual partners, and contracting sexually transmitted diseases (Anda et al., 1999; Dube et al., 2001; Dube, Felitti, Dong, Chapman, et al., 2003a; Dube, Felitti, Dong, Giles, et al., 2003b). These studies also showed a graded or dose-response effect based on the number of ACEs contributing to disease and health behaviours in line with the findings from Felitti and colleagues (1998) work (Anda et al., 1999; Dube et al., 2001; Dube, Felitti, Dong, Chapman, et al., 2003a; Dube, Felitti, Dong, Giles, et al., 2003b; Edwards & Clarke, 2005). These studies confirm and expand on the knowledge of ACEs and their link to developing risky health behaviours and diseases. This information also adds to the evidence that ACEs is a public health issue requiring early intervention.

ACEs and Intergenerational Effects

In addition, studies in the field of ACEs are beginning to explore the impact of ACEs on not just individuals but also on their relationships and intergenerational effects- namely, the effects of parents' ACEs on their children's development and parenting and parent-child relationships. Research that has examined the parent-child relationship and the intergenerational effects of ACEs has found that parental ACEs have links to adverse offspring effects (Folger et al., 2018; Guss et al., 2020; Lange et al., 2019; Lê-Scherban et al., 2018; Madigan et al., 2017; Mcdonnell & Valentino, 2016; Moog et al., 2018; Narayan et al., 2017, 2021; Racine et al., 2018).

Parent ACEs and Child Development. Studies in the field of ACEs found that mothers that were exposed to child maltreatment are more likely to experience mental and physical issues pre and post-pregnancy (Mcdonnell & Valentino, 2016; Racine et al., 2018). Madigan and colleagues (2017) study indicated that four or more maternal ACEs are associated with a two and fivefold increase in biomedical and psychosocial risks (respectively) to mothers and children. This means there is a higher risk of preterm births, fetal mortality, and adjustment issues in children later in development (Madigan et al., 2017). Research also found that a combination of maternal and paternal ACEs is associated with an increased risk of developmental delay in their offspring (Folger et al., 2018). Brain studies have found that children born to mothers that have experienced ACEs had smaller brain sizes and low amounts of grey matter volume compared to children whose mothers were not exposed to ACEs (Moog et al., 2018). This suggests delays in the intrauterine development of cortical grey matter.

Subsequently, research has indicated that mothers who have experienced higher levels of ACEs are more likely to have offspring with health problems, issues with socioemotional functioning, problems in early development, and altered developmental trajectories. This is linked to increased susceptibility to the development of psychopathologies in offspring later in life (Mcdonnell & Valentino, 2016; Moog et al., 2018; Racine et al., 2018). These findings indicate that maternal ACEs' impact can trickle down through generations (Racine et al., 2018). This evidence also helps to support the theory that biophysical and behavioural processes that occur during pregnancy can consequently influence their children’s early development (Racine et al., 2018). It also highlights the intergenerational effects of ACEs (Racine et al., 2018).

Parenting and Parent-Child Relationships. Similar to previous individual ACEs studies, a dose-response relationship was also identified in increased maternal ACEs, later increased parental stress, and a decrease in positive parenting practices (Lange et al., 2019). This is extended by studies examining parents' executive functioning, which was found to also play an indirect role in their interactions with their children (Guss et al., 2020). This indicates that increased parent ACEs are connected to conflict with their children (Guss et al., 2020). Research also indicates that the psychosocial influence of maternal behaviour could influence children indirectly through unresponsive parenting styles. This can be linked to attachment-based issues (Folger et al., 2018).

Research indicates that parental ACEs can influence attachment by impeding the development of secure attachment between parents and children (Ainsworth et al., 2015; Bowlby, 1982; Carlson et al., 1989; Cyr et al., 2010). Consequently, the offspring of these caregivers may develop insecure or disorganised attachment styles (Ainsworth et al., 2015; Bowlby, 1982; Carlson et al., 1989; Cyr et al., 2010). This, in turn, can have long-lasting effects on children's development into adulthood (Mikulincer & Shaver, 2012). This is because the parent-child relationship can influence all future social interactions with others. Studies have found that attachment-based issues in children can lead to the development of mental health issues and difficulties in romantic relationships later in life (Mikulincer & Shaver, 2012).

Research also highlights the intergenerational transmission of parent ACEs. Studies among vulnerable communities like the homeless found that a higher number of parental ACEs contribute to the development of ACEs in their offspring a generation later (Narayan et al., 2017). Letourneau and authors (2019) study suggest that maternal mental health may influence the intergenerational transmission of ACEs, especially to boys. While Craig and colleagues (2021) research also showed evidence of an intergeneration transmission of ACEs, however they found that it was not a direct interaction to explain offending behaviour. These findings illustrate intergenerational effects of ACEs and how they can influence parenting practices and lead to adverse outcomes for their offspring. Thus, these findings emphasise the need to address these issues in families for the health of all members.

ACEs in the Context of New Zealand

NZ is one of many countries that developed an interest in ACEs, as Felitti and colleagues' work produced attention globally. This led to the proliferation of ACEs research in NZ. Many of the initial studies that explored ACEs in NZ focused on investigating single types of adversities and their long-term effects (Boden et al., 2010; Danese et al., 2009; Fanslow et al., 2007; Fergusson et al., 2000, 2008; Marie et al., 2008b, 2008a, 2012; McLeod et al., 2018; Reuben et al., 2016). NZ research on the cumulative effects of multiple ACEs has only emerged recently, along with studies exploring potential ways to combat the effects of ACEs (Fanslow et al., 2021; Hashemi et al., 2021; Walsh et al., 2019, 2020). These studies will be examined in the following section.

Fanslow and colleagues' (2021) study and Walsh and colleagues' (2019) study are the two research projects that have so far investigated the cumulative effect of multiple ACEs on the NZ population. These studies have been integral in identifying the prevalence rates of ACEs and their effects on New Zealanders. Fanslow and colleagues (2021) found that 55% of adults surveyed through the 2019 NZ Family Violence survey (2019 NZFVS) have experienced at least one ACE, and 11.6% of people have four or more ACEs. They also found that one out of nine people has experienced at least four ACEs before the age of 18 (Fanslow et al., 2021). ACEs were found across sociodemographic characteristics (Fanslow et al., 2021). Māori participants reported the highest levels of all types of ACEs compared to their counterparts (Fanslow et al., 2021). The study also found all eight types of ACEs were associated with Intimate Partner Violence (IPV) and Non-Partner Violence (NPV) (Fanslow et al., 2021).

Another NZ study by Walsh and colleagues (2019) examined ACEs and their link to school readiness in NZ children using the longitudinal study growing up in New Zealand (GUiNZ). The study's findings indicate that at 54 months, 52.8% of the young participants have experienced at least one ACE, and 2.6% have experienced four or more ACEs (Walsh et al., 2019). The findings also highlight the effects of ACEs on a range of age groups in NZ. Similar to the trend found in the original ACEs study, both studies that investigated ACEs prevalence rates report a dose-response relationship between the variables explored (Fanslow et al., 2021; Walsh et al., 2019). This means as the number of ACEs increased, the chance of exposure to later IPV or NPV also increased (Fanslow et al., 2021). Walsh and the authors (2019) found that a higher number of ACEs is associated with low scores in the preschool readiness tests in NZ children. These findings add to the existing literature in the field and inform on the rates of ACEs in NZ.

Two studies also looked at potential ways to mitigate the effects of ACEs on the NZ population (Hashemi et al., 2021; Walsh et al., 2020). Hashemi and colleagues (2021) examined the effects of Positive Childhood Experiences (PCEs) on combating the effects of ACEs, also using the 2019 NZFVS. Results indicate that participants with high ACEs scores are less likely to report positive health outcomes (Hashemi et al., 2021). They also found that any experience with ACEs is damaging to health, even with the presence of PCEs (Hashemi et al., 2021). Walsh and colleagues (2020) examined the use of a Predictive Risk Model (PRM) in identifying families at risk and detecting protective factors to mitigate the risk (Walsh et al., 2020). This was done using GUiNZ by identifying participants with no ACEs despite PRM showing a high risk for ACEs (Walsh et al., 2020). The authors identified 749 protective factors, which were divided into the following categories, mother-partner relationship, family finances, parent health and wellbeing, community or neighbourhood, and parent-child relationship (Walsh et al., 2020). The results indicate the most strongly associated protective factor mitigating the predicted high-risk participants with no ACEs is the mother-partner relationship factor (Walsh et al., 2020). This finding provides some information on addressing the issues of ACEs; however, more research is required. The current findings in NZ research confirm ACEs as a public health issue that requires attention. While these studies attempt to find ways to address this issue in NZ, we still require further research to assist with identifying guidelines and interventions in NZ.

ACEs and Screening

ACEs literature internationally and in NZ has painted a grim picture of the long-term consequences of adversity on people's lives. Thus, it is essential to explore how this public health issue can be addressed to reduce the adverse outcomes. Currently, in NZ, research is only beginning to explore ways to combat ACEs and does not have specific guidelines to advise on responding to this issue at the moment (Hashemi et al., 2021; Walsh et al., 2020). When looking globally, the USA stands out because research is starting to implement guidelines to address ACEs. One prominent suggestion that has evolved from work in the USA is the introduction of universal screening in healthcare settings (Anda et al., 2020; Barnes et al., 2020). This strategy attempts to systematically identify and inform treatment to tackle a range of behavioural, health, and developmental problems associated with ACEs (Barnes et al., 2020). This is because the scores derived from the screening tool have been instrumental in identifying the relationship between childhood adversity, health, and social consequences (Anda et al., 2020). The American Academy of Pediatrics (AAP) has issued both policy statements and guidelines for paediatricians on screening and carrying out surveillance to detect risks and protective factors important for the development and mental health of children and parents (American Academy of Pediatrics Task Force on Mental

Health., 2010). Similarly, primary care health workers are also encouraged to screen for ACEs because they frequently interact with parents and children from an early age (Forkey et al., 2021; Marie-Mitchell et al., 2016).

Despite the recommendations, one of the main challenges in resolving this public health issue is the lack of evidence showing the best practice of collecting information about ACEs in paediatric settings (Barnes et al., 2020; Mendel et al., 2021). This issue is compounded by a host of challenges related to the ACEs tool (Barnes et al., 2020; Dube, 2018). The original ACEs questionnaire was primarily designed for research, not for screening (Anda et al., 2020). Thus it does not have a single outcome measure; instead, it outlines subjective social and psychological outcomes of health (Barnes et al., 2020; Dube, 2018). This impedes identifying clear cut-off points and suitable interventions for those with high ACEs scores (Barnes et al., 2020). It has also been critiqued for its inability to identify the severity, duration, breadth of ACEs, sex differences, protective factors, and the timing of exposure in individual development (Anda et al., 2020; Barnes et al., 2020; Mendel et al., 2021).

Certain ACEs items from the original screen have also been criticised for being irrelevant to the current climate (Finkelhor, 2018; Joy & Beddoe, 2019). Finkelhor (2018) has argued that the tool needs to be adapted and include other child adversity variables that are more context-specific such as bullying and peer rejection. NZ-based research by Joy and Beddoe (2019) has critiqued the use of incarceration of a parent as an item in the ACEs screen. The authors state that certain groups in society are more likely to be incarcerated (Māori and Muslim people) than other groups for similar crimes (Joy & Beddoe, 2019). This is due to institutional racism experienced by these vulnerable groups (Joy & Beddoe, 2019). The authors argue that the questions in the ACEs screen are set up to measure parental criminal behaviour on offspring (via parental imprisonment) by measuring the impact of racism and relative privilege of different groups in society (Joy & Beddoe, 2019). Thus, they suggest that the ACEs tool is inappropriate to be used across populations without considering the impact of racism.

Several questionnaires have been adapted to include broader categories of ACEs (Forkey et al., 2021; Jacob et al., 2019). However, these questionnaires face the same critique as the original screen regarding validity and reliability. This means none of the ACEs questionnaires are validated or standardised to be used in practice (Forkey et al., 2021). Due to all the issues outlined, concern has risen about the potential misapplication of the ACEs tool to screen, allocate risk levels, and make decisions about interventions for those identified (Anda et al., 2020; Dube, 2018; Finkelhor, 2018; Mclennan et al., 2019).

In addition to the issues with the ACEs questionnaire, research also advises against rushing into the widespread screening of ACEs in general (Finkelhor, 2018; Joy & Beddoe, 2019; Mclennan et al., 2019; Racine et al., 2020). Finkelhor (2018) suggests considering the following three questions before introducing screening for ACEs; What are effective interventions and responses required for individuals that test positive for ACEs? What are the possible consequences of screening? What should clinicians be screening for using the ACEs questionnaire? (Finkelhor, 2018). If these questions are not considered, there is a chance that screening could cause more harm in the form of re-traumatising and facilitate stigma among individuals with high ACEs scores (Racine et al., 2020). Therefore many are cautioning against the use of the ACEs tool in a diagnostic or predictive capacity at an individual level to allocate risk and make decisions about interventions (Anda et al., 2020; Forkey et al., 2021). They suggest addressing the identified issues before attempting to introduce the widespread screening of ACEs (Anda et al., 2020; Finkelhor, 2018).

Trauma-Informed Care.

Despite all the critique on utilising ACEs routinely in primary care, it can be argued that ignoring or not screening for trauma experiences can also be unethical (Becker-Blease & Freyd, 2006; Deprince & Freyd, 2006; Jaffe et al., 2015). Research shows that questions and conversations about ACEs- when done sensitively- can be beneficial for trauma survivors (Becker-Blease & Freyd, 2006; Deprince & Freyd, 2006; Jaffe et al., 2015). To address the current issues with the ACEs screening tool, a Trauma-Informed Care (TIC) approach has been suggested as a solution (Mendel et al., 2021). Hodas (2006) argue for universal precautions and the use of TIC by adopting a system in which all patients are presumed to have traumatic experiences. This points to considerations about the utility of TIC in everyday practice by clinicians (Goddard, 2021).

To explain it more simply, TIC is about professionals stopping and considering the role of trauma and how its' long-term effects influence peoples' lives (Wilson et al., 2013). Consideration should also be given to how people with trauma behave differently; what can be done to reduce re-traumatisation; and what can be done to help heal from their experiences (Wilson et al., 2013). It promotes understanding and thoughtful responses to people that have experienced trauma (Hopper et al., 2010; Roberts et al., 2019). TIC is an approach to service delivery rather than a model. It combines knowledge of trauma and sensitivity into actions. This, in turn, helps to minimise the adverse effects of interventions and enhance meaningful engagement and the use of other models. Successful TIC relies on the ability to deliver evidence-based and evidence-informed trauma-specific interventions when needed. It also moves beyond, to viewing the whole service-delivery experience through a trauma lens.

Therefore, the TIC approach encourages working together with those that experience trauma as partners (Wilson et al., 2013). It has been proposed that in turn, TIC can aid people with trauma to enhance their resilience and self-efficacy (Hopper et al., 2010; Roberts et al., 2019). This can help people face triggers and any adversities presented in the future (Wilson et al., 2013). Goddard (2021) outlines that based on this knowledge, people who have contact with individuals with trauma experiences can contribute to their healing process by providing a supportive relationship.

So how would this work with ACEs screening? TIC can be used by introducing the six principles into practice. They are safety; trustworthiness and transparency; peer support; collaboration and mutuality; empowerment, voice, and choice; and cultural, historical, and gender issues (Substance Abuse and Mental Health Services Administration, 2014). TIC approaches do not have procedures to dictate their use; instead, they emphasis adherence to the principles generally (Substance Abuse and Mental Health Services Administration, 2014). This allows the TIC approach to be used in a wide variety of settings with room to carry out adjustments. Thus, an organisation implementing TIC requires changes at multiple levels and requires adherence to the core principles of TIC (Substance Abuse and Mental Health Services Administration, 2014). By realizing the effects of trauma on individuals, recognising the signs, and using the ACEs screening tool to provide further information, organisations can respond by applying TIC principles to provide the best care to those affected while resisting re-traumatisation. These practices have since been encouraged by the American Academy of Paediatricians (Duffee et al., 2021; Garner & Yogman, 2021). Therefore, TIC can be used to mitigate the issues identified earlier with the original ACEs questionnaire while using it to carry out surveillance of trauma in parents and children (Mendel et al., 2021).

Ecological Systems Theory

The Ecological systems theory (also known as the Bioecological theory) was developed by Bronfenbrenner (1979, 2005). This is a critical theory to consider when discussing ACEs. This is because Ecological systems theory assists in explaining the complex interaction between developing human beings and their environment (Bronfenbrenner, 1979). Bronfenbrenner (1979) stated that the ecological environment comprises of five interrelated systems: Microsystem, Mesosystem, Exosystem, Macrosystem, and Chronosystem. These levels are arranged based on their influence on a child (Bronfenbrenner, 1979, 2005). The five systems are interconnected; therefore, the influence of one system can impact that of another system which can affect a child's development (Bronfenbrenner, 1979, 2005). This theory perceives children's development as a complex arrangement of connections influenced by multiple levels of nearby environments, beginning with the immediate interaction such as family, health, and school (Microsystem) to wider systems involving attitudes, laws, and culture (Guy-Evans, 2020). Therefore, this theory is crucial for tackling the issue of ACEs as it highlights that changes to children's environments can influence their development. It also emphasises the relevance and importance of early intervention for ACEs in children as it can have a lifelong positive impact on children's lives.

ACEs and Perspectives of Health Professionals

Given the evidence to identify ACEs earlier in children and families with the TIC approach and considering the ecological systems theory, how have healthcare settings utilised this information? At present, USA and Canada have carried out studies examining the use of the ACEs tool in health care settings. Findings from these studies can provide valuable insight into ACEs screening practices in healthcare settings. Therefore, the following section will review literature that examines ACEs screening practices of paediatricians, a range of physicians, and nurse practitioners.

Paediatricians. Three USA-based studies provide valuable insight into Paediatricians' ACES screening practices, ACEs knowledge, attitudes, and beliefs (Bright et al., 2015; Kerker et al., 2016; Szilagyi et al., 2016). Kerker and authors' (2016) work utilised the 2013 AAP periodic survey, and it involved 302 paediatricians that work in general paediatric care.

Their work revealed that only 4% of the paediatricians enquired about all ten original ACEs (Kerker et al., 2016). In terms of ACEs knowledge, only a small number (>11%) of clinicians knew about the original study (Kerker et al., 2016). An important finding from the study was that paediatricians who believed it was within their scope to address socio-emotional issues were twice as likely to screen for ACES (Kerker et al., 2016). Similarly, clinicians interested in enhancing their mental health training are twice as likely to screen for ACEs (Kerker et al., 2016). Szilagyi and colleagues' (2016) work extended the findings from the previous study. They found paediatricians who believed that their guidance prompted positive parenting skills questioned more about parent ACEs. Therefore, the authors argue that training is essential in enhancing confidence in using screening tools and increasing screening practices (Kerker et al., 2016; Szilagyi et al., 2016).

Bright and colleagues' (2015) work examined ACEs screening practices of 210 Paediatricians working with children from low-income households. They compared the prevalence rates reported by paediatricians to the caregiver-reported and state-reported prevalence rates for ACEs. They found that clinicians underestimated the prevalence rates in their community for all ACEs. Results also show that despite clinicians understanding the importance of screening for ACEs, they practice this sparingly (Bright et al., 2015). The authors highlight that this indicates a knowledge-practice gap in health care. The participants of this study also identified several barriers to screening. The barriers identified are: lack of an appropriate screening tool (3%); limited access to resources (13%); feeling overwhelmed by the number of conditions they are required to screen for; and some participants (2%) felt that it is not their role to screen for ACEs nor do they think it will benefit patients (Bright et al., 2015). These findings highlight paediatricians' knowledge and practice in using ACEs screening.

These studies provide a glimpse into the screening practices of Paediatricians. The findings from the studies indicate low screening practices among Paediatricians (Bright et al., 2015; Kerker et al., 2016; Szilagyi et al., 2016). All three of the studies provided different perspectives on the screening practices of Paediatricians. Kerker and colleagues' (2016) work and Szilagyi and colleagues (2016) work found that Paediatricians' beliefs about information enhanced the chance of screening for ACEs. This suggests that Paediatricians may require more understanding of the rationale and benefits of ACEs screening to improve screening practices. Compared to the other studies, Bright and colleagues' (2015) work examined barriers to ACEs screening by Paediatricians. These barriers revealed that Paediatricians might require further education, training, resources, and support to implement ACEs screening.

Physicians. Several studies have also examined ACEs screening practices, knowledge, attitudes, and beliefs of physicians from different specialties working with adults and families (Bora et al., 2021; Stork et al., 2020; Tink et al., 2017). Tink and Authors (2017) surveyed 115 first- and second-year doctors in the family medicine residency program at Calgary University, Canada. The results indicate that 2% of participants screened for ACEs on the patient's first visit (Tink et al., 2017). They also found that 65% of the participants did not feel confident enough to screen for ACEs. However, 80% of participants believe it is their role to carry out ACEs screening (Tink et al., 2017). When enquired about training, 45.5% of participants reported receiving medical training to screen for ACEs (Tink et al., 2017).

Stork and colleagues' (2020) study examined a cohort of 226 community and resident doctors from a hospital and healthcare system based in the USA. They found that 81% of the participants did not have any knowledge of ACEs; a very small number (3%) of the clinicians indicated that they screened for ACEs (Stork et al., 2020). Bora and colleagues' (2021) work surveyed 72 physicians working with children at a not-for-profit healthcare organisation in the USA. They found that only 18% of participants knew ACEs, and 37.5% of participants reported that they were not familiar with the original ACEs study (Bora et al., 2021). When enquired about the frequency of screening, only 2.8% of clinicians reported using an ACEs screen regularly, while 52.8% of participants stated that they had never screened patients for ACEs (Bora et al., 2021). Most participants (90.3%) reported not receiving formal education and training in ACEs or TIC (Bora et al., 2021). However, most participants (90.3%) believed training will benefit their practice (Bora et al., 2021). The most common barriers identified by participants for ACEs screening are lack of time, lack of training on working with traumatised young people, and perceived difficulty in accessing services and emergency services. These studies provide an understanding of physicians' screening practices and barriers that inhibit their practices, including systematic issues.

These studies have illuminated the screening practices of physicians working with children and families (Bora et al., 2021; Stork et al., 2020; Tink et al., 2017). All three studies found that ACEs screening practices across physicians were low (Bora et al., 2021; Stork et al., 2020; Tink et al., 2017). Tink and colleagues (2017) study found that large number of physicians received medical training to complete ACEs screening. In contrast, Bora and colleagues' (2021) study found that most participants did not receive formal training and Stork and colleagues' (2020) study did not enquire about the participant's training. Interestingly, despite each study indicating different levels of training, the screening practices of physicians across the studies are low. Tink and colleagues (2017) found that lack of confidence in screening contributed to low screening numbers. In contrast, Stork and colleagues (2020) work did not investigate the reasons for low ACES screening rates. The study by Bora and colleagues (2021) provided the most insight into ACEs screening barriers and was the only study to enquire about TIC training. These findings suggest that physicians working with children and families require more education, training, and support to become confident in screening for ACEs.

Nurses. Two studies have examined the ACEs screening practices among Nurse Practitioners (NPs) (Branstetter et al., 2020; Kalmakis et al., 2017). Branstetter and colleagues' (2020) research examined the ACEs screening practices of 44 NPs in the USA. The survey found that only 15% of the participants frequently screen for childhood trauma. They also found that ACEs knowledge differed between specialties; psychiatric-mental health NPs knew more about ACEs than family NPs (Branstetter et al., 2020). Psychiatric NPs were found to be more knowledgeable and more likely to use ACEs screening compared to other NPs. The most commonly identified barrier by NPs was lack of time (Branstetter et al., 2020).

Kalmakis and colleagues (2017) conducted a mixed-method study to examine NPs' ACEs screening practices, skills, attitudes, and barriers. The survey was completed by 188 NPS, and 12 NPs were involved in the focus group discussions (Kalmakis et al., 2017). They found that 34% of NPs frequently screened for ACEs and believed it was their duty (Kalmakis et al., 2017). NPS who identified as being moderate to very confident were 13 times more likely to screen for ACEs than those who were not very confident (Kalmakis et al., 2017). The survey found that 52% of participants did not feel confident in screening for ACEs (Kalmakis et al., 2017). The study also identified six barriers impeding screening practices (Kalmakis et al., 2017). They were: lack of time to ask about ACEs; lack of time to provide counselling for people with trauma histories; feeling uncomfortable asking about psychosocial issues; being worried about retraumatising people; feeling as if there is little they could do; and being worried about offending clients by asking questions about trauma (Kalmakis et al., 2017). These findings highlight NPs' experiences using ACEs screening and provide insights into why some NPs might not screen for ACEs.

These findings provided insight into the ACEs screening practices of NPs. The results from the two studies showed that the frequency of screening practices among NPs is low (Branstetter et al., 2020; Kalmakis et al., 2017). Branstetter and colleagues (2020) found that NPs with more knowledge about ACES are more likely to screen for them. Kalmakis and colleagues' (2017) work identified that a higher confidence level also enhances ACEs screening practices. These findings suggest that having more knowledge of ACEs and confidence in completing the screening is likely to enhance the screening practices of NPs. Kalmakis and colleagues (2017) work provided more details on barriers impeding on ACEs when compared to Branstetter and colleagues (2020) work. This could be because of the different types of analysis carried out by each study. Kalmakis and colleagues (2017) study was a mixed method study, whereas Branstetter and colleagues' (2020) work was quantitative. The findings from the study indicate that NPs may require further education, training, and support to improve ACEs screening practices with individuals.

Critique. Each of the studies indicates that health professionals have some knowledge of ACEs and that questions about ACEs are being asked of patients at times (Bora et al., 2021; Bright et al., 2015; Kerker et al., 2016; Stork et al., 2020; Tink et al., 2017). However, the ACEs tool is not being used widely in primary healthcare settings. Some studies have identified barriers and recommendations to mitigate the issues health professionals are currently facing while trying to implement ACEs screening in their everyday interactions (Bora et al., 2021; Bright et al., 2020; Tink et al., 2017). In addition, TIC was only enquired about in one study ((Bora et al., 2021), despite research showing the importance of utilising it in screening for ACEs. These findings have highlighted the knowledge-practice gap that currently exists in healthcare settings.

Knowledge-practice gaps occur when research evidence is not transferred effectively to make meaningful changes in health policy, clinical practice, or products (Lang et al., 2007). In this case, the evidence-based ACEs research findings are not being used effectively in health care settings, especially in Paediatrics, to mitigate its effects on parents and children. In addition, all studies that have examined the use of ACEs tools in practice have emerged from the USA and Canada (Bora et al., 2021; Kalmakis et al., 2017; Stork et al., 2020). Therefore, the generalisation of the studies will be limited to similar samples. Research in NZ regarding the same practices is lacking. This means that currently, there is a gap in research that examines the transfer of knowledge that can identify and screen for ACEs and subsequently reduce their effects in the NZ health care system, particularly in Paediatric settings.

Current Issues

The lack of evidence-based ACEs knowledge transference into practice in NZ is the current issue that aims to be addressed in this current study. Translating knowledge-to practice is a challenging process (Rapport et al., 2018). Several studies done outside of NZ examined methods of introducing the ACEs screening tool to various primary care settings (DiGangi & Negriff, 2020; Glowa et al., 2016; Kia-Keating et al., 2019; Liu et al., 2021; Marie-Mitchell et al., 2019; Marsicek et al., 2019). These studies found that by using particular methods, it is feasible, acceptable, and appropriate to introduce the ACEs tool to primary care settings, even among culturally and economically varied groups (DiGangi & Negriff, 2020; Glowa et al., 2016; Kia-Keating et al., 2019; Liu et al., 2021; Marie-Mitchell et al., 2019; Marsicek et al., 2019). The majority of the studies (four out of six) used a method called Implementation Science (IS) to assist with the transference of knowledge to practice (DiGangi & Negriff, 2020; Kia-Keating et al., 2019; Liu et al., 2021; Marie-Mitchell et al., 2019).

IS is an approach that has gained popularity over the past few decades, particularly within healthcare settings, because of its efficiency in transferring knowledge to practice

(Bauer et al., 2015; Rapport et al., 2018). It provides a more systematic way of approaching and introducing evidence-based research into practice (Rapport et al., 2018). This means an IS approach offers a way to assist with bridging the ACEs' knowledge-practice gap that currently exists in NZ. It is essential to note that the studies mentioned above focused on examining the feasibility of transferring the ACEs screening to the settings and did not provide details on the IS method used within the studies. In addition, all the studies carried out were done outside of NZ. This means more research is required to understand how the IS method can transfer knowledge to practice in an NZ setting. Therefore, in the following chapter, IS will be reviewed and discussed in depth to identify the factors that need to be considered when introducing ACEs screening into a Paediatric setting in NZ.

Chapter Two: Implementation Science

Research in the field of healthcare is rapidly finding new innovative, evidence-based practices (EBPs) to enhance patient care (Forman et al., 2013). However, recommended EBPs are not being translated and utilized into practice in healthcare settings in a timely manner (Forman et al., 2013). When EBPs are not utilised as intended, it can lead to a host of issues, including inappropriate care of patients (Eccles & Mittman, 2006). Research has found that EBPs take approximately 17 years to be implemented in health settings from the time they are published (Balas & Boren, 2000; Morris et al., 2011). Even with these efforts, it is estimated that only half the number of EBPs published will be translated into practice (Balas & Boren, 2000). This creates a knowledge-practice gap (Bauer et al., 2015; Weinreb et al., 2010). This issue has grown the interest in utilising Implementation Science (IS) to assist in delivering EBPs in healthcare settings (Albers et al., 2020; Nilsen, 2020). This approach is used by clinical research to effectively implement EBPs into practice in an efficient, effective, and time-sensitive manner (Rapport et al., 2018). The current chapter will explore the topic of IS and review several frameworks to identify the most appropriate one for the current project. This will be carried out to identify the best way to implement ACEs screening practices in a New Zealand (NZ) health setting.

IS is defined as "the scientific study of methods to promote the systemic uptake of research findings and other evidence-based practices into routine settings to enhance the quality and effectiveness of health services and care" (Eccles & Mittman, 2006, p. 1) It also involves understanding the influence of the implementation process on healthcare professionals and organisational behaviour (Eccles & Mittman, 2006). Successful implementation has been an important topic of discussion since the 1970s in the field of political science (Hupe, 2011; Hupe & Hill, 2016; Weatherley & Lipsky, 1977). However, IS became popular in practice when it was considered alongside the introduction of EBP in the field of medicine (Albers et al., 2020; Sackett et al., 1996). Since this time, IS has been adopted by many different disciplines (Albers et al., 2020; Nilsen, 2020). It is important to highlight that IS involves a broader scale than conventional clinical research (Bauer et al., 2015). IS work also requires trans-disciplinary collaborations that include individual members who are not routinely involved in clinical trial research (Bauer et al., 2015). Its focus moves beyond the patient level to include the provider, organisation, and policy levels in the field of healthcare (Bauer et al., 2015). For example, at the provider level utilising strategies such as education and training, and performance incentives, and at an organisation level, facilitating directed effort organise staff to assist with multiple levels of organisational change via coaching by providers or teams (Bauer et al., 2015). This is usually done within a theory, framework, or a model to structure the process. The use of a TMF in IS research will be explored next.

Theories, Models, or Frameworks

Implementation success is usually measured based on the sustainability of the program applied (Massey & Vroom, 2020). To ensure successful implementation the process requires a strong foundation. A keyway to begin the process of implementation is by utilizing TMFs that can guide the process. Many theories utilised in IS have been adopted from fields such as sociology, organisational theories, and psychology. TMFs have also been developed in the field of IS (Nilsen, 2020). Many TMFs exist in the field of IS which makes it difficult to identify one to use in implementation. The next section will introduce several TMFs and will evaluate how different TMFs can implement EBPs.

iPARIHS. iPARIHS (Integrated Promoting Action on Research Implementation in Health Services) framework was originally designed for use in healthcare settings (Harvey & Kitson, 2020). The core constructs of the iPARIHS are; successful implementation (SI), Evidence (E), Context (C), and facilitation (F) (Harvey & Kitson, 2020). Successful implementation is defined as the function of the dynamic interplay between evidence, context, and facilitation (Harvey & Kitson, 2020). The proposition in the iPARIHS framework states that successful implementation is a product of facilitating innovation (I) with the intended recipient (R) in their contextual (C) setting or (SI =F(I, R, C)) (Harvey & Kitson, 2020). The previous version of iPARIHS (PARIHS) received several criticisms. Thus it has undergone changes to address the limitations of the previous framework, and iPARIHS became the revised version of PARIHS (Harvey & Kitson, 2020). iPARIHS is a widely used framework within the health sector to carry out the implementation of EBPs. The following section will outline the strengths, limitations, and recommendations provided by studies that have utilised the iPARIHS framework for implementation.

Several strengths have been identified in using the iPARIHS framework in implementation. Firstly, a strength of the iPARIHS framework is its usefulness in systematically planning the process before introducing an EBP (Peel et al., 2021; Roberts et al., 2021; Steffen et al., 2021). It allows researchers to understand the interaction between all components in implementation, which assists in planning the implementation process (Laycock et al., 2018). It is a good tool for planning and assessing facilitation that is practice-based (Laycock et al., 2018). It helped clarify how EBP can work in a complex environment. It can also help conceptualise the facilitators' involvement in creating success as well as any shortfalls (Laycock et al., 2018).

Secondly, the four domains (facilitation, innovation, recipients, and context) were consistently highlighted across studies due to their usefulness in implementation, particularly to identify barriers and facilitators (Cao et al., 2021; Peel et al., 2021; Roberts et al., 2021; Steffen et al., 2021). Thirdly, this framework was able to identify barriers, which enabled the use of tailored strategies to be placed to mitigate the barriers before implementation (Roberts et al., 2021; Steffen et al., 2021). Fourthly, some studies found that the framework is useful in organising data, providing an understanding of the translation of research into practice and how this can be delivered in healthcare settings (Roberts et al., 2021; Steffen et al., 2021). Finally, the constructs and subconstructs of the iPARIHS framework helped develop interviews and analyse data (Laycock et al., 2018; Steffen et al., 2021).

Several limitations of the framework were also highlighted by the studies. Firstly, Steffen and the authors (2021) found that iPARIHS lacks clarity around the action required to activate the component of facilitation and the sub-classifications in the framework. They suggest this limitation can be resolved by providing more detail about the element of facilitation. This in turn will be important for the operationalization of the framework and identifying facilitation barriers (Steffen et al., 2021). Secondly, Gustavson and colleagues (2021) found the application of the iPARIHS framework challenging because the subconstructs overlapped partially due to their lack of clarity. This made it difficult for the authors to assign barriers and facilitators, identified during the analysis stage, to a single core component of the framework (Gustavson et al., 2021).

Several recommendations were suggested to improve future studies using iPARIHS in implementations. Firstly, leadership support was identified as a crucial factor in EBP uptake, such as the utility of nurse managers as key facilitators in the implementation due to their knowledge and experience in healthcare settings (Cao et al., 2021; Peel et al., 2021). Secondly, Peel and colleagues (2021) found a lack of time hindered the uptake of implementation by some departments in the hospital, thus they recommend ensuring enough time is set aside to complete implementation. Thirdly, Peel and colleagues (2021) found that in healthcare settings utilising support from not only the targeted stakeholders or providers but also other healthcare professionals in the process would be helpful. This was identified as a potential factor that influences the change, uptake, and sustaining of a novel EBP in healthcare settings (Peel et al., 2021).

REP Framework. The Replicating Effective Program (REPs) Framework was initially developed by the US Centres for Disease Control and Prevention (CDC) (Kilbourne et al., 2007). It was originally developed to create a package and disseminate EBP for HIV (Human Immunodeficiency Virus) and to bridge the research and practice gap, especially to package interventions to effortlessly implement them in non-academic settings such as community-based centers (Kilbourne et al., 2007). The framework was constructed from a systematic literature review and community input. The REP framework consists of four phases: pre-condition, pre-implementation, implementation and maintenance, and evolution (Kilbourne et al., 2007). Each of the phases has a set of activities to complete within the phase. See Table 1 (Kilbourne et al., 2007). To date, the REP framework has been adapted and utilized in implementing a range of EBPs in a range of healthcare and community-based service settings. These studies have identified several strengths, limitations, and recommendations in using the REP framework to implement EBPs.

Table 1

Replication Effective Program (REP) Framework

Phase	Activity	Process	Who
Pre-condition	Identify need	Identify high-burden condition Identify barriers to implementation	Researcher
	Identify effective intervention	Identify intervention tested in a completed, randomised controlled study	Researcher
	Identify Barriers	Organisational needs assessment, usual care	Researchers, representatives from practices, providers of community-based organisations
	Draft Package	Write package into everyday language Distinguish core elements, menu options	Intervention developers
Pre-implementation	Community Working Group	Select community working group (CWG) Refine package, core elements, and menu options refined based on CWG input, adjudicated by intervention developers Refine training, technical assistance approach strategies per CWG input	Researcher, CWG
	Pilot test package orientation	Further refinement of the package	Researcher, CWG
		Identify eligible organisations	Researcher, CWG, organisations participating in implementation
		Logistics of dissemination Kick-off meeting, package disseminate	
Implementation	Training Technical assistance Evaluation	Organisation staff training	Researchers and staff
		Follow up with organisations Formative evaluation Model fidelity Patient outcomes Return on investment	Technical assistance expert Researchers
	Ongoing support Feedback and refinement	Continue CWG, site visits	Researchers, CWG
		Analyse data, inform sustainability Refine package	CWG, Researchers
Maintenance and evolution	Organisational, financial changes	CWG advises on sustainability	Researchers, CWG, sites
		Develop a business case for intervention and REP process	
	National dissemination	Reproduce package Refine business case: Return on investment	Researchers, CWG
	Re-customise delivery as the need arises	Continue to refine the package	Researchers, CWG

Note. Retrieved from Implementing evidence-based interventions in health care: application of the replicating effective programs framework by A. Kilbourne, M. Neumann, H. Pincus, M. Bauer, and R. Stall, 2007, *Implementation Science,* 2(42), p 4.

The first strength identified by many of the studies using the REP framework is the ease and flexibility in adapting it to fit the needs of the intervention and target population (Boucher et al., 2021; Hastings et al., 2018; Ramsay et al., 2019). This was made possible because the framework was able to determine the core elements of the EBI and its suitability for adaptation (Boucher et al., 2021; Kwan et al., 2020; Ramsay et al., 2019). Two studies tracked the changes, one using a framework named FRAME, and the other did not specify a tool (Boucher et al., 2021; Kwan et al., 2020). Tracking adaptations helped the researchers figure out which elements of the implementation process worked and which did not (Boucher et al., 2021). Identifying the core elements of each study and tracking the changes also helped to ensure fidelity and rigour in the studies (Boucher et al., 2021; Kwan et al., 2020). Kwan and colleagues (2020) found adaptation of the EBI assisted in reducing barriers.

A second strength identified in the REP framework is its early emphasis on determining partners and stakeholders, obtaining buy-in frequently by leadership and front-line staff via meetings, collaborating with centers, forming a task force, and gathering expert knowledge (Boucher et al., 2021; Dean et al., 2016; Hastings et al., 2018; Ramsay et al., 2019). All these elements assisted the studies in successfully implementing the EBPs (Boucher et al., 2021; Dean et al., 2016; Hastings et al., 2018; Ramsay et al., 2019). These steps in the initial stages aided researchers in identifying potential barriers to implementation and helped mitigate many of them in the study (Boucher et al., 2021).

A third strength of the framework is it allowed researchers to recognise the barriers to implementing the intervention during the pre-implementation stage (Ramsay et al., 2019). Fourthly, the framework allows researchers to plan before implementation using its initial two phases, pre-condition and pre-implementation (Eappen et al., 2018; Zarafshan et al., 2019). This is particularly helpful for individuals without prior experience in completing the implementation because the framework is easy to apply (Eappen et al., 2018). Lastly, peer mentoring was identified as valuable for the implementation process, especially in the last stage of REP (Boucher et al., 2021). They found that information exchange between centers during implementation helps provide collegial support (Boucher et al., 2021).

In addition to strengths, some studies also identified limitations to the REP framework. Firstly, researchers found that the REP framework did not provide detailed instructions on modifying the framework to suit the EBP in the context (Ramsay et al., 2019). Therefore, they emphasised the need for more research examples that have modified the framework (Ramsay et al., 2019). Secondly, a larger amount of time and resources were required to fully implement the intervention (Ramsay et al., 2019). They suggest that other people who seek to use this framework, including researchers, could benefit from a shorter version of the REP framework to carry out implementation (Ramsay et al., 2019).

Based on the strengths and the limitations, several recommendations were outlined. Firstly, pre-implementation requires a large portion of time. Thus, it was recommended to others intending to use the REP framework to ensure that enough time was set aside for this phase (Ramsay et al., 2019). Secondly, it was recommended that researchers provide innovative methods for introducing crucial elements of the EBP to the target population (Ramsay et al., 2019).

SIC Framework. The Stages of Implementation Completion (SIC) framework is an assessment device developed to measure the implementation process and objectives. This tool was first developed via a randomised controlled implementation trial (Chamberlain et al., 2011). This measure was originally designed to be flexible in exploring varying implementation approaches and in being standardised to be able to gather information about the different implementation approaches (Saldana et al., 2020). The aim of developing the SIC tool was to provide a low-burden observation tool for developers and organisations to track the progress of those attempting to implement and adopt EBPs (Saldana et al., 2020). It was created as a research tool, but it was successful in predicting implementation outcomes, successful program start-ups (Saldana et al., 2011), and considering costs and resources in the implementation process (Saldana et al., 2014). It comprises eight stages which range from initial interactions with developers to examining clinician competency (Chamberlain et al., 2011) see Table 2.

Table 2

The Stages of Implementation Completion (SIC) Framework

Phase	Stage	Activity	Involvement
Pre-implementation	1. Engagement	1.1 Date site is informed service/program available 1.2 Date of interest indicated 1.3 Date agreed to consider implementation	System leader
	2. Consideration of Feasibility	2.1 Date of first contact for pre-implementation planning 2.2 Date first in-person meeting/feasibility call 2.3 Date Feasibility questionnaire is completed	System leader, Agency
	3. Readiness planning	3.1 Date of cost/funding plan review 3.2 Date of staff sequence, timeline, hire plan review 3.3 Date of Foster parent recruitment review 3.4 Date of referral criteria review 3.5 Date of communication plan review 3.6 Date of Meeting #2/ Stakeholder meeting 3.7 Date written implementation plan completed 3.8 Date MTFC Service Provider Selected	System leader, Agency
Implementation	4. Staff Hired and trained	4.1 Date agency checklist completed 4.2 Date 1st staff hired 4.3 Date Program Supervisor trained 4.4 Date clinical training held 4.5 Date Foster Parent training held 4.6 Date Expert Consultant assigned to the site	Agency, Practitioners
	5. Adherence monitoring processes in place	5.1 Date Parent Daily Report training held 5.2 Date of 1st program administrator call	Practitioners, Child/family
	6. Services and consultations begin	6.1 Date of the first placement 6.2 Date of first consult call 6.3 Date of first clinical meeting video received 6.4 Date of first foster parent meeting video received	Practitioner, Child/family
	7. Ongoing services, consultation, fidelity monitoring, and feedback	7.1 Dates of site visits (3) 7.2 Date of implementation review (3) 7.3 Date of final program assessment	Practitioner, child/ family
Sustainability	8. competency	8.1 Date of the certification application 8.2 Date certified	System, Agency, Practitioner

Note. Retrieved from Observational measure of implementation progress in community-based settings: The stages of implementation completion (SIC) by P. Chamberlain, C. Brown and L. Saldana, *Implementation Science*, 6 (16), p.4

Compared to other frameworks, SIC has not been used widely to carry out implementation in healthcare settings. This could be because SIC was intended to be used in a range of settings. The studies that have utilised SIC were carried out in various contexts such as schools, mental health settings, primary care prevention, substance abuse treatment, and state-wide system initiates (Bogan et al., 2020; Nadeem et al., 2018; Palinkas et al., 2018; Saldana et al., 2020). Each of the studies that used this framework reported successful implementation of their Evidence-based intervention (EBI) (Bogan et al., 2020; Nadeem et al., 2018; Palinkas et al., 2018; Saldana et al., 2020). Most of the studies attribute the success to the SIC framework's comprehensive way of tracking the progress of the implementation process (Nadeem et al., 2018; Palinkas et al., 2018; Saldana et al., 2020). This allows the researchers to identify why certain staff members or sites discontinued or were not successful in implementing the EBI. SIC's approach also assisted in identifying individual factors that contributed to the overall success of implementation, such as prior experience implementing EBPs (Nadeem et al., 2018; Palinkas et al., 2018). The SIC framework is also easily adaptable (Nadeem et al., 2018). Saldana and colleagues (2020) also found the SIC framework to be a low-burden tool in their implementation efforts. It was also identified as a reliable tool with strong face validity. Studies that utilised SIC did not comment on any limitations of the framework. This could also be due to the lack of studies that have used the SIC in implementation.

Utility of TMF in IS research

The use of TMFs is important in IS research because it can be used to clarify or enhance the research process (Rapport et al., 2018). Research indicates that due to the lack of theoretical underpinnings in early IS studies, researchers struggled to identify the reasons they had varied results (Davies et al., 2003; Eccles et al., 2005; Kitson et al., 1998; Michie et al., 2005; Sales et al., 2006). Early IS research was empirical, and theoretical underpinnings were not considered (Nilsen, 2020). Updated IS research suggests that the utilisation of theoretical underpinnings provides a way for researchers to determine and outline how and why certain implementations are successful while others are not (Nilsen, 2020). The last ten years of research into IS have identified the need to include a theoretical basis and approaches to facilitate work in this field (Nilsen, 2020). Therefore, the use of TMF has become an important mechanism that leads to success in the implementation of EBPs (Nilsen, 2020). The following section will focus on identifying the current issue and context to determine the most appropriate framework to utilise in the current research project.

Current Issue and Context.

The three frameworks evaluated can each be used to carry out Implementation. However, each framework has its strengths and limitations. This means researchers intending to carry out implementation must consider the individual needs of the study (Hamilton & Finley, 2019). The current study's considerations must include the issue the EBP is attempting to resolve, the context in which it will be introduced, and how these aspects match the strengths and limitations of each framework as it applies to the EBP.

The previous chapter reviewed the topic of ACEs, the current best practices, and what is occurring in primary healthcare settings. These discussions revealed a major gap in literature and practice. The knowledge-practice gap inhibits the utility of universal screening in NZ Paediatric settings. Thus, IS will be used to explore how to resolve this issue. In considering context, at present, NZ is battling the COVID-19 pandemic, and the healthcare system is overwhelmed (Cummings, 2021; Ministry of Health, 2022b). In addition, the NZ health care system will be under reconstruction in 2022, which will likely add more pressure to the already burdened system (Department of Prime Minister and Cabinet, 2021). Another contextual factor to consider is the length of time. Many studies recommend having sufficient time to complete the project, especially in the initial planning stages (Peel et al., 2021;

Ramsay et al., 2019). Implementation could take a long time to complete from beginning to end, which a master's thesis research may not have, especially with the added complication of conducting research during a pandemic and health reform. Therefore, it is beyond the scope of the current study to carry out implementation from beginning to end. Instead, it is useful to take time to plan the process before implementation.

Choosing a framework. While each framework is suitable for implementation when considering the current issue to resolve and the context, one framework is more suitable for this task than the others. SIC framework is relatively user-friendly and has some research evidence supporting its effectiveness in implementation in healthcare (Bogan et al., 2020; Saldana et al., 2020). However, it lacks comprehensive research evidence showing its effectiveness in implementation in healthcare settings compared to the two other frameworks. iPARIHS Framework has many studies that show its effectiveness in carrying out implementation successfully from beginning to end (Cao et al., 2021; Laycock et al., 2018; Peel et al., 2021; Roberts et al., 2021; Steffen et al., 2021). In addition, the framework is developed for, and research is carried out in healthcare settings (Cao et al., 2021; Gustavson et al., 2021; Laycock et al., 2018; Peel et al., 2021; Roberts et al., 2021; Steffen et al., 2021). However, it lacks studies that have looked exclusively at the initial stages of implementation, which makes it difficult for novice researchers to utilise. In addition, some studies found that some key sub-constructs are under-defined and confusing to use (Gustavson et al., 2021; Steffen et al., 2021). One study found it difficult to use iPARIHS framework to implement in general (Gustavson et al., 2021). Therefore, iPARIHS and SIC are not the most suitable frameworks for this project.

Consequently, the framework chosen for this project is the REP. While it may not be as extensive as in iPAHRIS, it provides research that comprehensively evaluates its effectiveness in healthcare settings. This is because it has sufficient research that shows its effectiveness in implementing EBPs in healthcare settings (Dean et al., 2016; Hastings et al., 2018; Kwan et al., 2020). In addition, REP in research is considered relatively user-friendly, especially for novice researchers using implementation (Eappen et al., 2018). Some research also showcases REP's ability to plan and evaluate an EBP before implementation (unlike iPAHRIS), using the first two stages, pre-condition and pre-implementation stages (Eappen et al., 2018; Zarafshan et al., 2019). Thus, REP is the best framework to utilise in the current study when considering the current issue, context and limitations, and strengths of the frameworks.

Issues with Implementation

Research indicates that despite IS's utility in bridging the gap between research and practice, there are still issues with using IS to implement EBPs. These issues can impede: the uptake of EBPs, maintenance of progress over time, and overall success of implementation (Chaudoir et al., 2013; Durlak & Dupre, 2008; Li et al., 2018). Researchers have also emphasised that changes in organisations can lead to disasters (Probst & Raisch, 2005). Waltz and colleagues (2019) advise that this is not surprising due to the lack of guidance in the IS literature on using strategies, contexts, and timetables when implementing EBPs. Even though there is an extensive research base exploring IS, there is a lack of research that looks closely at universal factors that influence, adoption, implementation, and sustainability over time (Powell & Beidas, 2016). This is because of the complexity of examining contexts and systems within bigger systems (Powell & Beidas, 2016). However, many researchers have discovered that effective implementation depends on multiple factors, and these factors and interactions differ based on the local context needs (Durlak & Dupre, 2008). Therefore, it is difficult to provide one formula to identify the factors that promote the effective implementation of EBPs (Durlak & Dupre, 2008).

Baker and the authors (2015) have suggested tailoring implementation strategies based on identified determinants of practice. Determinants of practice are factors that could influence the effectiveness of interventions… and have been… referred [as] barriers, obstacles, enablers, and facilitators" (Baker et al., 2015, p. 5). Tailored interventions are defined as "strategies to improve professional practices that are planned, taking account of prospectively identified determinants of practice. This means that to achieve successful implementation it is essential to identify determinants of practice as it applies to the specific context and to tailor intervention strategies to gain the best implementation outcome. The following section will explore a range of factors that are determinants of practice and can influence implementation success.

Barriers and Facilitators. Massey and Vroom (2020) consolidated several IS studies that examined factors that can determine implementation success. These determinants can act as barriers or facilitators and sometimes both to implementing EBPs. The authors identified and placed these factors into six categories (Massey & Vroom, 2020). The six categories are EBP, professional, client, organisation, community, and the implementation process (Massey & Vroom, 2020). The factors found within each of the six categories are outlined as follows. EBP characteristics identified are evidence of effectiveness, relative advantage, cost, complexity, trialability, and adaptability (Damschroder et al., 2009). Professional characteristics found are qualifications, relevant skills, readiness for change, training, and trust in leadership (Aarons, 2004; Durlak & Dupre, 2008; Fixsen et al., 2005). Client characteristics relevant to the successful implementation are, trust in the organisations, perceived relevance, perceived value, culture, faith, and individual differences (Durlak & Dupre, 2008) Organisational characteristics are the following, leadership, resources, procedural support, billing systems, referral systems, and funding strategies. Community strategies are acceptance, awareness, political support, and community support. The implementation characteristics include training, coaching, preparation efforts, consensus building, clarity of manualisation, and implementation planning (Massey & Vroom, 2020).

While there is no concrete set of implementation barriers and facilitators found in implementation research yet, these six categories provide an efficient way to conceptualise the findings in the field. Due to the sheer number of barriers and facilitators involved in the process of IS, it can be overwhelming for researchers to provide a comprehensive number. Thus, Massey and Vroom (2020) guide provide various examples of barriers and facilitators researcher may encounter in implementation. This information have highlighted the importance of identifying the determinants of practice in a project being implemented, especially given that they vary depending on the context. Therefore, it is important to begin the process of implementation planning by identifying the barriers and facilitators of a given context to ensure a successful implementation process.

The Present Study and Research Questions

Therefore, the current study will use the first stage of the REP framework, pre-condition. This will be done to assist in identifying the determinants of practice, such as barriers and facilitators. These will be used to examine the elements required to successfully transfer research about ACEs screening into practice from health professionals at a Paediatric Department in NZ. To the best of the researcher's knowledge, this is the first study to examine these elements within the NZ context. The research questions that will guide this process are outlined below.

1. What are the barriers identified by the staff to screen for ACEs?
2. What are the facilitators identified by the staff that will help resolve the barrier to implementing ACEs in the Paediatric Department?

Chapter Three: Method and Methodology

The present study aims to identify health professionals' perceptions, attitudes, and experiences around introducing ACEs screening practices to a hospital in the Midcentral region of New Zealand (NZ). The Replication Effective Program (REPs) framework, an implementation science approach, will be utilised for this process. The current study will be working on the first stage of the REPs Framework, the pre-condition phase, to determine the barriers and facilitators that could both hinder and alleviate the implementation process.

This chapter will explore the method and methodology utilised to explore the research aim. Firstly, this will be done by outlining the methodology and then enquiring deeper into its underpinnings. Then, the ethical considerations made for the project will be outlined. This will be followed by an explanation of the recruitment approach taken during the project. The interview procedure will be described, and the steps taken to complete the analysis. Finally, the reflexivity and quality of the research will be explored.

Rationale

This type of inquiry requires the use of the qualitative methodology. The qualitative approach is a method of inquiring about social reality (Leavy, 2014). This methodology is often used in the social sciences to explain, explore, or describe certain social phenomena (Leavy, 2014). However, there are many different types of qualitative methodologies (Leavy, 2014). The approach to this study was considered based on the research questions and the context. The approach that best suits the current study is Interpretative Phenomenological Analysis (IPA). This is because it allows the examination of particular participants' thoughts on a potential phenomenon that is best understood by IPA.

Research Approach

IPA was the methodology utilised within this study. It is a qualitative research methodology that examines how people make sense of experiences (Smith et al., 2009). In this study, participants were asked to reflect on a possible experience that could occur in the future. Even though the participants have yet to experience the situation, this methodology allows them to examine their current practices and consider the implications of introducing a new practice.

IPA methodology is grounded in phenomenology (Smith et al., 2009). Therefore IPA is interested in examining experiences on their terms (Smith et al., 2009). It provides psychology researchers with an approach that facilitates the use of both experimental and qualitative dimensions (Smith, 1996). This approach suggests that individual experiences can be understood through the exploration of meaning people place on their lived experiences (Smith et al., 2009). In turn, these meanings can help uncover the embodied, cognitive-affective, and existential spheres of human behaviour (Shinebourne, 2011; Smith et al., 2009). These are essential aspects to consider in research with people. This is because it examines people's knowledge, understanding, and behaviours and how these factors influence their actions (Shinebourne, 2011; Smith et al., 2009). IPA also provides a comprehensive method of analysing the interview data to capture information provided by participants (Smith et al., 2009).

Theoretical Underpinnings of IPA

IPA is a methodological approach to qualitative, experimental, and psychological research (Smith et al., 2009). Ideas and discussions have formed this methodology from three areas of the philosophy of knowledge (Smith et al., 2009). They are Phenomenology, Hermeneutics, and Idiography. IPA draws on concepts from each area to instruct on its unique epistemology and methodology (Shinebourne, 2011). The following section will discuss these three theories in detail.

Phenomenology**.** Phenomenology is a philosophical way to study experience (Smith et al., 2009). It provides ideas about examining and understanding lived experiences (Alase, 2017; Shinebourne, 2011). IPA is considered an interpretative process of a phenomenological approach (Alase, 2017; Shinebourne, 2011). Phenomenologists have many different interests and focus, but they all share an interest in thinking about human experiences in all forms and how people understand these life events (Smith et al., 2009). The phenomenological approach is particularly valuable to psychologists because it provides rich information on how to examine and understand lived experiences of people (Smith et al., 2009).

Husserl, Heidegger, Merleau-Ponty, and Satre are four prominent individuals in Phenomenological philosophy (Pietkiewicz & Smith, 2014; Smith et al., 2009). They are attributed to paving the way for the development of Phenomenology in IPA as we understand it today (Pietkiewicz & Smith, 2014; Smith et al., 2009; Smith & Osborn, 2021). Husserl's work provided a significant and relevant focus on experience and its perception (Pietkiewicz & Smith, 2014; Shinebourne, 2011; Smith et al., 2009). Heidegger, Merleau-Ponty and Satre built on the work by Husserl (Smith et al., 2009). Each of them contributed to developing ideas about the view of individuals being both embedded and immersed in the world of objects, relationships, language, culture, projects, and concerns (Shinebourne, 2011; Smith et al., 2009). This assisted in moving away from Husserl’s descriptive and transcendental ideas (Smith et al., 2009). Instead, moving towards interpretative and worldly context with an emphasis on comprehending individuals' direct involvement in the world (Pietkiewicz & Smith, 2014; Smith et al., 2009), establishing the sense that experience is personal to each individual. This is a characteristic of our link to the world, and all that inhabits it, as opposed to the assumption people are beings in isolation (Pietkiewicz & Smith, 2014; Smith et al., 2009). All of the work by phenomenology philosophers has contributed to enhancing the complex understanding of experience, highlighting the lived process, and opening up perspectives and meanings that are individual to each person's embodied and established link to the world (Shinebourne, 2011; Smith et al., 2009). This means that phenomenological influence on IPA has evolved from examining one's life experiences. This is because it was originally conceptualised as enquiring about other individuals' experiences while maintaining a phenomenological mindset (Pietkiewicz & Smith, 2014; Smith et al., 2009). IPA operates within the principles of phenomenology in the context of psychology to accommodate the understanding of people’s lived experiences and the meaning people place in these experiences (Smith et al., 2009). IPA is believed to be a phenomenology analysis that, in turn, becomes an interpretative process (Shinebourne, 2011; Smith et al., 2009).

Hermeneutics. This second theory underpins IPA (Pietkiewicz & Smith, 2014; Shinebourne, 2011; Smith et al., 2009). Hermeneutics can be described as the theory of interpretation. There are three notable theorists that IPA draws from to inform its practice (Smith et al., 2009). They are Schleiermacher, Heidegger and Gadamer (Smith et al., 2009). Hermeneutics as an approach began with attempts to interpret biblical texts, then eventually, it developed into a theory to interpret different texts (Pietkiewicz & Smith, 2014; Smith et al., 2009). Hermeneutics theorists were interested in methods of interpreting, the purpose of interpreting texts, and understanding the context of the historical text creation and its link to the context of the text’s interpretation in the present (Smith et al., 2009).

Hermeneutics as an approach is distinct from phenomenology. However, it intersects with hermeneutic phenomenology, which is attributed to Heidegger's work (Smith et al., 2009). Heidegger (1962) describes hermeneutics as a precondition to phenomenology (Shinebourne, 2011). The hermeneutic approach dictates that researchers need to comprehend their subject's mindset and language, which can influence their experiences (Pietkiewicz &

Smith, 2014). This assists in describing IPA as an interpretative phenomenology process. It also emphasises Hermeneutics's role in analysing information (Smith et al., 2009). IPA as an approach is interested in how situations occur, and the research analyses and makes sense of the experience (Smith et al., 2009). In particular, IPA researchers are concerned with trying to understand the experiences of their subjects by stepping into their shoes and interpreting to comprehend their meanings (Pietkiewicz & Smith, 2014). This indicates that IPA is an ongoing process, with the researcher actively influencing how the subject's experiences are voiced (Pietkiewicz & Smith, 2014).

The hermeneutic circle is an important concept for IPA (Smith et al., 2009). It is interested in the dual relationship between the part and the whole. To conceptualise apart, examining the whole will provide more clarity (Smith et al., 2009). The same concept applies to a whole; looking at its parts will assist in providing answers (Smith et al., 2009). In IPA research, this process occurs when the researcher attempts to understand an experience from the subject's perspective while simultaneously trying to critically analyse the information presented, leading to a richer and more comprehensive analysis (Pietkiewicz & Smith, 2014). This process provides insight into the interpretative approach, a circular, non-linear way of conducting research (Smith et al., 2009). Qualitative analysis, including IPA, can be described in a linear method; however, the analysis process in practice moves back and forth between steps. Thus, the hermeneutic circle provides IPA researchers with a research method (Smith et al., 2009).

IPA uses the Hermeneutics theory to carry out interpretative analysis by placing participants' reflections and appropriate theoretical information in context (Shinebourne, 2011). This assists in linking the research finding to psychological research (Shinebourne, 2011).

Idiography. This is the third theory that underpins IPA (Shinebourne, 2011). Idiography seeks to analyse particular data in depth (Shinebourne, 2011; Smith, 2004). This approach is different from most theories and methods used in psychology research which are nomothetical (Smith et al., 2009). The nomothetical work focuses on group and population-level work and is interested in producing general laws of behaviours (Smith et al., 2009). The particular data IPA is interested in is two-fold. Firstly, to capture details and depth in information. Secondly, to make sense of how situations involving relationships, events, or processes, have been understood by certain individuals (Smith et al., 2009). Therefore, the IPA approach uses purposeful sampling to pick a small number of carefully selected participants or use single case studies in research. This approach can also move from examining single case studies to general claims (Smith et al., 2009). This means IPA does not avoid generalisations but instead finds a different approach to generalising findings. Therefore, IPA adopts Ideography's focus on moving from single case studies to general statements (Smith et al., 2009). This also highlights the importance of single case study use in research and psychology (Smith et al., 2009).

Researcher and Participant

IPA researchers aim to understand people's lived experiences (Shinebourne, 2011; Smith et al., 2009). This can occur when participants are experiencing specific life events. Participants begin to reflect on the event's meaning (Shinebourne, 2011; Smith et al., 2009). Meanwhile, the researcher focuses on engaging and understanding the detail of the participant, making meaning out of the experience. This activates the interpretative process of hermeneutics' influence in IPA (Shinebourne, 2011; Smith et al., 2009). The conceptualisation of meaning by researchers and participants is referred to as double hermeneutics. The IPA researcher is trying to make sense of participants' making sense of their experiences individually within their personal and social worlds (Shinebourne, 2011;

Smith et al., 2009). Idiography theory comes into play due to IPA's meticulous analysis of the particular case. As part of this process, the researcher identifies the similarities and differences between each case (Shinebourne, 2011; Smith et al., 2009). From this point, the researcher can move to general knowledge once the potential of the cases is outlined, and psychological research can also be utilised for this process (Shinebourne, 2011; Smith et al., 2009).

Ethical Considerations

Ethical approval was sought once the study details for the project were finalised. The project was designed to not place any risk on the participants involved or the researcher. Therefore, a low-risk ethics notification was completed and submitted to the Massey University Human Ethics committee. The project was peer-reviewed and was judged to be low risk. The ethical principles considered for this project were informed consent and autonomy, and confidentiality, and safety. These will be outlined below in detail.

Informed Consent and Autonomy. The informed consent process in qualitative research requires additional steps to give participants autonomy. This is an active process that started when participants were first contacted and continued until the end of participant involvement in the project (National Ethical Advisory Committee, 2021). In the current project, all potential participants were sent a copy of the information sheet, which explains in detail the research project. This included the researcher's email, supervisors' emails, and Massey University ethics committee contact details to use if anyone required further details. An information form and a consent form were sent to the participants to sign electronically before participating in the interview. It was difficult to anticipate the nature of the content. Therefore, participants were also presented with the options of withdrawing from the interviews, declining to answer questions, requesting for the audio recording to be turned off, and removing the interview or amending content in the interview once it was transcribed.

These options were also included in the information sheet presented at the beginning. Participants were also presented with the choice to withdraw from the research up to two weeks after the interview was carried out.

Confidentiality and Safety. In the current project, the recruited participants were health professionals. Therefore, they were already familiar with the confidentiality process. The interviews were held online and were recorded using a computer and mobile phone. The information that was collected from the interviews was stored securely in a password-protected computer and phone. The names and identification information in the transcripts were changed once transcribed. The demographic information collected from participants was limited to ensure safety and anonymity. This is because the participants work in a very specific workspace. After the research project, the audio recordings were deleted.

Recruitment

In line with IPA's idiographic approach and considering the context and the researcher's time frame, a small sample of five participants was recruited for the study (Smith et al., 2009). The researcher adhered to IPA's approach to purposeful sampling, utilising a homogenous sample of participants (Smith et al., 2009). This sampling approach is taken to ensure the recruited participants can reflect on the phenomena being studied (Smith et al., 2009). The research project required participants from registered health professionals from the Paediatric Department of a hospital in New Zealand. The participants recruited for the research project were three Paediatricians and two Allied health workers; four female participants and one male participant (refer to Table 3 below).

Table 3

Participant Demographics

Name	Sex	Occupation	Work area in Paediatric Department
Rose	Female	Paediatrician	Hospital
Sean	Male	Paediatrician	Hospital
Cathy	Female	Paediatrician	Hospital
Abby	Female	Allied health worker	Community
Pam	Female	Allied health worker	Community

IPA dictates the use of purposeful sampling to identify participants using referrals from contacts or gatekeepers (Smith et al., 2009). The co-supervisor of the current project was the gatekeeper. This is because of the contacts they had with the hospital. Therefore, the researcher was assisted by the co-supervisor of the project to recruit participants. Participant Information sheets and consent forms were sent to staff members of the hospital. The researcher's contacts within the hospital were also utilised to distribute the participant information sheets.

Snowball sampling is another type of recruitment utilised in the research project. After the interview, each participant was asked to pass on the information about the research project to prospective participants. This method is utilised when attempting to recruit a hard-to-reach sample of participants who are low in numbers and time-poor (Parker et al., 2019).

The project's most challenging aspect was recruitment due to the ongoing COVID-19 pandemic. The rise and fall of infection occupied the hospitals and staff members, making the recruitment process very difficult. In July 2022, the government overhauled the old health system in favour of a new system. This created further pressure on hospital staff. This caused significant delays in recruiting participants for the research project. As a result, participant recruitment was carried out over eight months.

In this research project, participants were identified based on their profession and place of work; health professionals working in the Paediatric Department. The reason for choosing this particular Paediatric Department is due to its relationship and access with the supervisors of the master's project.

The co-supervisor emailed study participant information sheet and consent forms (See Appendix A) to all potential healthcare professionals at the Paediatric Department. This includes paediatricians, nursing staff, and social work staff. Some selective participants identified for the study were also emailed the information and consent form. These participants were specifically selected because of their interest in addressing ACEs. This was repeated multiple times until five participants were recruited.

Once the participants read the participant information sheet and completed the consent form, a date and a time for an online interview were set up via email correspondence. A google meeting invitation was sent to participants to confirm the date and time ahead of the interview. Google meeting application was used over other online meeting platforms because it is a safe platform that is easily accessible.

Interview procedure

Each interview was carried out individually online via Google meetings. The only interview option available was to meet online. This is because, at the time, the researcher was situated outside of the participants' location. The online interview approach also provided an additional level of protection to the participants and researcher during the COVID-19 pandemic. The interviews began with informal introductions of the researcher to the participant. It was followed by a quick summary of the research. Then the researcher checked with the participants if they had any questions regarding information on the participant information sheet or about the interview. None of the participants had any questions. The researcher also confirmed the time frame the participants were available to carry out the interview and set the alarm to indicate when the interview needed to end. Once all checks were completed, the researcher gained verbal consent from each participant to record the interview audio and video. Some participants declined the video recording, but all participants consented to recording the interview audio. The interviews were recorded on two devices, phone and laptop in case of an error. All the devices are password protected.

Researchers utilising IPA attempt to capture and analyse in detail how participants make sense of the situation (Smith & Osborn, 2021). In accordance with IPA, a flexible data collection method was adopted for the research project (Smith & Osborn, 2021). There are many methods of flexible data collection (Smith & Osborn, 2021); however, the semi-structured interviews were identified as the best fit for the current research project. This is because semi-structured interviews permit a comfortable dialogue with participants (Smith et al., 2009). Consequently, the semi-structured interviewing approach allowed participants to provide detailed information under Investigation (Smith et al., 2009). Semi-structured interview approach also enabled the modification of questions as the interview proceeded in accordance with participant responses (Smith & Osborn, 2021). This allowed the researcher to probe areas of interest that arose during interviews (Smith & Osborn, 2021). An interview schedule was developed using literature on the topic. This provided guidance in the interviews to stay on track. The interview schedule was reviewed by the project supervisors before utilising it for the interviews (see Appendix B). Practice with the interview schedule allowed the interview process to run smoothly. In addition, learning and practicing recommended IPA interview skills allowed the researcher to delve deeper into understanding participants' worldviews. The use of open-ended questions, being comfortable with silence, avoiding asking too many questions, and not using leading questions are all interview skills that were utilised with participants to guide, probe, and enhance the dialogue (Smith et al., 2009).

Once the Interviews were completed, the researcher utilised the software Word to transcribe the audio recording into texts. These transcribed documents were not accurate; therefore, the researcher listened to the recording and edited each of the transcripts, including pauses made by Participants. Any identification information was changed to pseudonyms to protect participants' identities. When the transcription for each of the participants was completed, the scripts were sent to each of the participants to make changes or to withdraw if required. A few of the participants made changes to the transcripts before sending them through. These changes included clarifying any details that were unclear from the recording and to ensure the transcript omitted any further information participants were uncomfortable with including in the final scripts.

Analysis

The IPA approach was used to analyse the data from the research project. Similar to other qualitative methodologies, the core element of IPA analysis lies in its focus (Smith et al., 2009). In IPA, the analytic focus is on the participants' meaning-making effort of a particular phenomenon that is being studied, and simultaneously, the researcher is also documenting their sense-making in the process (Pietkiewicz & Smith, 2014; Smith et al., 2009). This analytic method is characterised by several processes moving from particular to shared, descriptive to interpretative (Smith et al., 2009). This process is also described as iterative and inductive. The research also shifts from an emic and etic perspective in the analysis, usually utilising a psychological lens when appropriate (Pietkiewicz & Smith, 2014;

Smith et al., 2009). IPA approach does not have a set method of analysis but rather a set of flexible guidelines that research can adapt based on research objectives (Pietkiewicz & Smith, 2014; Smith et al., 2009).

To analyse the interview data, Smith and colleagues (2009) IPA guidelines were utilised. The researcher read and familiarised themselves with the IPA guidelines before beginning to analyse the data. Then the researcher began the process by focusing on one interview at a time as dictated by the IPA process (Smith et al., 2009). The first step involved reading and re-familiarising self with each of the transcripts. It also involved the researcher listening to the interview recordings, paying attention to the voices of the participants and the context (Smith et al., 2009). The second step of the process involved going through the transcript, line by line, and making detailed comments. These comments focused on making descriptive, linguistic, and conceptual components on the transcripts for the researcher to use in the analytic process (Smith et al., 2009). While this process was time-consuming, it was a useful part of the analysis to delve deeper into the participants' worldviews.

In the following stage, the transcript with detailed comments was analysed to identify themes. The transcript and the comments were further analysed to reveal themes that were then noted in the transcript. This process reflected the hermeneutic process involved in IPA, moving from the whole of the transcript to part through the analysis and then coming together as another novel whole at the end (Smith et al., 2009). The themes identified in the analysis illustrate the participant's words, thoughts, and context, along with the researcher's interpretation. This process shows the interaction between description and interpretation (Smith et al., 2009). An inductive approach was also taken in accordance with IPA when the researcher connected the transcript data from each individual case to the emerging themes within it to support the analysis. In addition, the researcher ensured the analysis was in line with IPA's commitment to the idiographic focus by utilising data from the transcript along with the use of participants' words to name the themes whenever it was appropriate. Then, the themes were ordered chronologically based on when they developed in each of the individual transcripts.

The next stage of analysis involved the development of a method to map the themes together within each transcript. Smith et al. (2009) explained that at this stage, the guidelines outlined are flexible and encourage the researchers to be innovative in organising the analysis. Therefore, the researcher utilised highlighting each of the themes in a different colour and using the same colour to highlight each of the corresponding extracts from the transcript. This method of mapping the themes eased the analysis process when returning to the transcript to check the extracts.

To develop superordinate themes, the researcher used a number of processes, abstraction, subsumption, and numeration. The researcher typed out all the themes on a separate document and checked for patterns across the themes to develop superordinate themes. The process of detecting patterns across themes is called abstraction (Smith et al., 2009). The analytic method of subsumption is similar to abstraction. However, they differ in that, in some cases, during analysis, some themes gain a superordinate status. Then the newly acquired superordinate theme assist in connecting a number of other related themes together. (Smith et al., 2009). Lastly, the numeration approach was also utilised to acknowledge the frequency of extracts supporting the theme that emerged. However, this was carefully carried out as Smith et al. (2009) state the importance of a theme is not emphasized based on the frequency.

In the following stage, the entire process was carried out on each of the transcripts one by one until each had a set of themes or superordinate themes. However, Smith et al. (2009) emphasise the need to 'bracket' the concepts from the first case examined prior to working on another case. This is to ensure the findings from one case does not influence the findings of the following case. This is in line with the idiographic focus of IPA. The researcher ensured that they did not work on more than one case at a time and took time off between the cases. In line with Smith et al.'s (2009) suggestion, the researcher reflected and noted one's own preconceived ideas prior to moving on to the next case. This is because one needs to be aware of their preconceptions and take a cyclic reflective approach to assist with bracketing.

The final stage of analysis involves looking across the themes of each transcript for patterns and connections (Smith et al., 2009). The researcher placed all the themes from each of the transcripts into a separate document. Then carefully worked to identify any patterns within the themes. This involved reconfiguring themes and, in some cases, relabelling them as stronger connections were formed (Smith et al., 2009). This process assisted in developing a set of superordinate themes and subordinate themes across the data set. These themes were analysed according to their relationship to the phenomena under investigation and the research questions. Any unrelated information was removed.

Reflexivity

Qualitative research requires engagement with people's stories, experiences, and language in order to make sense of people's thoughts about their encounters in a meaningful way (Shaw, 2010). This is done in order to further enhance the knowledge of human experiences (Shaw, 2010). Therefore, it is the responsibility of the qualitative researcher to identify one's own perceptions and biases or subjectivity that can impede the analysis process (Morrow, 2005; Shaw, 2010). This can be done through the process of reflexivity.

Reflexivity or self-reflectivity can be carried out in a number of ways (Morrow, 2005). In this study, the researcher used a notebook to self-reflect on potential thoughts and biases that they encountered through the analysis process. This allowed the researcher to become more conscious of certain unconscious beliefs and thoughts and step into the role of the naïve inquirer to explore the phenomena from an insider perspective by familiarising themselves with the phenomena being investigated (Morrow, 2005).

The researcher of this project was not a healthcare professional and was not aware of the topic until it was brought to their attention. Thus, the researcher did not have any previous knowledge of the field. However, through the process, the researcher began familiarising themselves with the phenomenon being investigated. This led to the emergence of certain thoughts and biases about the topic of ACEs. The researcher ensured they noted these biases down and carried out the practice of self-reflection to identify any biases and preconceived ideas. This assisted the researcher in becoming conscious of some unconscious biases they held about health professionals. Through the continued reflexive practices, the researcher was able to ensure the data analysis was carried out fairly to ensure the participants' voices and meanings were prioritised in the work.

Quality

The questions about the quality or rigour of qualitative research are ongoing and are frequently debated (Benjumea, 2015). Research in the field of qualitative research has attempted to identify criteria for this purpose (Benjumea, 2015). This process is still ongoing. However, it is common consensus in the field of qualitative research that the use of reflexive practices and checking with supervisors during the research process are ways in which researchers can ensure the trustworthiness and quality of the qualitative research (Morrow, 2005). In this project, the researcher continued to self-reflect on the information they came across, especially during the analysis process. This allowed the researcher to be aware of her biases and preconceptions. Secondly, the researcher worked with the project supervisors to ensure the research process was carried out appropriately.

Chapter Four: Results and Findings

The data analysis from the five participants revealed four superordinate themes: Knowledge, training, and perspective on ACEs; Reflecting on current practices; Questions, concerns, and other barriers; and Suggested improvements. Three of the four superordinate themes are divided further into subordinate themes. The following chapter will provide detailed descriptions of each of the four superordinate themes (refer to Table 4).

Table 4

Summary of superordinate themes and subordinate themes

Superordinate themes	Subordinate themes
Knowledge, training, and perspectives on ACEs	ACEs Knowledge.
	Training
	Perspective on the importance of ACEs
Reflecting on current practices	
Questions, concerns, and other barriers	Uncertainty about carrying out the screening process
	What to do with the results
	Lack of time for asking sensitive questions
	Lack of ACEs knowledge at the systems level
	COVID-19 and health system reform
Suggested improvements	Internal Screening processes and support
	Suitable places to refer and Trauma-informed service.
	Education and training
	Where to begin implementation
	Education at a systems level

Knowledge, Training, and Perspectives on ACEs

This superordinate theme encompasses three subordinate themes; ACEs knowledge; Training; and Thoughts on the importance of ACEs. These subordinate themes together capture participants' understanding of ACEs, the training they receive about the topic, and their motivation to address this issue in the Paediatric setting. The subordinate theme of 'ACEs knowledge' identifies the level of understanding participants have about the ACEs topic. The subordinate theme of 'Training' identifies where and how the participants acquire knowledge on the topic of ACEs. The subordinate theme of 'Perspectives on the importance of ACEs' explores participants' motivations to address ACEs based on the knowledge they have acquired. These three subordinate themes will be explored in detail below.

ACEs Knowledge. All participants knew about the topic of ACEs. Each provided a brief explanation and summary of the information they knew, which reflected the key information about ACEs. This explanation provided a glimpse into their overall understanding of ACEs. All participants knew about the early adversities identified in the original questionnaire. All participants also knew the detrimental effects of ACEs. Here is one participant's summary, which illustrates explaining the seven types of ACEs identified in the original study and their connection to long-term outcomes.

Rose: *"... I guess I think of adverse childhood experiences as being all of those things that can happen through a child's life umm that can that can impact on their outcomes and so I think back to the original study that was done and I'm not gonna remember the authors umm but looking at all of those chronic health outcomes that were looked at right down the track umm and so and I never remember the exact list of ACEs but basically you know the the physical abuse, the emotional abuse, the neglect, sexual abuse and then I think parental separation and and a range of other one. And the the greater number of adverse experiences a child has the worse their outcomes are in later life for a range of different* *things that would be both physical health and mental health, but also impacting on their neurodevelopmental outcomes as they go through childhood as well um yeah, that would be be the short version of it…”*

Rose’s explanation begins with her describing her understanding of the concept of ACEs ‘I think of ACEs' rather than explaining the facts around the topic. This signifies not just the knowledge the participant holds about the topic but also her reflections and understanding of the topic as a whole. This participant’s wider knowledge about the topic was revealed when she connected her ACEs knowledge and understanding with the outcomes of ACEs beyond the outcome of the original study. She acknowledged not only the physical and mental health outcomes but also the neurodevelopmental outcomes.

Abby’s explanation of ACEs was quite succinct, but she addressed the cumulative effects of ACEs. However, she indicated that she had some knowledge of ACEs which is evident by her identification of a key piece of the topic, the cumulative effects of ACEs. While this participant does not provide a lengthy explanation of ACEs, she demonstrated her knowledge of ACEs subtly using the key information.

“Well uh Oh, uh in a nutshell ... It is negative experiences that uh children uh have experienced ...then there is number of yeah number of ACES kind of adds up, yeah working out how how much trauma a child's experienced basically, yeah."

Sean’s explanation of his knowledge of ACEs was similar to those of his co-workers, but he also explained specific health issues identified within the literature about ACEs. This participant also stated one of the key findings from the study is reduced life expectancy due to the development of health issues.

Sean: *“…the context where I understand ACEs…is generally in terms of ... people reflecting on and identifying… adverse experiences in terms of uh, generally childhood* *traumas, um exposures to violence or um emotional uh um uh Insults or abuse um or uh incarceration or … alcohol and other drug abuse. Um once you start to quantify those experiences through a-a basic scorecard um and like uh and if you follow those people longitudinally then you can start to uh correlate scores with um um long term health outcomes in terms of uh adverse cardiovascular outcomes, um uh obesity if you like um so it gets those things so hypertension um then ultimately um uh life expectancy and my understanding is that many of those things can uh adversely correlate with ACE scores um yea"*

While all the participants understood the key findings on ACEs, one participant in particular, Cathy, showed a deeper understanding of the wider effects of ACEs. Cathy identified the complex trauma children are exposed to. She also described the ongoing intergenerational effects of ACEs over time and how they can significantly affect the development of mental health and behavioural issues. These are crucial points to make, given the evidence showing the intergenerational effects of ACEs.

Cathy: *"[what do you know about ACEs?] … a reasonable amount … specifically … around complex trauma … and obviously there's a huge amount of overlap um between … complex trauma … that children are exposed to … particularly abuse and neglect and adverse childhood experiences. So, … there's … also some good evidence around um multi-generational exposure to adverse childhood experiences … and the impact that that has on subsequent generations uh development of mental health and behaviour…"*

Cathy's knowledge on the topic is hinted at through the reply 'reasonable amount .'She moved on to explain in detail the knowledge. The participant's understanding spans beyond those of the foundation knowledge of ACEs. This is illustrated through the wider connections she makes to intergenerational trauma. This explanation also suggests that she has done her own research on the topic. This highlights the depth of knowledge she has but also her commitment and dedication to enhancing her knowledge on the topic of ACEs.

Training. Participants disclosed that the ACEs knowledge they acquired was through different sources. Most participants advised that they did not receive any training in ACEs or Trauma Informed Care (TIC) as part of their basic training. However, some participants received information on ACEs while completing further education. When each participant reflected on how they first learned about the topic and the training they had about ACEs, it was through other work colleagues, learning through presentations, professional development opportunities, and research carried out in the participant's own time.

Abby: "*Probably ... first proper sort of training, presentation I listen to would be ... a clinical psychologist with knowledge on ACEs (laughs)... [Have you had any type of formal training?] No"*

This participant recount uncovered that their first exposure to ACEs was through a presentation given at the hospital to health professionals. However, the participant's use of words to refer to the presentation as the 'first proper sort of training' indicates that the participant viewed this experience to be the first legitimate learning they had about ACEs. At the same time, they did not view this experience to be a formal type of learning, given that she advised she had not received any formal training.

Rose explained the way she first encountered the ACEs topic, which was through a colleague. This indicates that she first learned about the topic of ACEs through informal means. Then she enriched her knowledge about the topic further through self-learning. This highlighted the participant's commitment and motivation to upskill on this topic on her own time.

Rose: *"At some stage along the way. I remember one of the registrars who's more senior to me um telling me I had to watch a TED talk by um Nadine Burke Harris, and so I guess my first exposure to it was through watching her TED talk … on them and then from there just being exposed to a much broader range of literature um around it"*

Sean's account of learning about the topic of ACEs was different from that of his colleague Rose.

Sean: *"… Soo the experience I guess, probably about four or five years ago, the topic of ACEs was umm presented amongst uh amongst quite a few paediatricians education fora um so and conferences and and then it became the topic of corridor conversations a bit after that as well"*

Sean indicates that he was exposed to the knowledge through a presentation and 'education fora'; These are likely formal spaces, which indicates that the participant learnt about ACEs in a formal setting. Then he revealed that the ACEs topic became part of 'corridor conversations', which refers to informal meetings and discussions. This also indicates that more than one staff member attended this education and learnt about ACEs. Sean suggests that the informal conversations also enriched his knowledge on the topic of ACEs. Compared to Rose, Sean's explanation of learning about the topic of ACEs was in both formal and informal spaces. These experiences show that ACEs as a topic is learnt by health professionals in various ways.

Cathy's initial exposure to the topic of ACEs is similar to her colleague Sean's experience. She was exposed to ACEs while completing her training. However, the learning trajectory Cathy took from that point is different to that of her colleagues:

" … so I had … some … brief kind of exposure to the concept um in my earlier … training … and then I went …and… did further education … and that sort of opened kind of

my eyes to the breadth of uh the significant impact of ACES, not just for uh the individual but for subsequent generations"

Here Cathy explains that her initial exposure to the topic of ACEs was through formal training. Then, she used the metaphor of 'opened kind of my eyes' to illustrate the deeper connections she drew from the knowledge she gained about ACEs. This allowed her to understand the bigger picture effects of ACEs on the wider communities. This led Cathy to form a deeper understanding of the issues of ACEs beyond the initial information she learnt.

Pam provides a detailed summary of how she learnt about the topic of ACEs:

"I don't know where I first heard about it, I guess probably … I had heard um Nadine Burke Harris's name kind of bandied about a little bit and then I kind of looked into her a bit more and looked at the work that … she was doing … read up a bit about … the work that she's done in paediatrics around um ACEs and then … probably more so in the um last eight years or so … have had more um I guess opportunities to … learn about it um and then I'm currently pursing further studies…"

Similar to Rose, Pam's account of learning about ACEs also began informally. This is indicated through her use of the words 'bandied about' to refer to the casual or informal way of learning about the topic of ACEs. Then, like Rose, Pam began learning about the topic on her own through research and readings. Similar to Cathy, Pam has developed a deeper understanding of the wider effects of ACEs and is pursuing further education, which is giving her more opportunities to enhance her understanding of ACEs. This reflection by Pam again highlights the efforts of health professionals to improve their knowledge and practice and that they have done this through a variety of means.

Perspectives on the Importance of ACEs. The majority of the participants believed it is important to know about ACEs. Participants described the importance of understanding

ACEs while working with children and families, especially in paediatrics, as it is a crucial time for both children and families to address the issues of ACEs.

Cathy explains the importance of understanding ACEs because it provides an understanding of the underlying issues influencing behaviours.

" ... so I think it's incredibly important ... because I think it gives us a much better understanding of...obviously it's important from a physical health perspective ... but in terms of what we're dealing with day in and day out in paediatrics is ... these children, children who have really significant behavioural and developmental and learning concerns ...We're kind of ...dealing with this, so it is really important that we understand that the impact ... that it has ... and it helps us understand each individual child and the difficulties that they might be facing um and sometimes it can be really helpful to explain to new caregivers around specific behaviours um like food hoarding and in the context of food insecurity and and all of that sort of stuff so um and you know why children are hypervigilant why you know they have specific behaviours that they do?..."

Cathy described the broader aspects of how the Paediatric Department works and the considerations made in their practice. This also emphasises paediatrics' holistic approach to addressing not only physical health but also mental health, behaviour, family health and other social factors that interact to influence health outcomes. This speaks to the biopsychosocial approach that is considered in health (Wade & Halligan, 2017). Therefore, this shows that the consideration of ACEs fits well with the way they work with their patients.

Abby explains that when working with children and families, understanding ACEs is essential. This is because it helps to understand children's behaviours. This allows health professionals to provide support to young people with ACEs. It is also about understanding that some children may be more resilient when faced with some challenges because of the support they have compared to another child who may not deal with the same challenge well due to the lack of support they have around them. Therefore, this indicates the importance of having knowledge of ACEs as it informs health professionals about children’s behaviours, needs and the support they may require.

Abby: *“Oh essential, in this line of work, yeah, we shouldn't be doing this work without knowing… I think it kind of it helps you understand the kids’ behaviour. ... It's also around ... that one ACE that might be massively more detrimental to a kid than you know another child that has more resilience and more support ... around maybe two or three, but it just it certainly helps understand kids’ behaviours ... Where the kids are coming from, what's happened to them ...”*

Abby also advised that having knowledge of ACEs informs not only children's behaviours but also parental behaviour. This is because research also shows that parents’ ACEs can influence parenting (Folger et al., 2018; Guss et al., 2020; Lange et al., 2019). If health professionals understand the impact of ACEs on parents, they are better able to help parents and support them with potentially addressing their ACEs and parenting practices.

Abby: *“... how to provide support to their parents? And like I say, if we kind of work out that the parents have got their own ACEs, which most of them have um yeah, yeah. It's kind of trying to break the cycle, you know, provide support to parents to, you know, the parent, their kids that have got similar behaviours then they had in similar trauma, trauma that they had as kids as well.”*

Here Abby used the phrase 'break the cycle', which refers to breaking the intergenerational transmission of ACEs via parents. This connects to the family systems theory, which suggests family units as being complex social systems, emphasising the need to understand these issues at the family level too. This highlights health as a social issue that is broader than the individual or their family and is about systems such as the ecological approach and family systems approach. The Paediatric Department is known for its holistic approach to health, so this information provided aligns with their approach around ACEs, too (Esparham et al., 2018).

Pam extended the information provided by other participants by articulating the importance of addressing trauma through the use of trauma-informed care. This has the potential to promote changes in the New Zealand public service.

Pam: "Extremely, like, vitally important. Yeah, yeah… yeah, absolutely. I think um, I think that lots of kind of systems changes could be made if people applied kind of a yeah, ACEs informed. The kind of trauma-informed lens. To to everything, to health, to justice, to education. Yep, that's really important."

Pam's reference to 'systems change' describes the ecological system (Eriksson et al., 2018). She explains that if ACEs can be addressed using a trauma-informed lens, then it has the potential to make systems changes. This is because Bronfenbrenner's ecological systems theory states that child development is a complex system involving relationships influenced via multiple levels of the immediate environment, such as family and school to more broader settings such as cultural values, laws, and customs (Guy-Evans, 2020). The Microsystem (one of five systems) is identified as the most significant in the theory because it contains the child, family, school, and health (Guy-Evans, 2020). Therefore, when Pam is referring to systems change, she is referring to the alterations that can occur beginning with the Microsystem if ACEs screening is utilised to address trauma with children and families. This, in turn, can influence the broader levels, such Chronosystem, which involves environmental change that occurs in children's lives (Guy-Evans, 2020). This means addressing the health needs of children using the ACEs screening in the Paediatric Department has the opportunity to influence children's life trajectories and the many organisations they will engage with throughout their life.

Overall, the superordinate theme of knowledge, training and perspective of ACEs was able to highlight participants' level of knowledge and motivation to address the issue of ACEs. All participants understood the key information on the topic of ACEs. However, the training that was received by each of the participants varied significantly. Some participants learnt about the topic through formal approaches, some through informal methods and others through a mix of both. Finally, participants felt, given the knowledge they have about the topic, it is important to address the ACEs in the Paediatric setting.

Reflecting on Current Practices

This superordinate theme captures the current practices of addressing ACEs by the participants in their respective areas. This superordinate theme explores If participants were currently screening for ACEs, if any support was provided to any children or families identified with having high levels of ACEs, and finally (if so), what this looks like. Each participant had a different way in which they either identified ACEs or provided support for those that have experienced trauma. Most participants who screened for ACEs did this process informally, and some participants provided further support if they felt the children or family required it.

Rose explained the informal process of screening she carried out in her practice.

Rose: *"I guess when I see children … sometimes in my head I will mentally start to add up few, so it's not, it's-It's not done properly, but you are very aware that you're seeing children that have got a lot of traumatic things that have happened to them um. One of the things that I will try and do with these families is I'll try and talk around some of the basics of things that they can do at home that can help or managing stress for their child um, so I'll* *talk about the importance of sleep, um the importance of exercise, the importance of good nutrition and those sorts of things um, which at least is one of the small things that I feel that I can do that that is really important um and so I'll try and do that quite a bit … so I guess in my mind that's my one little thing that I can try and do that I have got access to and so I find that useful to have one little thing to do"*

Rose explained that while she does not conduct formal ACEs assessments if she encounters children or families with trauma, she counts the number of ACEs in her mind. She also tries to provide any type of intervention available to her. However, she often feels that there is very little she can do to assist children. The types of interventions Rose uses with her patients include psychoeducation around sleep, stress management, exercise, and nutrition. Rose provides these resources in an effort to improve her patient's wellbeing; This enhances feelings of efficacy and usefulness within her sphere of influence. The ACEs services Paediatricians can provide are part of a larger puzzle. Other pieces need to be in place to provide services to families identified with high ACEs.

In contrast to Rose, Sean clarified that he currently does not screen for ACEs formally or informally. However, he addresses trauma in children more than in the parents. The participant also recognises an area he needs to improve in his practice, which is identifying trauma or ACEs in parents. He believes that it is an important area to address.

Sean: *"Yeah, so no, … I don't capture any ACEs particularly in my clinical interactions I I mean I would be addressing um some childhood traumas more in the child than the the the parents I have to say actually uhh that is my usual practice, but I acknowledge that it is probably it is quite important to look at parental ACEs as well, but I certainly don't capture that as specific items or Uhm, data points."*

Cathy is the only participant that is actively trying to identify ACEs in their practice.

Cathy: "… I think that's more intuitive than anything like I have, I don't have any training specific training … but … behaviours made sense to me and developmental difficulties made sense to me when I understood the child's experiences … and often the parental experiences as well, and the way that influenced the way the parent and the child interacted … I- I guess it … just sort of evolved … when I …have a child with learning difficulties or ADHD …So now …I take a very clear history around the child experiences, but then I will also ask the parents … if they're available or the caregivers of the parents are not available to talk about their own experiences of childhood…So I imagine that for … some of my colleagues, they don't see the value in or the or the or the appropriateness … the clinical relevance, and therefore is it appropriate to ask those questions that particularly the parents… I found it's been particularly valuable in terms of my understanding…"

Cathy's approach to ACEs screening is different from that of her colleagues. However, this process does not utilise the ACEs screening tool, similar to her colleagues.

She explained that she had not done any formal training for this assessment process. Instead, the screening she carried out is intuitive. This has largely been from the knowledge she has gathered about ACEs and their influence on behaviours and developmental difficulties. The process she follows to identify ACEs was influenced by another assessment process carried out with children with Learning difficulties or Attention Deficit Hyperactivity Disorder (ADHD). Cathy adapted the assessment process using her knowledge of ACEs to ensure she is capturing essential information such as trauma and ACEs and family history of ACEs in family members or caregivers. Participants expressed that asking questions from parents about family history was valuable to enhance their own understanding of the situation. This information could be important for implementation interests and understanding how ACEs screening can be carried out.

Abby provides a brief explanation of the way in which she informally identified ACEs in children and families.

Abby: *"... well, we don't sort of screen our kids specifically with the clients that we work with I should say…We don't um sort of screen them and tick off the ACEs umm….it is more around us kind of having an understanding of the trauma that kids… have experienced ….so we…don't kind of sit down and go through the list."*

Abby explained that she does not screen for ACEs specifically. This means Abby does not use a screening tool to screen for ACEs. Instead, she advised that she gathered an understanding of the trauma experiences their client has. This practice can assist in providing support to children and families.

Pam also explained the approaches she takes to screening children and families informally.

Pam*: "No, so not kind of a formal ACEs screening to kind of, you know, ask those specific questions, and get a number, but I would say that um most of the time um in terms of the kind of psychosocial assessments that I would be undertaking, I probably gather that information through that process, but it wouldn't be in a kind of a uh formalise…. So, I think, you know, I would, I would always ask questions around um, you know, exposure to family violence, around drug and alcohol use, around, you know, relationship dynamics um a lot of the key components that are part of the ACEs screening, but not um yeah but not using um the actual ACEs form, if that makes sense."*

Pam also explained that she does not carry out any formal assessments using the ACEs screening. Instead, when she visited clients, she would have informal conversations with them. Pam explains that ACEs in children and families are often identified through other 'psychosocial' assessments they carry out. So, Pam's process of identifying ACEs is through both informal and indirect approaches.

Overall, the superordinate theme of 'Reflecting on current practices' provided insight into the different approaches the participants are currently using to address ACEs and also the way in which a participant tries to provide interventions. The participants that attempted to identify ACEs in children and families did this often without the use of the ACEs screening tool. Instead, they: mentally count the number of ACEs they identify in children; gather information by having conversations with family members; by understanding the trauma experiences children have; by having conversations with children and family and the use of other psychosocial screening tools. One participant advised that they do not identify ACEs in particular, but he addresses any childhood trauma. One participant also advised that they try to provide support in the form of education, resources, or referrals. However, they advised that the interventions they have available to provide to children and families are very limited. This theme indicates that participants are beginning to identify ACEs within their patients informally and also beginning to provide some support.

Questions, Concerns, and Other Barriers

The superordinate theme of ‘Questions, concerns, and other barriers’ encompasses the potential barriers to ACEs screening participants identified. These barriers often were identified as questions or concerns the participants had about the ACES screening process. Some of these questions overlap as concerns and potential barriers for the participants to screen for ACEs in their everyday practice. This superordinate theme includes six subordinate themes. They are uncertainty about carrying out the ACEs screening process; what to do with the results; lack of time for asking sensitive questions; medical conditions or ACEs; Lack of education at a systems level; and COVID-19 and health system reform.

Uncertainty about carrying out the ACEs screening process. This subordinate theme describes the participant's uncertainty with carrying out the ACEs screening process. This meant some participants were unwilling to use the ACEs screening in practice. The following section outlines the number of questions that participants had about the screening process.

One participant, Rose, had questions about the formal ACEs screening process. For example, are parents also being screened for ACEs along with children? The question of the screen again changes based on the age of the children being screened. The participant used the example of children in the new-born unit, they have just been born, so they have not yet experienced ACEs in the typical sense, so here would the parent be screened for ACEs. This is an important question raised as the participant explains the influence of ACEs on parenting practices. So, is it suitable to screen new parents for ACEs? And how can clinicians determine when to screen for parents and child ACEs? This indicates confusion around the appropriateness of screening and the need for training and clarity around who, when and what to ask.

Rose*: "Yes, I I guess I have a couple of sort of questions like when we screen for ACEs,… so I think this about both the ACE score of the parent as well as the ACE score of the child and those are two separate things, so I guess I would like to know more around where we where we screen in terms of are we asking the parent about their own ACEs score because we know that there will be a whole pile of things that they will bring um to parenting impacting on their parenting…and then there's separately the ACEs score of the child. So, for instance, when I'm seeing the new-born in the new-born unit, They've just been born, which is different to if when I'm seeing a 12 or 13 year old in clinic when by then that child may have their own ACE score …"*

Sean had further questions about the screening process.

Sean "*... then there's some practical concerns*…*What if this person doesn't complete the screening, do they? ... can they? should they, should we wait until they have before they* *are seen or … if they if they never completed does that mean they never get seen … plus, there's an administrative work that's required … to do a screen like that and um frankly we don't have the personnel to administer … what we got to do at the moment let alone adding new things in... "*

Sean had further questions which explored whether completion of ACEs screening becomes a requirement for seeing a clinician. Sean also expressed the need for administrative support with screening which they are lacking at the moment. These questions by the participant revealed the need for more clarity around the process of carrying out the screening for clinicians and the need for organisational support.

What do you do with the results. A prominent barrier identified by many of the participants for screening for ACES is what clinicians do with the results of the questionnaire-particularly if the screening shows a moderate to high risk for ACEs.

Sean explained that he was confused about what to do with the results of the ACEs screening. This is indicated by the number of questions he asked about the process following ACEs screenings. These questions highlighted the lack of clarity he had about the intervention process. This also shows that clinicians require more training and resources to feel more confident about the ACEs screening process.

Sean: *"One concern which I guess I do share is that what do you do with the answer? what do you do with the result? Sooo if a child walks in the room and they've got a score of I don't know what, some significant score um what…do I then do with that? How... Um have we got the safe tools to respond uh appropriately to that? … "*

Rose expands on the concerns mentioned by Sean.

Rose: *" I guess the one question that I really have around screening is that anytime we screen we must have something that we can do about it and that's one of the baseline* *tenants of any screening… so for me, one of the things that has stopped me from (wanting) to screen, we don't have any resources…So I can say yes, this is a very terrible thing that I've identified. I'm really sorry to hear that and then what do I do? Um because we are so limited with what we can refer to we have got such…limited things available to us that so for me that would be… the barrier…in terms of support, I can't get children into mental health support. I can't get children into NGO support… so it's really tricky to open a can of worms where you have nothing to offer so that somebody (cut off- something) is a real big barrier yeah…It… makes the job really difficult…what you have to offer is very limited…If I'm seeing children in clinic, I can offer medications, If medications are appropriate…if there is disability involved, I can refer for disability support services…but access for counselling for children's just so limited um and then trying to access parenting support. The wait lists are huge um getting families say into … Parenting Programmes or … parenting support is… really difficult"*

Rose states that whenever a screening is done, there needs to be an intervention that follows from that process. This is interesting because research indicates that the identification of ACEs in individuals when addressing health issues is useful and can be considered an intervention (Anda et al., 2020; Barnes et al., 2020). However, Rose explained that not being able to provide support after screening has 'stopped' her from screening for ACEs. This is because Rose described not wanting to discuss ACEs as it could cause harm without having the opportunity to provide intervention. Rose's use of the metaphor 'to open a can of worms when you have nothing to offer' illustrates the current expectation of health professionals to ask about patients' trauma without being able to intervene. Rose also discloses that not being able to assist people she identifies as needing help makes her job very difficult. This highlights the difficulties health professionals are grappling with when it comes to addressing trauma currently in health settings in NZ. This perspective also emphasises an area of education that would be useful for clinicians, which is understanding that identification of ACEs can be a form of explicit identification and documentation of the issues brought up, as well as clear referral pathways to other services and organisations (an interagency agreement and approach).

Cathy shares Roses' thoughts about the outcome of screening.

Cathy: *"but like any screening tool, I mean if you look at the World Health Organisation definition of like what is a screen or what the purpose of the screen is is you have to be able to intervene, and if you can't intervene, what's the purpose of doing it and which comes back to the difficulty of what do we do with that information… if we get critical information, we have to have something to do with that. Otherwise, there's a degree of clinical responsibility that comes with collecting that information and if you can't act on it or do anything with it then you know, we now know something that's of importance um and we're sitting on it um that's…a very uncomfortable ... position to be in. So, ... while it's a simple tool and ... there wouldn't be any particular difficulty in instituting it the…uncomfortable side the lack of comfort would come from the fact that there isn't any way to go with that information.*"

Cathy explained the need to provide interventions whenever screenings are carried out. This is because she feels when clinicians receive sensitive information that, they have a degree of 'clinical responsibility' to provide care or support to individuals. However, most participants, including Cathy, have advised that they are informally identifying ACEs and also utilising this information to provide further support. Thus, it suggests Cathy feels comfortable completing ACEs screening informally but not formally. This could be because the participant views completing a formal assessment of ACEs as being beyond the scope of their practice. Therefore, they will have to complete it formally as part of their role and have to be 'clinically responsible' for addressing this issue as opposed to informal screening, which does not have the same clinical responsibility. This creates discomfort for the participant.

The experiences both Rose and Cathy are describing is called moral injury. Moral injury can occur in situations where individuals face ethical dilemmas and uncertainty on how to respond to a given situation (Čartolovni et al., 2021). Rose's experience highlights wanting to address trauma but not wanting to do this without providing further support for individuals, which creates an ethical dilemma. Cathy's explanation of feeling uncomfortable due to having to hold on to the knowledge that she is not able to address presents an ethical dilemma without a solution; chronic moral injury can lead to burnout (Čartolovni et al., 2021). This is because of the lack of control and autonomy to change their circumstances (Čartolovni et al., 2021).

Pam echo's the thoughts her colleagues presented about not having a process in place before asking questions about ACEs creating barriers for Paediatric staff to screen for ACEs.

Pam: *"... I think some of the other potential resistance will be around if I ask the questions, what then? And ... I think about it like… I guess likening it to like the… kind of you know the family violence screening… and that's often the biggest barriers that people think. I don't want to ask the questions cause if someone discloses something or burst into tears, I don't know how to manage that. I don't know what to do… I guess people have the perception that If they kind of yeah, open up the can of worms, so to say um that yeah um how do you kind of manage that and how do we not do more harm by by not managing that well? So, I would say probably without some education in support, there probably wouldn't be a significant amount of confidence to just roll it out tomorrow."*

Pam compares her experience of using the Family Violence screening in the Paediatric setting. She used the knowledge she learnt from this experience to identify potential barriers to implementing ACEs. Pam explained that staff members are not comfortable with asking questions about family violence. Here Pam uses the same metaphor used by Rose earlier, 'opening a can of worms' to explain the way staff members feel about enquiring about trauma histories. The comments made by Pam suggest staff are not confident in screening for ACEs at the moment, potentially because they do not know what to do with the answers. Pam is relating her learning about other sensitive conversations about family harm to ACEs to explain the need for a process in place before asking about trauma histories.

Lack of time for asking sensitive questions. Several participants also identified two potential interrelated barriers to the introduction and utility of the ACEs questionnaire; They lack time to ask sensitive questions about their experiences. These two barriers work together to inhibit participants' confidence in screening for ACEs. This is because participants have advised that lack of time deters them from asking sensitive questions.

When reflecting on potential barriers to ACEs, Sean expressed that time pressure and asking questions about trauma from patients were issues identified by his co-workers.

Sean: *"... so I'm just trying to think of some recent clinic experiences where the clinic is really full and it is reasonably time pressured…there are conditions that I'm seeing that needs quite a lot of work… and explaining and talking through and the ... application of therapies ... and ... the delving into the family traumas is gonna take ... twice the time that I've got. ... so yeah, I guess I have to prioritise a bit. ...I've wondered before about ... screening, so screening questionnaires prior to assessing children… has not instituted in our clinic. The barriers are ... I guess there's a perception amongst some/ many staff that slapping people with a questionnaire that tells them ... reasonably sensitive stuff is… inappropriate"*

Addressing trauma and or ACEs in the clinic is a challenging prospect for staff. Sean talked about having to ‘prioritise’ aspects given the short consultation time. He also explained that some health conditions require more time to address than the time available in consultation. This can be difficult during a consult that requires addressing both, but health professionals are limited on time to work on all issues with children and families. Therefore, it often means having to make a choice of what is most pressing, which is often the physical health issues for a Paediatrician.

However, research shows that ACEs contributes to the development of many long-term chronic health issues (Felitti et al., 1998). While it may be difficult for health professionals to address ACEs, it would likely reduce the development of long-term health issues for children and families. Therefore, it is important to examine how health professionals are prioritising the way they approach these issues. This information illuminates the possibility of health professionals requiring more support and training on addressing ACEs to assist with addressing these issues in practice, also more support around scheduling of appointments and workload.

Sean also explained that other staff members believe screening for ACEs in the clinic is inappropriate. The use of the word choice ‘slapping people with a questionnaire’ illustrates the concern health professionals have about asking sensitive questions with a piece of paper rather than a conversation. It also illustrated how health professionals view the ACEs screening as being inappropriate when research has outlined more effective ways of completing screening. Research has found that ACEs screening can be carried out in the Paediatric setting in a more sensitive manner using a Trauma Informed Care lens (Hopper et al., 2010; S. J. Roberts et al., 2019; C. Wilson et al., 2013). It is difficult to say why these health professionals hold these views, but it could be the lack of understanding of how this process can be done more effectively.

Abby suggested Paediatric staff may find the lack of time to address disclosures to be a barrier that prevents staff from screening for ACEs. She suggested staff may be scared of screening for ACEs if they are afraid of the answers they may receive. This is because they may not have the time to provide support or interventions for the disclosures. Abby used the staff's experience of using the Family violence screening to identify this barrier. This suggests that staff members may require more support to become more confident with carrying out the ACEs screening.

Abby: *"...maybe a time thing ... sometimes, you know, people don't like asking the questions if they're a bit scared of the answers... well, they haven't got time to deal with the answers, so maybe that, and I'm saying that in relation --- to family violence screening ... you know, a lot of people are frightened (laughs) of you know what to do ... with the disclosures, so maybe that could be an issue...people are so resistant...Yeah. And I think a lot of that is because you know 'what if she says yes?' You know then what? ...I think a lot of people are afraid of the answers... I'm sure there's lots of ... other reasons, no doubt, but I personally think that it's the main factor in why people don't want to screen."*

Pam's perspectives were partially similar to those of Abby. Pam also indicated that lack of time to complete ACEs screening is a barrier that prevents staff from screening for ACEs. However, Pam also suggested the reason staff may find time to be a barrier to screening is because they lack understanding of the purpose behind screening and how it could benefit families. This means they may view this process as another 'tick box exercise' This indicates that peoples' emotions factor into their decisions, even when they understand, cognitively, that knowing about ACEs is helpful, the uncertainty and lack of training and support about how to do carry out ACEs could be creating strong emotions that act as a barrier for staff. This also highlights the need for the staff to have a real application for buy-in when a new screen is introduced into the health setting.

Pam: *“…..‘we don't have enough time and if we do then we need to not do something else’ ... I think that ... potentially comes from not really possibly having ... an understanding of what it's about, what the purpose is in, what the benefits are… And…then it potentially maybe perceived as just another tick boxy task. As opposed to you know what is the actual ...purpose of it and ... how is this beneficial? And .... what will this mean for families?"*

Lack of ACEs Knowledge at a Systems Level. Here one participant Cathy, provided insight into what she believes is a large barrier that is getting in the way of supporting and helping those with high ACEs scores. She explained that knowledge about ACEs at a systematic level is lacking. In turn, the resources available to combat this larger issue of ACEs are limited. She also explained that health practitioners understand the importance of addressing ACEs, but there are not enough resources currently available to assist those in need. The participant clarifies that a shared understanding of ACEs and their impacts at a systematic, national level in health systems management is lacking. Due to the lack of understanding of ACEs and their impacts, high-needs individuals are falling through the cracks. This means it is a broad community issue and problem; therefore needs societal responses at a broader level, but there are also individual problems that need to be considered and addressed, which reflects a true ecological approach.

Cathy*: “So it's um as I said, that's predominantly it's not that people don't understand the importance of it and the ... significance of it, but it's that there aren't the resources available to actually act on it and there isn’t at a systems level, a global or shared understanding of the impact of ACEs, um uh, and trauma, which are slightly different but massive overlap um uh you know that um uh that that such a huge number of it in our population uh are experiencing so or have been exposed to, that's the difficulty, as far as I see it”*

Cathy continued to explain that a potential barrier that may emerge is communication about ACEs and their effects when looking into interventions for those identified with high ACE scores. This barrier again is at a higher level looking at the services available and including the cooperation of multiple agencies to tackle the issue of ACEs. She explained that given that the different organisations have different foci, forming and providing interventions for those with high ACEs will be difficult. Therefore, it is important to educate all organisations working with children and families about the topic of ACEs, so they are able to work together to provide the required support, either through individualised or universal approaches, to combat the issue of ACEs.

Cathy: *" ... One is, I guess communication, so there's so many organisations involved that have their own agendas and their um own resource limitations…I think... again, the barriers are going to be different depending on whether you're looking at a … universal approach or an individualised approach"*

COVID-19 and Health System Reform. Several participants identified the COVID-19 pandemic and the New Zealand health system reform, are two barriers that would impede on the introduction of the ACEs screening into the Paediatric Department.

Rose advised that with the current context, many staff members are struggling to keep up with the changes. The constant shift in the workplace experienced by the staff is causing stress and anxiety. In addition, the rapid modifications in the health system mean it was considered that now is an inappropriate time to introduce this questionnaire to the Paediatric Department. This is because, as Rose described, the Paediatric Department staff, in general, are under extraordinary strain. Therefore, the strain health professionals are currently under would likely inhibit the successful implementation of the ACEs screening into the Paediatric Department.

Rose: "*I think at the moment the health system is in a huge state of flux and there is a lot of change and so I think in change is difficult for people … but yes there's change at work constantly based on I guess the COVID situation um as well as that within going into big health reforms with Health New Zealand. So, I think within the workplace there's generally a feeling being very overwhelmed by change, and that brings up a lot of anxiety um and so it's hard to integrate (breakdown of audio) other things as well when you got all of that going on in the background? Yeah"*

Sean extends on Rose's reflection about the current pressures in the health system.

Sean: *"… I guess to summarise my views, … it would be ideal in … best practise … and I … guess sensing my own sense of trauma currently feel that we are operating in a system that is conspiring at every angle to load us with all sorts of things so that we can't get near ideal best practise. I guess I'm referring to the system change at … government- at ministry level but also uh COVID, pandemic um and um staff level strain umm resource strain umm sense of feeling because of those things feeling overwhelmed at the … amount of need for children around us and so struggling to get through the … minimum, the basics … I guess I have to just reflect then that a… yeah, you are … talking currently with a clinician who is just currently feeling a bit worn out frankly which colour some of my responses…"*

Sean explained that in an ideal world where they are provided with appropriate resources and support, they would carry out best practices such as ACEs screening. Sean's description of 'sensing my own sense of trauma' refers to the pressures and the difficulties he felt being a healthcare professional who is dealing with the pressure of the health system. Sean also used the phrase 'a system conspiring at every angle to load us with all sorts of things', which highlights health professionals' perspectives of the health system as overloading health professionals with more work than they are able to cope with. Sean also reflected on his own wellbeing. He admits to being 'worn out' and that this may impact on his views and answers to the interview. This reflection indicates that Sean is not ready to take on any more changes to the health system at the present moment. Overall, this illustrates the systems changes that can create trauma and burnout for staff, which impacts their work and them being able to put their ‘hearts’ into their job.

Rose and Sean also shared their views of whether they think the Paediatric Department is ready for the introduction of ACEs Screening at the moment.

Rose: *“ (laughs) No ... I.. It just feels at the moment as though that people are just too stressed… yeah, ... but that’s not to say we shouldn't try um and so it ... would be nice to say yes to that um but it ...just feels as though there is too much stress within the DHB at the moment and it will sort of be asking another thing, yeah?”*

Sean: *“…Yeah ... no no no ... yeah, not at the moment, so yeah, ... there are extraordinary pressures um and a lot of change coming and no we are not adapted already but I don’t think we are ready.”*

Rose and Sean advised that the Paediatric Department is currently not ready for further changes. Therefore, they are not ready at the moment for the introduction of the ACEs screening. Rose explained that the staff are too stressed. Rose also clarified that she would like to 'say yes'; however, it is difficult at the moment due to the stress, strain, and the ongoing changes experienced by the health system at the moment.

Overall, the superordinate theme of 'Questions, concerns and other barriers' identified challenges participants may encounter when completing the ACEs screening in the Paediatric Department. This superordinate theme includes five subordinate themes that comprise of questions, concerns and barriers participants had about the ACEs screening process. Firstly, in the subordinate themes of ‘uncertainty about carrying out the screening process', some participants felt uncertain about how to carry out the ACEs screening process. This, in turn, inhibited participants from wanting to screen for ACEs. Secondly, in the subordinate theme of 'What do you do with the results', many participants did not know what to do with the results of the screening. Therefore, health professionals are hesitant to identify ACEs without having the opportunity to provide further support and felt it was unethical to do so. Thirdly, in the subordinate theme of ‘Lack of time for asking sensitive questions, ' participants advised that Paediatric staff are hesitant and fearful of screening for ACEs because of the lack of time they have to address disclosures from patients. Fourthly, in the subordinate theme of 'Lack of ACEs knowledge at the systems level', a participant identified that at the moment, ACEs knowledge is lacking at a systems level which in turn influences the funding health professionals get to support individuals with high levels of ACEs. Finally, in the subordinate theme of 'COVID-19 and health system reform', clinicians explained that staff members in the Paediatric Department are already feeling stressed and strained due to the COVID-19 pandemic and changes to the health system. Therefore, they are not ready to introduce any new changes.

Suggested improvements

This superordinate theme encompasses the improvements proposed by each participant. These improvements were based on participant experiences and also solutions to the barriers they uncovered to ensure the promotion of ACEs screening in regular practice in the Paediatric department. This superordinate theme includes five subordinate themes: Internal screening processes and support; Suitable places to refer and trauma-informed service; Education and training; Where to begin implementation; and Education at a systems level.

Internal Screening Processes and Support. This subordinate theme captures the suggestion made to clarify the process of internal screening processes for staff. This is because many of the participants are unclear on how to carry out ACEs screening at present. One participant**,** Pam, recommended the establishment of a clear process for carrying out the ACEs screen in the Paediatric Department.

Pam*: "...I think people will feel far more confident if they are clear about why they're asking, what the benefits are, but also what the process is to kind of yeah what the next steps are if information is disclosed that is upsetting or challenging um and what are the next steps? ... I think having a clear process so that it doesn't become a tick box that is about, you know, here's a number on a piece of paper that having a clear process around the narrative that goes with that... "*

This includes providing clarity about why the Paediatric staff are completing the screening and its benefits. Pam also advised setting up steps to follow once the screening is completed. This includes setting up processes for staff when there are disclosures that can be challenging or upsetting because it would likely reduce the fear staff have of patient disclosures. Pam also suggests having a clear process to follow would reduce the chance of staff viewing the ACEs screening as another tick-box exercise. If staff view the ACEs screening as a tick-box exercise, they may not want to utilise it in practice.

Pam *"... if there's referrals that come out of that, you know If someone discloses something for example, you know, who are they, who are they getting support with around that? Who are they referring on to? ...I guess ...again thinking likening it to the ... family violence work um you know kind of always talk about needing to know who you go to people are if ... something you know challenging is being disclosed that the same sort of thing that you have you have kind of some yes um some champions who...can support that work?"*

Pam used the example of the way the family violence screen is being utilised to explain the need to set up a support system for staff. Pam advised that with the use of the family violence screening, they have established support people to confide in for the Paediatric staff if they encounter challenges such as disclosers from patients. Therefore, when setting up a process for screening, providing support for staff is also important. This is important given that many staff members do not feel confident with disclosure. Pam referred to these support people as champions. The term champion has varied meanings in implementation research (Miech et al., 2018). In this case, Pam is referring to champions who are facilitators or leaders that support the process of family violence screening.

Suitable places to refer and Trauma-Informed Service. This subordinate theme encompasses the participant's request for a referral process following ACEs screening. At present, many participants are unsure of what to do with the outcome of screening. Participants are reluctant to screen without having the opportunity to provide interventions or referrals for their patients. They want to do something with the information-something useful and helpful.

Several important steps were proposed as part of the referral process by Rose and Sean; this includes incorporating trauma-informed care approaches into the service, increasing the mental health workforce in the hospital, connecting with local community agencies, and setting up referral pathways. Sean specifically highlighted the need for the services provided by the Paediatric Department to be trauma-informed. This is because research indicates that Trauma Informed Care (TIC) is a vital part of addressing ACEs (Hopper et al., 2010; S. J. Roberts et al., 2019; C. Wilson et al., 2013). Thus, educating staff on the TIC approach is vital for the implementation of ACEs screening. This, in turn, will make the screening process easier for clinicians to follow.

Rose: *"...I guess we have this this set number of roles, but actually doing the talking therapy is something I would refer on elsewhere for. So, I guess it's identifying the need for it,* *screening around it being able to have that discussion with families around why this is important and then linking families and children in with the appropriate other services um and it's just tricky when that's just not available, but in an ideal world that would be that would be wonderful"*

Sean*: "OK, so two things one would be that we are um trauma informed as a service two we have ... additional resources particularly in terms of umm I guess probably social work and counselling ... that would be available to children and families"*

It is also important to look at increasing social work and counselling services because most participants feel there are not enough resources available for the high level of need. This means there is a need for wrap-around services that work together to provide support for those identified with high levels of ACEs.

Sean also emphasised the need to connect with community agencies that are able to provide interventions. In an ideal world, clinicians would be able to refer those identified as having high ACEs to social workers, counsellors, and community agencies. Sean explained that community agencies are better at empowering people and communities to make changes compared to the health system. This refers to the Interdisciplinary approach to addressing health and wellbeing. Sean displays a holistic understanding of health.

Sean*: ".... I guess one thing we haven't I haven't mentioned will be links with um community agencies and services. ...I, I guess my consideration for our health system is that we're good at treating diseases, but we're not good at empowering transformation in people and I have seen a lot of um community agencies who are much better at creating transformative change in people and families, um much more so than in a in a health service ..."*

Education and Training. Education on the importance of the ACEs screening and training on how to carry out this process are additional suggestions for improvement made by all the participants. Education and training are essential steps when introducing a new process (Lehane et al., 2019). This is because it will enhance clinicians' knowledge (Lehane et al., 2019; Young et al., 2014) and, most importantly, improve their understanding of the reasons for introducing this process to the Paediatric Department.

Pam explained that unless there is education on the reasons ACEs screening is being introduced into the Paediatric Department, the implementation of the ACEs screening process is unlikely to become successful. Pam suggests this would likely reduce the resistance some staff may have in carrying out the screening and also decrease the chances of viewing the screening process as another tick-box exercise. Research shows that education plays a key role in shaping health professionals' knowledge, skills and attitudes (Lehane et al., 2019; Young et al., 2014). Pam also emphasised the importance of ensuring education and training are done succinctly to accommodate the staff's busy schedules. She suggested the need for the education sessions to be engaging for the staff, and it should allow space for the staff to ask questions and share their concerns. Pam proposed that these suggestions would likely enhance the number of staff that are likely to come on board with the screening process. Pam suggests these things will provide the staff with a well-rounded education and training to carry out the ACEs screening confidently.

Pam: *"…I think that unless there's an education component to really understanding the impacts of trauma and the purpose of screening and … how and why it's used … then it has [the] potential … [to] become a tick box exercise … if it's not implemented really well… Yes, I think that the key thing … for implementation would be developing up some kind of … education around it… key information, but concise cause it's difficult to pin people down. You know, people aren't gonna likely agree to attend you know a full day or a weekend into you* *know substantial amount of time, but I think that education component's key so people could understand the purpose of it… But yeah, and then … I think needing to engage with … I guess paediatric colleagues to … get them on board? …. I think about the approach around this is something that is happening, and you must do it. You're probably going to get resistance. Whereas if there's the ability to kind of head conversations about 'this is what we're thinking about and this is why, and this is the benefits of it' … then people are far more likely to be on board"*

Sean extended on the suggestions made by Pam for education and training for ACEs screening.

Sean: *"I guess from my perspective, good training around trauma informed care would be … reasonably practically based in terms of, here are some … examples of interview styles or… tools that could be used in the clinical setting that I am familiar with … so something more than just conceptual ideas … well, I think … if our staff are understanding why we're doing what we're doing and have actually seen that tool in use… I think we could overcome that [ACEs screening] reasonably easily"*

Sean highlighted the need for 'good training around trauma-informed care'; however, he advised this training needs to be practical rather than theoretical. This means staff need to see the application of ACEs screening and the process being followed by someone who is more experienced. Similar to Pam's explanation, Sean advised that if staff understood the reasons for the use of TIC with the ACEs screening, they are much more likely to screen for ACEs. This is because research shows the use of the TIC can be an effective way to address trauma in a way that reduces the risk of re-traumatisation and the negative effects of addressing trauma (Hopper et al., 2010; S. J. Roberts et al., 2019; C. Wilson et al., 2013). This is done by being sensitive and providing understanding and thoughtful responses to people that have experienced trauma (Becker-Blease & Freyd, 2006; Deprince & Freyd, 2006; Jaffe et al., 2015; C. Wilson et al., 2013). Therefore, providing Paediatric Department staff with practical TIC approaches will improve the likelihood of ACEs screening being implemented.

Similar to Sean, Rose also recommended the use of practical training for ACEs screening. This is because Rose stated that confidence could only be gained by using the screen. Rose also asserts that the combination of initial training, practice on the job and trying out the screening are required for screening ACEs. Therefore, once initial training is carried out, education and training should also include the use of the screen by staff if they are to gain more confidence using it.

Rose: *"...sometimes I guess you only get the confidence by doing it, so I guess it's that initial training um and the on the job practicing and giving it a go [for ACEs screening]"*

Rose and Abby also recommended particular staff that may require education and training on ACEs screening.

Rose: *"there is also always [a] chance (audio breakdown) of staff changeover also ... and so when new staff come in checking in terms of where their knowledge base is at [on ACEs]"*

Rose advised that whenever there is staff changeover in the Paediatric Department, it would be a good opportunity to check new staff's knowledge on the topic of ACEs. This suggestion provides an opportunity to set up a system where information on ACEs can be checked and provided to any new staff member that may not have known about it previously. If this system is set up, it also means all the staff in Paediatrics are aware of this topic, and this information can easily be shared across the department to access support for children and families.

Abby also stated that the community team may require some more training.

Abby: *“…. We're just not asking those specific questions in that specific way… maybe we [it is] better to have actually the assessment because then we know that we've kind of ticked everything off and asked all the right questions as opposed to potentially missing stuff…. I would be relatively confident to do it now…. I mean it would be probably good … for you to come down and kind of give us some additional training … how you would like it. How you would like us to screen “*

The community-based Paediatric team works with children and families, and they are able to identify ACEs informally in their everyday practice. Abby suggested for the community-based Paediatric team they may benefit from using a formal assessment as it may allow them to be more thorough with identifying ACEs than their current practice. Abby also informed that she felt confident using the ACEs screening. However, she requested some additional training to assist her with conducting the assessment initially. This indicates that Abby is ready to begin screening for ACEs if she were provided with guidance to begin the process.

Where to begin Implementation. Several participants reflected and identified some spaces and approaches to begin the introduction of the ACEs screening to the paediatric department. Two participants suggested beginning the process with a small sample before introducing it department-wide. Some participants also provided areas within the Paediatric setting where implementation could first be implemented.

Rose suggested starting ACEs screening at a small scale by upskilling nurses and social workers on how to screen for ACEs. Then she suggested the new-born unit as a space that ACEs can first be introduced to. This is because introducing ACEs screening to the new-born unit would allow nurses to screen parents for ACEs rather than the children who would at this stage have just been born. This space will also provide the unique opportunity to provide early interventions, if required to parents. Research has found that unaddressed parental ACEs can lead to the intergenerational transfer of ACEs from parent to child through negative parenting (Folger et al., 2018; Guss et al., 2020; Lange et al., 2019; Mikulincer & Shaver, 2012). Therefore, addressing ACEs early, could assist in breaking the cycle of intergenerational trauma.

Rose: *"...potentially you could sort of do it in small amounts so I don't know whether we looked at up skilling around the new-born unit nurses but that would obviously require discussion with them to make sure that ... was something that they were comfortable with ... and with the social workers who work there and if we could have something that we could then make sure we could link those parents in with. I think for the babies though, it would be really doing the ACEs of the parents, because these are babies that have just been born ..."*

Rose's reflection also suggested an area where ACEs screening would not be effective was the children's ward. This is because children and families are: acutely unwell, do not stay for long periods of time and do not get a chance to build any relationships or rapport with the staff. This means from Rose's perspective, the Children's ward is an inappropriate space to introduce ACEs screening because staff members would be unable to facilitate conversations about ACEs or gain opportunities to provide appropriate support.

Rose: *"... children's ward the turnover is really high, so it's a really different place, so there you know children are sometimes in one night and out the next. That would be a difficult place to be able to implement things."*

Rose also suggested the children's clinic would be another space where ACEs screening could be introduced. Therefore, the spaces that are likely to be the most effective (from Rose's perspective) in introducing ACEs screening are the new-born unit and the children's clinic. In comparison, the Children's ward would be an inappropriate space for ACEs screening due to the length of relationship building and ongoing interactions.

Rose: *"... Then in children's clinic that would be another time that potentially would be really sensible to be thinking about it, so I guess the new-born unit and clinic would probably be more appropriate places to start than children's ward just because of the nature of the different areas."*

Sean proposed introducing ACEs screening would be successful in discrete services that address specific health needs for children and youth. He explained that this would allow children entering the services to be screened for ACEs. However, he thought these services would require more social worker support and training for the staff involved. Sean's suggestion is similar to that of Rose in that both recommended starting from a particular type of service rather than 'starting everywhere', which refers to hospital-wide implementation, which indicates the importance of tracking information and doing research on outcomes.

Sean*: "...what I'll probably do is start off at two services ... I would undertake a project to screen all the children entering... those services at the same time, I would allocate additional .... social work support... and ... a unit of training for the staff involved... and alongside that I'd also have a ... database recording scores and .... outcomes longitudinally ... Well ... I think starting in discrete services is going to be more achievable than starting everywhere.*

These reflections by Rose and Sean indicate that certain spaces in the health setting are more appropriate than others to introduce ACEs screening and that staff are more knowledgeable about this information. This highlights the importance of collaborating with staff members when introducing new processes, as they are more familiar with and knowledgeable about the setting than researchers.

Another recommendation made by Pam for implementation is to start the process small with a pilot project. This includes identifying a number of champions that are interested and willing to be part of the process. This pilot would assist in figuring out the process of screening and referral and support required for the staff. Pam advised that starting with a 'pilot' would assist in identifying areas of improvement for the ACEs screening process. This is important from Pam's perspective because it would reduce the chances of this project being criticised by individuals that may not view it favourably. She also emphasised the need for getting feedback from this process to improve it further and, most importantly, provide ongoing support for staff during this process. The suggestions made by Pam again show the importance of including staff members in the process of implementation to advise on the approaches that are most appropriate for the setting.

Pam: *"…maybe starting smaller scale first, so um maybe identifying a few people who you know are really passionate … to do this work and starting there. Rather than kind of blanket across the board …Maybe starting with you know a smaller number of people who are really you know keen to do this work and want to do it um to make a start on it in kind of, I guess almost like a, I don't wanting a better word, like a pilot sort of thing. So that then you can kind of tweak processes and get a bit of a sense of you know is it working? Could it work better? Um you know, are there any trends or any things that haven't been thought about that need to be put in place before it kind of goes broader. I guess the worry is that you roll something out across you know the entire spectrum of of paediatrics and it would only take one or two little things to not go entirely right and then all the … (laughs) the cynical people who are doing that 'cause they have been told they have to, not 'cause they believe in it , that and then, you know, kind of reinforces that narrative for them that 'oh see it wasn't good anyway' or 'see this is exactly what I was worried about' I wonder if starting with a a smaller group um as a kind of interim pilot … and then using that information in that* *feedback to kind of grow it from there… And I think having a core group of people potentially, and it doesn't need to be a cast of thousands, but who can also provide ongoing support um to wider paediatric um team um is really helpful."*

The suggestions made by many participants align with the implementation science approach taken in this study. Starting small will allow for any errors or mistakes to be identified earlier in the process. If this screening were to be rolled across the Paediatric Department, the likelihood of mistakes deterring staff members who may not be on board fully is high. This could lead to the unravelling of the process altogether. Thus, to ensure successful implementation and maintenance, it is best to start the process small.

Overall, the subordinate theme of 'Where to begin implementation' was able to capture several ideas outlined by participants as a starting point for the introduction of ACEs screening to the Paediatric Department. All the suggestions made reflected the importance of beginning this process small but in different spaces in the Paediatric Department.

Education at a Systems Level. This subordinate theme emphasises the need for widespread education for agencies that work with children and families in order to support those identified with high levels of ACEs. This is because there is a lack of funding currently to support children and families identified with a high number of ACEs. Cathy explained that in order to access funding for ACEs, education at the systems level is required.

Cathy: *"... I mean I think .... there needs to be wider education so at a systems level with fam-with ... the wider breadth of organisations and even at a governmental level that is engaging with whānau who are .... experiencing a high ACE burden there needs to be an understanding of the significance of it.....our ... tamariki and rangatahi with a high ACE burden often have a level of disability which far exceeds children with intellectual disability and Autism Spectrum Disorder, who live in an ACE free environment shall we say, and yet* *they're not entitled to any support, until we can educate and change our focus towards need um and recognise the level of a need and disability that can result from a high ACE burden, um I don't think we're going to get very far because … there's only a small pot of money … and so it needs to be redistributed* ”

Cathy stated that, at the moment, ACEs knowledge at the health systems management level is lacking. She advised that this influences the resources children and families with high ACEs scores have access to. This means children and families that require support are not receiving it. Cathy compared the accumulation of ACEs to two developmental disorders, Autism Spectrum disorder and Intellectual Disability. This was done to emphasise that while children with ASD and Intellectual Disables receive support, children with ACEs who often have more challenges do not receive any resources or support. Cathy proposed that despite ACEs being a debilitating condition, there is a lack of understanding and support provided to children and families with high ACEs. Therefore, Cathy described the accumulation of ACEs as having a larger developmental impact and disability than is currently recognised at a systems level.

Cathy also suggested that by educating people at the systems level, clinicians can develop a common shared language.

Cathy: *“Well, I kind of already have… So, I'm … trying to do a lot of education so both cause well, I think it's important to recognise that like in terms of providing care for children in particular, we're only a tiny component and in fact we [paediatricians] probably have … less, the least amount of capacity to change the situation for the child. Does that make sense?... So, I guess what I've been trying to do as much as possible is to develop a common shared language amongst people who are … working with families … so government agencies … my own colleagues within … the department … to try … as a starting point,”* Cathy advised that she has already begun to work on building a common shared language. This was suggested because she feels that Paediatricians alone do not have enough support to assist in making changes for children and families with ACEs. According to Cathy, by educating all agencies that work with children and families about the topic of ACEs and their long-term impact, they may be able to provide more care.

She recommended that it is crucial for those caring for children and families, in particular, to be informed about this topic. Therefore, Cathy proposed providing an understanding of ACEs to all agencies and organisations and developing a common shared language about ACEs to improve access to support for children and families with a high number of ACEs.

Overall, this superordinate theme of ‘Suggested improvements’ encompasses five subordinate themes: Internal screening processes and support; Suitable places to refer and trauma-informed service; Education and training: Where to begin implementation; and Education at a systems level. These subordinate themes together provided suggestions on how to introduce ACEs screening effectively to the Paediatric Department. One participant recommended setting up a clear internal process for ACEs screening to: reduce staff fear, enhance their confidence in completing the screening and provide support to staff. Some participants recommended setting up referral pathways for staff to support children and families requiring more support. Participants suggested setting up trauma-informed care approaches to services, connecting with community organisations in the local area and setting up referral pathways. Another suggestion made by participants was providing education and training to staff. This is to enhance the staff's understanding of how to carry out ACEs screening practices, the purpose of screening for ACEs and their benefits to the community. Participants were also advised on ways to first introduce the ACEs screening to the Paediatric setting. The majority of participants advised to begin small scale before it is implemented

Paediatric Department-wide. They suggested beginning any of the following spaces first: the new-born unit, children's clinic, and specific services dealing with particular health conditions. Lastly, one participant suggested the need for system-wide education on the topic of ACEs to enhance communication among organisations that work with children and families to improve the support staff can provide for their patients.

Chapter Five: Discussion

The analysis of interviews revealed key information from health professionals about their perceptions on the potential introduction of the Adverse Childhood Experiences (ACEs) screening into a Paediatric Department in New Zealand (NZ). This information is particularly valuable because there is a limited number of research studies that have examined the implementation process of the ACEs screening into health settings, especially in NZ. Introducing new processes into health settings is not a simple process; this has been highlighted by countless research accounts of ineffective uptake of evidence-based practice (Balas & Boren, 2000; Bauer et al., 2015; Nilsen, 2020). Therefore, the Implementation Science method was useful in exploring the process of launching ACEs screening process in a Paediatric setting. The pre-condition stage of the REPs framework assisted in planning the implementation process and allowed the identification of thoughts, understanding, barriers, and facilitators of ACEs screening (Kilbourne et al., 2007).

Four superordinate themes emerged from the interviews' analysis: knowledge, training, and perspectives on ACEs; Reflecting on current practices; questions, concerns, and other barriers; suggested improvements. Three of the four superordinate themes also include further sub-themes within them. This chapter will explore the findings as it relates to existing research and theories, their practical implications, strengths and limitations of the research, and future directions.

The analysis revealed that all participants understood the topic of ACEs and had varied sources of learning and training. All participants understood the key findings from the original and subsequent studies, and some displayed a more profound and wider understanding of the effects of ACEs on the behaviour, development, and transfer of ACEs through generations. These findings contradict previous research outcomes, where health professionals from the Paediatric Department or primary care providers had limited knowledge of the key information about ACEs (Bora et al., 2021; Kerker et al., 2016). This could be because of the Paediatric staff involved in the current study. They may have more knowledge and interest in ACEs than other staff with little knowledge about this topic. Previous research may show a lack of staff knowledge on ACEs because these studies may have primarily focused on adult services as opposed to Paediatric services, where the topic of ACEs is crucial. Paediatrics' take a holistic approach when working with children by considering the wider systemic influences of family and ecological systems (Esparham et al., 2018). Therefore, Paediatric staff needs to know about ACEs as it influences a child's overall wellbeing.

Another important finding from the study was that participants learned about ACEs through various sources. Compared to previous studies, the current research project explored the various sources of education and training health professionals acquired. Findings from a previous study indicated that health professionals in primary care receive limited formal training on ACEs (Bora et al., 2021). The current study partially aligns with Bora and colleagues' (2021) findings. This is because both studies found that the health professionals received limited training. However, compared to Bora and colleagues' (2021) findings, the current study's results show that some participants received some form of formal education on ACEs, and others learned about the topic informally and conducted self-study to enhance their knowledge. A different study by Tink and colleagues (2017) found that many clinicians received medical training to screen for ACEs. The findings from the current study contrast with Tink et al.'s (2017) findings. This is because the current study revealed that only some participants received formal training on the topic of ACEs and all the participants revealed that they did not receive any training on how to screen for ACEs. The current study's findings are valuable because, unlike previous research, the current study delved deep into understanding the sources of education and training health professionals received. The current findings also highlighted the power of informal learning. Informal learning was the most common way health professionals first became familiar with this topic. These informal learning methods led many health professionals to seek further education and learn about ACEs. Therefore, this study provides insight into how some paediatricians learnt about the topic of ACEs. These findings also reveal the need for more formal education and training on ACEs in professional degrees and healthcare settings.

Many participants emphasised the importance of knowing ACEs when working with children and families in the Paediatric department. Earlier ACEs research predominately focused on quantitative work, which often explored tangent perspectives of health professionals and provided limited information on their viewpoints on the importance of knowing about ACEs. For example, Szilagyi et al.'s (2016) study found that only 34% of health professionals in the study believed in the long-term impact of ACEs. This finding is important, but the underlying reasons many health professionals do not share this viewpoint are unclear. In contrast, the findings in the current study explored in detail the perspectives health professionals hold and their underlying reasons for learning about the topic of ACEs. Therefore, the current study extended the previous findings by Szilagyi and colleagues (2016) by providing a more detailed view of health professionals on their understanding of the topic and its consequences. Health professionals' viewpoint on the topic is crucial to identify because they can explain their motivation and practice of screening for ACEs.

A surprising finding from the current study was that many participants identify ACEs informally or intuitively in practice. Often participants mentally add the number of ACEs in consultations with children and families. This practice of informally identifying ACEs contrasts with findings from other studies. A previous study found that knowing about ACEs did not increase their chance of screening for ACEs (Bright et al., 2015). In comparison, the findings from the current study indicates that knowing about ACEs enhances the chances of identifying ACEs in practice. Earlier studies may not have encounter this finding because they were predominately quantitative studies that did not delve deep into participants' experiences. Thus, they did not understand the underlying reasons for not screening for ACEs. This finding has provided valuable insight into how health professionals address ACEs when they are not confident and uncertain of how to formally screen for ACEs.

The findings of the study revealed several benefits and limitations to screening ACEs Informally. The benefits of informally screening for ACEs are that it allows health professionals to hear individuals' stories and build relationships with patients through this process. This, in turn, can assist health professionals in improving their understanding of families. It is essential to state that this informal process often does not address ACEs directly; instead, health professionals can identify potential ACEs via conversations with families or through screenings for other psychosocial issues, such as family violence screenings. Subsequently, this approach can enhance health professionals' practice of identifying ACEs without screening.

The informal ACEs screening process also has limitations. A prominent disadvantage of informal ACEs screening is missing key items from the screening tool. Thus, they cannot capture the extent to which ACEs may impact children and families. Another limitation of the informal and indirect screening of ACEs is the need for more rigour in addressing this issue in the community. Some families that have high ACEs scores may 'slip through the cracks' unless ACEs are addressed directly. This leads to the final limitation of informal ACEs screening; a lack of a clear ACEs process may also make the practice of seeking interventions difficult. This is because access to interventions requires a more formal process of identifying issues. This evaluation of informal ACEs screening revealed that while there are benefits to screening ACEs informally, there are also limitations to this process, especially in the long term.

Several participants were uncertain about the ACEs screening process. The lack of clarity around the screening process and lack of training meant participants were not confident in formally screening for ACEs. However, this was not a surprising finding given participants have not had any training on ACEs screening. Previous research has limited information on participants' perceptions of the screening process thus it is difficult to compare the findings from the current study. This finding illuminates the need to develop training for health professionals that are carrying out ACEs screening in health settings.

The most common barrier identified by participants to screen for ACEs was concern about what to do with the results. Many participants commented on the limited resources available for them to refer children and families identified with high levels of ACEs. This was because they have already attempted to assist patients but was often faced with long wait times, lack of support and resources. This means many health professionals are unable to provide appropriate care to individuals. This in turn creates a dilemma for health professionals as they are unable to provide support to children or families with high ACEs scores. Previous research by Kalmakis and colleagues (2017) also identified that health professionals were less likely to screen for ACEs if they felt there is little they could do. This dilemma faced by health professionals over time can lead to moral injury and, eventually, burnout (Čartolovni et al., 2021). To date, research on the topic of unaddressed ACEs and moral injury is lacking. However, the findings from this study suggest that health professionals require support in tackling this dilemma before it leads to moral injury and burnout, as it will likely deter them from screening for ACEs (Čartolovni et al., 2021). Therefore, it is vital to address this barrier during the implementation process if ACEs screening is to be introduced to a health setting.

Lack of time to carry out ACEs screening was recognized as a barrier by several participants of the current study. This finding aligns with many existing ACEs literature.

These studies also identified time to be a barrier for health professionals to screen for ACEs regularly in practice (Bora et al., 2021; Branstetter et al., 2020; Kalmakis et al., 2017). Therefore, the findings from the current study provide further support to existing findings on time being a barrier impeding health professionals' adherence to regular ACEs screening in the Paediatric setting.

Along with a lack of time, asking sensitive questions in the primary care settings was identified as a barrier to screening ACEs. Previous ACEs research has frequently indicated that many health professionals felt that asking sensitive questions in health settings was an issue. Albaek and colleagues' (2018) work looked at the challenges healthcare professionals face when addressing ACEs with children and families. The themes that emerged from their work were feeling inadequate, fear of making it worse, and facing evil, and the overarching theme of walking children through a minefield. These findings partially align with the findings from the current study, especially the themes of feeling inadequate and fear of making it worse. This means asking sensitive questions is a very common barrier that prevents health professionals from screening for ACEs. This could be because health practitioners that are not trained in working with trauma feel overwhelmed when having to address these topics.

A unique barrier that emerged from the study was the lack of education at a systems level. This is because the issue Cathy outlined was not one that has been outlined as a barrier in previous research. However, this issue was identified as one that can impact the implementation of ACEs screening in Paediatric health settings. This is because the participant states without the widespread knowledge of ACEs in NZ, the implementation of ACEs may not be effective due to a lack of resources available. Without spreading awareness of the effects of ACEs, those identified with high ACEs scores are unlikely to get the intervention they require.

The experience of COVID-19 and health system reform was another significant barrier identified by participants. This finding from the current study was unique in the field of implementation science and ACEs due to the time the study was carried out. This finding illuminated the difficulty in trying to introduce a new assessment process into healthcare settings during major shifts in the system. Several participants advised they and other colleagues in the Paediatric Department are feeling exhausted by COVID-19 and the overhaul of the health system in NZ. Therefore, several participants indicated that the Paediatric Department is not ready for the introduction of ACEs screening at the moment. One particular study by Gavin and colleagues (2020) on the wellbeing of hospital staff during COVID-19 showed the psychological burden felt by hospital staff and healthcare workers. The findings indicate that the workload placed on healthcare staff was excessive, and this created an emotionally charged setting (Gavin et al., 2020). The current findings and those of Gavin et al.'s (2020) study suggest that it is inappropriate to introduce the ACEs screening process during a time when staff is already feeling overwhelmed by the pressure of the systems changes. This is because the ACEs' screening process is unlikely to be implemented successfully in this setting at the moment.

Some prominent suggestions made by participants were to set up a clear internal screening process and support and set up suitable places to refer patients and trauma-informed service. These suggestions emerged from the previous barriers to the questions participants had about the screening process and questions about what to do with the results of the ACEs questionnaire. Thus, many participants felt that constructing a pathway and appropriate system ahead of time will enhance their screening practices. A previous study also found that setting up systems such as utilising trauma-informed values assisted in screening for ACEs (Mendel et al., 2021). Reading and colleagues' (2022) work indicated that the successful application of ACEs screening requires identifying the needs of the settings and available resources. The current study has identified the need to set up a clear process for screening and referrals ahead of ACEs screening for successful implementation.

Another important finding from the study was the need for education and training among health professionals. This finding is important as health professionals were able to voice the type of training that will benefit their practice. Prior studies have identified the need for education but do not specify the type of training required (Bora et al., 2021). A prominent request made by one participant was that training for ACEs screening should include ongoing support. In addition, the inclusion of mentors from individuals with more experience and knowledge of carrying out the ACEs screening, how to work with children and families that have disclosures, and how to refer these families on to support services. Health professionals will benefit from observing and walking alongside others who can show how all elements of ACEs screening can be conducted before completing the process on their own. This will likely enhance the staff's confidence in screening for ACEs. Existing research has not examined the type of training health care staff require to carry out ACEs screening. However, previous research has found that providing specific training on how to screen for ACEs can alter the knowledge, perception, and practices of health professionals carrying out ACEs screening (Pearce et al., 2019). Therefore, these findings from the study will be valuable in developing training tools for the staff that is more effective because it is catered to the needs and requirement of the staff.

Participants also suggested multiple spaces and ways the ACEs screen could be implemented in the Paediatric Department. This was an important perspective to gain from participants because they work in the space and are aware of the workings of the setting more than researchers. These findings are unique to this study given that other studies did not enquire from health professionals their view on how they would implement a change in their setting. All the suggestions made were unique and appropriate for different parts of the

Paediatric Department. Rose and Sean provided different spaces in which researchers can begin implementation. Rose suggested introducing ACEs screening at the newborn unit and the children's clinic, while Sean suggested introducing ACEs screening into discrete services. Rose, Sean, and Pam also suggested the introduction of ACEs in small doses. These suggestions align with the strategies utilised within the implementation science frameworks like REP, to begin with, a pilot study before rolling out the change across the entire department, the use of champions to begin the process, and identifying issues at the pilot stage to resolve them before introducing the change to the entire department (Kilbourne et al., 2007). These findings are useful for when ACEs screening would be introduced. Thus, this information provides spaces and methods to best begin the introduction of the ACEs screening into this particular Paediatric Department.

An important suggestion made by a participant is to improve the implementation process of ACEs by enhancing ACEs education at a broader systems level in NZ. This is again an important finding from the study. Here the participant talked about improving shared language across different organisations about ACEs and their long-term effects. This, in turn, will assist health professionals to better communicate with other organisations that can support those with high levels of ACEs. This finding is novel and adds to the existing literature on how to tackle the growing public health issues of ACEs. This finding illuminates the need to enhance the knowledge around ACEs among those that work with children and families to provide effective interventions.

Implications

The health inequity in NZ has increased over the years leading to poorer health outcomes, especially for vulnerable communities in the population (Goodyear-Smith & Ashton, 2019; Health Quality & Safety Commission New Zealand, 2019; Hobbs et al., 2019). Research has indicated that one of the underlying causes of health inequity is children’s early exposure to ACEs (Nurius et al., 2016; Raphael, 2011; Xafis, 2020). However, this issue has not been addressed within the NZ health system. Research dictates this could be because of the knowledge-practice gap that inhibits the transfer of evidence-based intervention research into practice (Balas & Boren, 2000; Bauer et al., 2015; Morris et al., 2011; Weinreb et al., 2010). The current study examined the first steps to introducing the ACEs screening questionnaire into a NZ Paediatric Department using the Implementation Science approach. The findings from the current study have major implications for beginning ACEs screening in Paediatric settings in NZ.

To the best of the researcher's knowledge, this study is the first of its kind that has investigated health professionals' perspectives on introducing ACEs screening to health settings in NZ. The findings of this study are valuable and practical because the health professionals were able to offer their perspectives on barriers and facilitators influencing ACEs screening in a Paediatric setting in NZ.

The findings from this study show the complex barriers that impede the practice of ACEs screening in health settings. This study provides insight into how the ACEs questionnaire can be successfully introduced and also provides suggestions to maintain screening practices in health settings. At present, participants are carrying out informal identification of ACEs, but due to the barriers identified, they are unable to carry out this process formally, consistently, and successfully. The findings from this study has the potential to introduce ACEs screening in a systematic approach to health settings and enhance the practice of the health practitioners and the community as a whole. This is because the feedback provided by the participants has the power to close the knowledge-practice gap that plays a larger role in inhibiting the implementation process.

Lessons learned

This research process has taught the researcher the complex nature of the health system and how difficult it is to implement evidence-based strategies into practice. Health professionals are often criticised for their lack of practice, but the findings of the study have uncovered that health professionals are aware of the issues and are trying their best to address them with the limited time and resources they have been provided with. Health professionals are often overworked and under resourced and struggling to provide the best care for their patients. Therefore, future researchers needs to continue working with health professionals to find a systematic approach to introduce evidence-based practice into health settings to ensure implementation success and its successful maintenance over time.

Strengths and Limitations

The use of Implementation science to structure the process of introducing the questionnaire to the health setting is a strength of this study. The implementation science framework helped guide the researcher on the first steps they need to take in order to identify the most successful way to implement the ACEs screen. By identifying a framework and looking at the first steps required, identifying the barriers and facilitators to implementing the screening, the Researcher was able to gain an understanding of different factors that can influence the uptake of implementation and how best to tackle the barriers identified.

Another strength of the study was the use of the IPA methodology. This is because this approach allowed an in-depth exploration of health professionals' perspectives and experiences of screening. The majority of the studies carried out earlier lacked the depth in their research to capture the insider knowledge that IPA inquiry uncovered. There the research was able to uncover barriers and facilitators at a deeper level than before. Thus, providing promising next steps.

A limitation of the project was the lack of diverse perspectives, especially nurses' perspectives, in the study. While the researcher and the project supervisors attempted to recruit health professionals, including nurses, for the study, countless challenges prevented nurses from taking part in the study. A major challenge that was encountered during the research process was participant recruitment. This was due to several factors, such as the COVID-19 surge, staff shortage, and changes to the health system. These obstacles prevented the researcher from recruiting as many varied participants as the researcher would have liked.

Another important limitation to identify is that the researcher is not a registered clinician that has experience working in a Paediatric setting. This means they have limited knowledge of the working of a Paediatric setting and the requirements to implement a tool in this setting. The researcher was keenly aware that the health systems differ and their lack of knowledge of the setting meant they must keep an open mind regarding the research process. The researcher’s lack of experience in the Paediatric setting is also a strength of the analysis process. This is because the researcher had no preconceived knowledge of the setting, which reduced the biases regarding how the setting works. The researcher's naïve inquiry was an asset to IPA's methodological work.

A major limitation of this study was completing this project during a very challenging time with COVID-19, health reform, and staff shortages in the health setting. This meant many staff members felt overwhelmed by the existing challenges and that they were not ready for any further changes in the health setting. This means some of the findings of the study may be influenced by their mental and emotional states about the health system. In addition, many health professionals who may have been interested in being part of the project could not be involved due to the strain on the healthcare system during this time. Thus, the researcher was not able to capture the thoughts of a larger pool of Paediatric staff members.

Considerations for the future

The findings from the current research study have also illuminated many future research opportunities. This is because the current study was only able to investigate a small part (one part of the pre-condition stage of the REP framework) of a larger ongoing project. Future research can utilise the findings from the current study to develop an implementation package to pilot the work in the Paediatric setting.

In future studies, researchers could continue the implementation science approach via the REP framework's four stages to introduce ACEs screening into the health setting. This can be done by addressing the barriers and facilitators identified in this study and developing a package based on the suggestions made by the stakeholders. This means addressing the barriers identified and the suggested facilitators also need to be addressed before an implementation package can be made for the health system.

Further research may require addressing some of the barriers and facilitators identified; for example, further research may be required to identify a process for ACEs screening. Research may also be required to be carried out to find out how best to educate and train the staff on ACEs screening based on the feedback from this study. Participants also suggested ways to begin implementation in the health setting; this could also be an area that further research is required to identify the best space and method of beginning implementation.

The REPs framework dictates that the precondition stage concludes with an implementation package that can be presented to the management team at the hospital to gain their approval. Then it is important to collaborate with staff to carry out adjustments before the package can be introduced as a pilot study as dictated by the pre-implementation stage of the REPS framework. These steps and approaches can also be further researched. For example, once an implementation package is made based on the current findings, another study can be carried out within the Paediatric Department with a larger sample of staff members to examine their perspective of the implementation package developed before it is introduced as a pilot.

Future studies also need to collect feedback from patients in the Paediatric setting to gain their perspectives on the use of ACEs screening. This could be done before and after the pilot to see how they feel about it. Collecting the perspectives of all the stakeholders involved in the setting can further enhance the current findings of the study by providing insight into the best ways in which ACEs screening can be used with children and families. This, in turn, can provide staff in the Paediatric Department with more understanding of how to use the ACEs screening more effectively and more confidently with children and families.

Future studies can carry out the full implementation process from the precondition stage to the maintenance stage of introducing ACEs screening to Paediatric health settings. However, this work would require the researcher to set aside adequate time to carry out this process.

It is also critical that future research explores ACEs within Māori communities and find the best ways to intervene from a Māori worldview and their perspective on introducing the screen to health settings. This was beyond the current study, but a future study with a researcher of Māori descent will be most appropriate to carry out work at a higher level than a master's as it is a complex topic.

Conclusion

In conclusion, the current research project was able to identify health professionals' perspectives on ACEs in a Paediatric Department in NZ. Participants provided information on their knowledge, training, and perspectives on ACEs screening, current practices, barriers to screening, and facilitators to improve screening practices. This information provided valuable insight into the way ACEs screening can be introduced into a Paediatric setting in NZ.

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Appendix A: Participant information sheet and consent form

MASSEY UNIVERSITY
COLLEGE OF HUMANITIES
AND SOCIAL SCIENCES
TE KURA PŪKENGA TANGATA

Participant Information sheet

Kia Ora,

You are being invited to take part in the following research study.

Project title: MidCentral Health professionals' perspectives on screening for Adverse Childhood Experiences (ACEs) in everyday practice when working with children and families.

Please take some time to read through the following information.

What is the research project?

This project aims to explore and understand various perspectives on ACEs screening from health professionals at MidCentral Health. The Paediatric Department at the Midcentral District Health Board's (DHB) Palmerston North Hospital is considering the implementation ACEs screening for patients and their parents. When considering how to proceed with this possible project, the current study will utilise implementation science to explore and understand current thoughts, knowledge, and attitudes towards ACEs screening from those who work most closely with patients and their whānau.

Who is undertaking the project?

This project is being conducted by Kavindri De Silva, currently completing her master's degree in health psychology. It is being supervised by Dr Don Baken and Dr Kirsty Ross.

Why am I being invited to participate?

You are being invited to participate in this study because you are a health professional, working in the paediatric department at the Palmerston Hospital and have regular interactions with children and families from the community.

Are there any risks associated with participating in this project?

Participation in the study is voluntary. The risks associated with participating in the project are expected to be low. The recording of the interviews will be stored securely in a password protected computer. We will maintain the confidentiality of all the research data and the research participants will remain anonymous in the thesis report.

What are the benefits in participating in this project?

This project will provide you with the chance to express your thoughts and knowledge regarding ACEs screening. It will also give you the chance to contribute to the potential implementation decisions taken in the future with ACEs screening.

What do I need to do to participate in this study?

If you would like to participate in this study, please follow the instruction of the attached informed consent form. You will need to copy, edit, and paste the statements outlined in the form on to an email to provide your consent. Please send the email to [redacted]. If you choose to take part in this study, once informed consent is complete via email, a date and a time will be arranged with you for an interview. You will be asked to participate in a confidential and anonymous interview over Zoom. This will last approximately 30 minutes.

Once the interview is completed and transcribed, we will send you a copy of the interview transcript. You will have up to two weeks to decide and inform us if you do not want us to use the transcript, or if you wish to make any changes or amendments. If no email reply is received within two weeks, we will assume that you approve the use of the transcript in the study, Unchanged.

What are my rights as a participant in this study?
If you decide to participate, you have the right to:

- Decline to answer any questions
- Ask any questions about the study or/ and withdraw from the project up until two weeks after you have received the transcript of your interview.
- Know that the information provided will be kept safe and it will be used in the current project and potential future conference presentations and/or potential future journal articles.
- Know that the thesis report will not identify individuals taking part in the study.

Who can I contact if I have further questions about the study?

Dr.Kirsty Ross:
K.J.Ross@massey.ac.nz

Dr. Don Baken:
D.M.Baken@massey.ac.nz

Kavindri De Silva:
[redacted]

This project has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviews by one of the university's human ethics committees. The researcher named in this document is responsible for the ethical conduct of this research.
If you have any concerns about the conduct of this research that you want to raise with someone other than the researcher, please contact Professor Craig Johnson, Director (Research ethics), email humanethics@massey.ac.nz

Thank you for your time.

Ngā mihi,

Kavindri De Silva

Participant Informed consent form

- I have read and understood the participant information sheet attached.
- Any questions I had were answered to my satisfaction, and I understand that I may ask further questions at any time.
- I have been given sufficient time to consider participating in this study and I understand that participating is voluntary.
- I understand that I may withdraw from this study up to two weeks after I have read the transcript of the interview conducted with me. Within that two-week period, I will have replied via email to release the transcript or request any changes I may like to make. I understand that if the researcher has not received an email reply within two weeks of receiving the transcript, it will be assumed that I am willing to have the interview transcript used within the study, unchanged.

Declaration by participant:

Please respond via email to [redacted] indicating that
(Please copy and paste the completed template below to confirm that you would like to participate in the study)

I, (Insert name) have read the information sheet and consent form and I am willing to participate in this study under the conditions set out in the information provided.

Please include your responses via email by deleting what does not apply:

I agree/do not agree **to the interview being sound recorded**

I wish /do not wish **to have my recording returned to me**

I agree/ do not agree **to have the information collected from the interview be used in potential future conference presentations and/or journal articles, in an anonymous format.**

If you would like to receive a summary of the study, please indicate this in the email. This will be emailed to you at the end of the study.

If you have any questions, please contact Kavindri De Silva at [redacted].
Thank you for your time.

Ngā mihi,
Kavindri De Silva

Appendix B: Interview schedule

MASSEY UNIVERSITY
COLLEGE OF HUMANITIES
AND SOCIAL SCIENCES
TE KURA PŪKENGA TANGATA

Interview Schedule

1. Can you tell me what you know about the topic of Adverse Childhood Experiences (ACEs)?
   - Where did you learn about this topic?
   - Have you had any training on ACEs?
2. How important do you think it is to know about ACEs?
3. What do you know about the current recommended practices to mitigate the long-term effects of ACEs in children?
   - Do you have any training on trauma informed care?
   - Do you find it helpful in everyday practice?
   - Do you feel that it would benefit you to learn more about ACEs?
4. Can you tell me how you feel about the idea of the Paediatric Department of the Palmerston North Hospital introducing routine screening practices of ACEs?
   - what are potential barriers that could impede implementation of screening successfully? (Barriers; training, organisation support, confidence, referrals)
   - What solutions do you propose for the barriers you identified? (Solutions: providing support, training, and setting up referrals processes)
5. What would you and/ other staff require to feel confident in using the ACEs screen in everyday practice?
6. Do you have any questions or further comments?