

Report under Embargo Until 12.01am on Thursday 7 November 2019.

The cost of perinatal depression and anxiety in Australia

November 2019

Report prepared by PwC Consulting Australia





Disclaimer

This report has been prepared by PricewaterhouseCoopers Consulting (Australia) Pty Limited (PwC Consulting Australia) with input from the Perinatal Wellbeing Centre (ABN 43 775 427 479), PANDA Australia (ABN 64 063 647 374) and Peach Tree Perinatal Wellness (ABN 87 545 227 108) for the use of Gidget Foundation Australia (ABN 52 160 202 960).

This report was prepared under PwC Consulting Australia's engagement agreement with Gidget Foundation Australia dated 15 May 2019. In preparing this report we acted exclusively for Gidget Foundation Australia and considered no-one else's interests.

We accept no responsibility, duty or liability:

- to anyone other than Gidget Foundation Australia in connection with this report
- to Gidget Foundation Australia for the consequences of using or relying on it for a purpose other than that referred to above.

We make no representation concerning the appropriateness of this report for anyone other than Gidget Foundation Australia. If anyone other than Gidget Foundation Australia chooses to use or rely on it they do so at their own risk.

This disclaimer applies:

- to the maximum extent permitted by law and, without limitation, to liability arising in negligence or under statute; and
- even if we consent to anyone other than Gidget Foundation Australia receiving or using this report.

Liability limited by a scheme approved under Professional Standards legislation.

Contents

1. Executive Summary	04
2. Introduction	05
3. Approach to modelling	09
4. Key findings	13
5. Recommendations	20
6. References	23

Executive summary

The cost of perinatal depression and anxiety (PNDA) in Australia

Prevalence of PNDA



First year impacts



Other insights



45% of fathers are not aware that men can experience postnatal depression as well as women

** The impacts of postnatal psychosis have not been costed in this study.*

The perinatal period, encompassing both the antenatal (from conception to birth) and postnatal (12 months from birth) periods, is a time of great change for mothers and fathers alike. This change can bring with it increased risk and vulnerability for a number of conditions, including perinatal depression and anxiety (PNDA), postpartum psychosis, post traumatic stress disorder (PTSD) and obsessive compulsive disorder (OCD). In Australia, one in five mothers and one in ten fathers/partners experience PNDA. There are psychological, social and physical vulnerabilities that can increase the likelihood of PNDA. Further, Aboriginal and Torres Strait Islander, culturally and linguistically diverse (CaLD) and lesbian, gay, bisexual, trans, intersex and queer (LGBTIQ+) communities can experience additional risk factors.

PNDA touches not only the parent experiencing the condition, but can also have impacts on the child and wider family, with some of these impacts lasting a lifetime. Understanding the cost of PNDA to Australia using updated data and research can support awareness raising to ensure that support to families can be continued during the critical early parenthood stage where it is needed. In this study we estimate the cost of PNDA to the health system, economy and wellbeing of those impacted. As shown alongside, in 2019 the estimated impacts of PNDA totalled \$877m, comprised of:

- health costs attributable to PNDA equalling \$227m, comprising increased use of primary and community health services and hospital health care services and increased risk of certain conditions for both the parent and child
- economic costs of \$643m are attributable to productivity losses associated with increased workforce exit, absenteeism, presenteeism and carer requirements
- monetised social and wellbeing impacts include increased likelihood of developmental issues, depression, anxiety and child ADHD diagnoses, totalling \$7m.

Beyond this are estimated lifetime impacts of \$5.2b attributable to the increased risk of depression, anxiety and ADHD in the children of parents with PNDA, affecting wellbeing, productivity and health system use.

Many studies have a focus on maternal postnatal depression, and data are limited on the impacts of anxiety compared to depression, as well as the effects experienced by certain cohorts such as LGBTIQ+ couples. This analysis seeks to include in its scope the cost of perinatal depression and anxiety to both parents to enable a broader understanding of its impacts to the individual, family and community more broadly.



01

Introduction

1. Introduction

PNDA affects 1 in 5 mothers and 1 in 10 fathers/partners in Australia, with psychological, social and physical factors increasing risk

Perinatal depression and anxiety (PNDA) is a common condition that many parents experience, having lasting effects on the parent, child and wider family as well as the Australian health system and economy. The perinatal period encompasses both the antenatal (conception to birth) and postnatal (first year after birth) periods. The duration of PNDA is different for every parent within this defined period, dependent on a number of individual and external factors.

PNDA affects 1 in 5 mothers and 1 in 10 fathers/partners.* With around 600,000 people becoming parents in Australia annually, this means that 60,000 mothers and 30,000 fathers/partners will experience PNDA.

This analysis focuses on depression and anxiety experienced during pregnancy and the first year after birth. During the perinatal period, parents may experience other mental illnesses including post-traumatic stress disorder, which affects 4 per cent of women postpartum,¹ among other conditions including postpartum psychosis and obsessive compulsive disorder. These mental illnesses are often experienced in comorbidity with depression and/or anxiety. However, limited research has been conducted on these conditions during the perinatal period.

PNDA presents as a spectrum where diagnoses range from mild to severe. These varying experiences of the condition will require different treatments that result in varied impacts for the parent, child, family and wider health system. This analysis considers where health system costs may differ for parents with PNDA based on the severity of the condition. However, as there is limited data on PNDA

prevalence by severity and effect of this severity on other conditions arising for the parent, child and wider family these costs largely do not consider the impact of PNDA severity.

PNDA risk factors

There are a number of psychological, social and physical factors that can contribute to an increased risk of PNDA. Most research focuses on the mothers, however a number of studies have found an overlap between the risk factors for both parents. A number of these risk factors are outlined below.

Psychological:

- previous history of mental illness²
- family history of mental illness²
- alcohol misuse²
- perfectionist or controlling personality³
- trauma.²

Social:

- mother being born in a country other than Australia⁴
- perceived financial difficulties⁴
- low socioeconomic status²
- lack of support network²
- poor relationship with partner⁵
- not having enough leave after childbirth⁶
- smoking.⁷

Physical:

- pregnancies to multiple children⁸
- pregnancy or birth complications²
- age less than 18 or over 35³
- fertility issues.³

It is worth noting that in relationships there is often couple comorbidity where both partners experience PNDA simultaneously.

** This prevalence rate has been calculated by triangulating a range of recent Australian data sources so as to include both depression and anxiety in the perinatal period, further validated by representatives from Gidget Foundation Australia, PANDA Australia, Perinatal Wellbeing Centre and Peach Tree Perinatal Wellness.*

1. Introduction

There are cohorts for which PNDA prevalence is different compared to the general population based on additional risk factors

In Australia, fathers/partners, Aboriginal and Torres Strait Islander communities, CaLD communities and LGBTIQ+ communities may experience PNDA differently compared to the general population. These groups can face an increased level of discrimination from the wider Australian community and have reduced support networks or access to preventative treatments for PNDA. The risk factors for each of these groups are described below, with related recommendations provided in section four of this report.

Fathers/partners

Much research on PNDA has focused on mothers' experiences, however 1 in 10 fathers/partners will experience PNDA. Recent studies have found that men also find the perinatal period as a stressful and challenging time that can lead to depression and/or anxiety in a similar manner to women.

Studies have shown that 50 per cent of fathers are unaware that they can also experience PNDA.⁹ This lack of awareness means that this group is less likely to reach out to the appropriate support networks or be diagnosed. Other risk factors for fathers/partners can include financial stress, particularly as fathers/partners may be the main income earner following the birth of a child, as well as attitudes towards PNDA and fear of being seen as a 'failure' if they are not coping with parenting as they expected.⁹

Aboriginal and Torres Strait Islander communities

There are a number of interlinking factors that place Aboriginal and Torres Strait Islander communities at higher risk of experiencing PNDA. This includes social risks such as smoking, with the Aboriginal and Torres Strait Islander adult smoking rate being more than double the non-Aboriginal and Torres Strait Islander rate,¹⁰ as well as psychosocial risk factors such as lower socioeconomic status.

Lower economic status can also lead to reduced access to health care which is related to poorer perinatal health experienced by Aboriginal and Torres Strait Islander women compared to other Australian women. In turn, reduced healthcare can lead to increased likelihood of complicated pregnancies and births, which is evident within the Aboriginal and Torres Strait Islander population,¹⁰ and also increases the likelihood of PNDA.

Culturally and Linguistically Diverse (CaLD) communities

A significant risk factor leading to an increased likelihood of experiencing PNDA is being born in a country other than Australia and having a limited support network; these factors are often interrelated.

CaLD community members can be less comfortable seeking mental health care due to language difficulties, a limited understanding of how to navigate the health system and lack of proximity to formal and informal support services, among other factors.¹¹ Studies show that in areas where 20 per cent of the population were born in non-English speaking countries, these communities only comprised 13 per cent of community clients and 15 per cent of inpatients using mental health services.¹¹ This may further exacerbate the costs PNDA places on the parent, child, family and wider economy.

Lesbian, Gay, Bisexual, Trans, Intersex and Queer (LGBTIQ+) communities

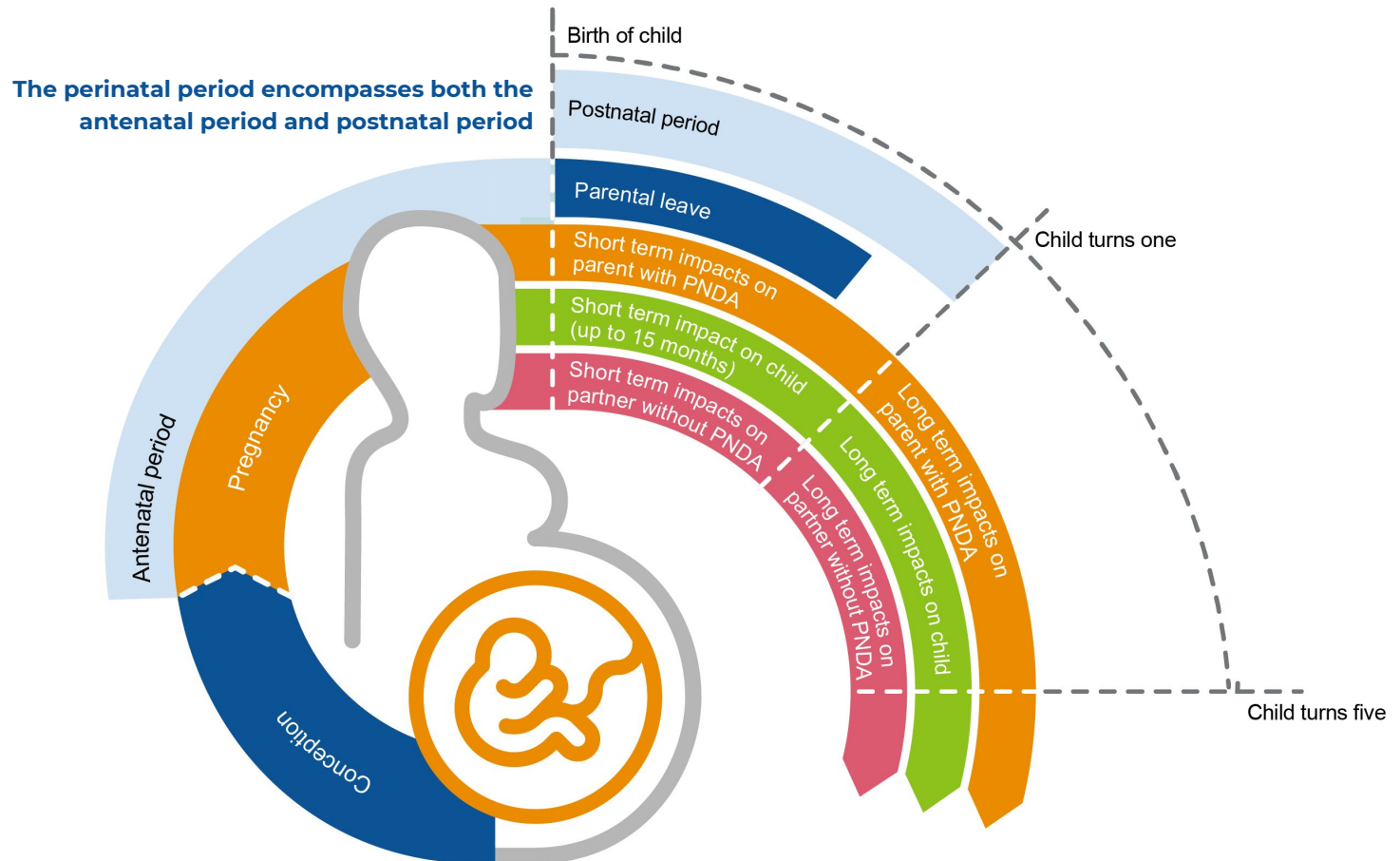
There have been limited studies focused on PNDA in LGBTIQ+ parents however, some research suggests that LGBTIQ+ parents experience higher levels of PNDA than other population groups. It has also been found that lesbian and bisexual biological mothers may be at higher risk for depression when compared to heterosexual biological mothers.¹²

It is known that a lack of support network can lead to increased risk of developing PNDA. LGBTIQ+ communities can often feel socially isolated and without the same access to informal support networks as others. In addition, it can be harder for non-biological parents to access formal support services for PNDA.¹³

1. Introduction

PNDA has varied and long-lasting impacts for the parent, child and wider family

The impacts of PNDA are varied, depending on the stage that the parent and child are at in pregnancy, and life. The approach to frame and stage the costs associated with PNDA is summarised in the diagram below.





02

Approach to
modelling

2. Approach to modelling

Modelling has been conducted over a number of impact domains and stakeholder groups

Using existing cost studies and research, a cost framework was developed to summarise the main impacts of PNDA (see **Figure 3** overleaf). As shown in **Figure 1**, this framework includes:

- impact domains - health, economic/productivity and social/wellbeing
- stakeholder groups - parent(s) with PNDA, children of parents with PNDA and the wider family, including partners without PNDA and other children in the family.

Impacts in this framework were either qualified, quantified or monetised, dependent on the level of research, data and insights currently available:

1. monetised - an estimated dollar figure relating to prevalence has been assigned to the cost where there is robust research available to establish a link between PNDA and the associated impact
2. quantified - a link between PNDA and the impact is has been determined by data or research and will be quantified based on the prevalence, but not monetised
3. qualified - where data is not available to either quantify or cost the impact to the individual, qualitative insights will be provided.

These costs were then modelled within the parameters outlined in **Figure 2**. For further detail on the limitations to both the approach and data used, see page 19.

Figure 1 Impact domains and stakeholders of PNDA Cost Framework

Impact domains	Stakeholders
1. Health 2. Economic 3. Wellbeing	1. Parent(s) with PNDA 2. Child of parent with PNDA 3. Wider Family, including partner without PNDA and other children

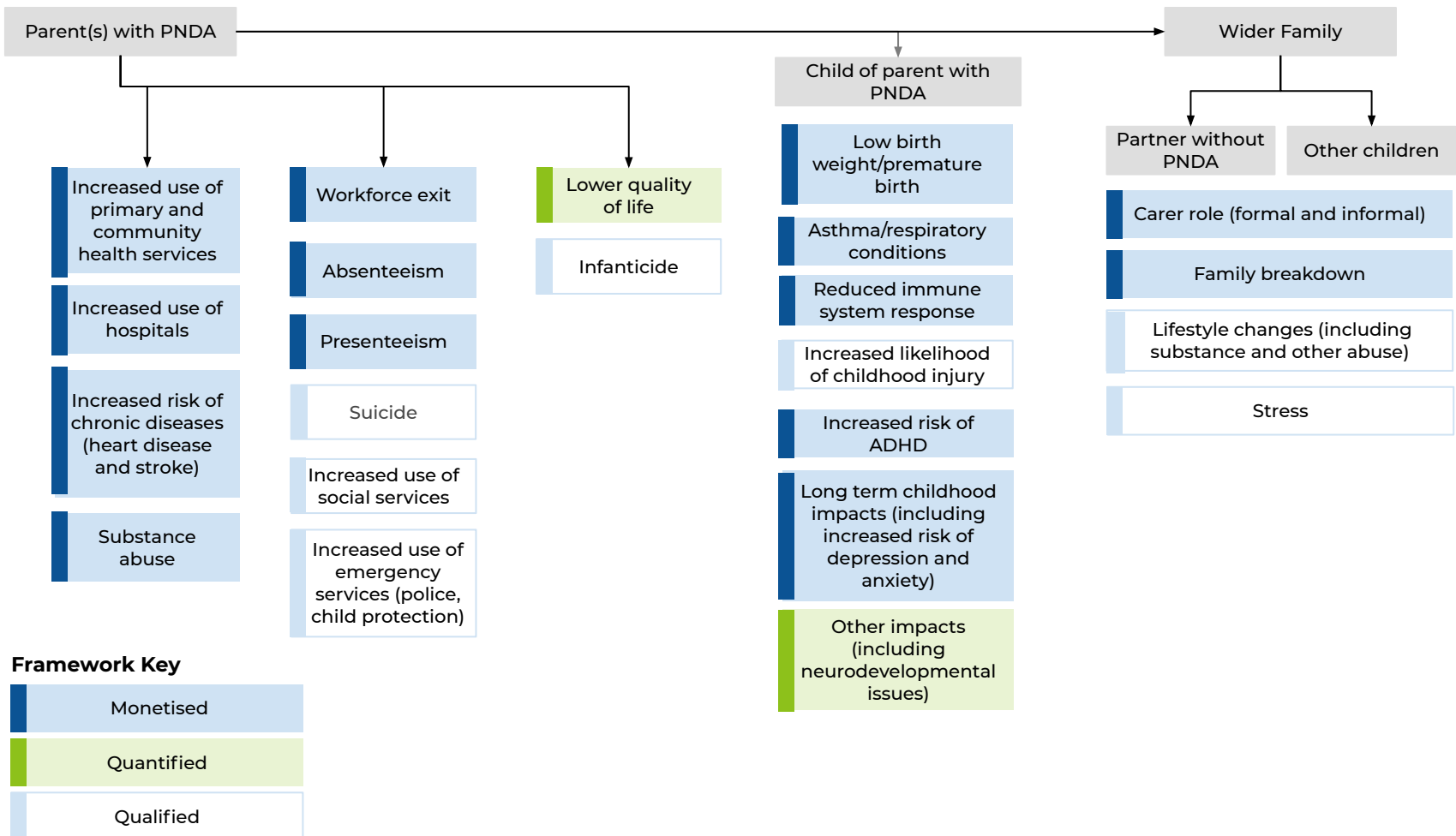
Figure 2 Summary of key modelling parameters

01	Impacts in both the antenatal and postnatal periods are included.
02	'Parents with PNDA' includes the experience of both mothers and fathers/partners.
03	The impacts of perinatal depression and anxiety are considered and costed where applicable.
04	Costs are presented over a one, three and lifetime period as appropriate and attributable to PNDA.

2. Approach to modelling

PNDA affects stakeholders across a number of impact domains

Figure 3 PNDA cost framework



2. Approach to modelling

PNDA affects stakeholders across a range of time periods

PNDA as a condition affects individuals in different ways and for varying time frames, however the perinatal period is typically defined as the time from conception to one year after birth. The health, economic and social impacts of the condition similarly can last for a range of time, dependent on the individual and circumstances. For the purposes of our modelling, the maximum time periods that are monetised are presented in **Figure 4**. Perinatal impacts have been costed for a maximum of one year, whereas other short-term cost elements have been costed up to three years only. In doing so we seek to use a conservative approach to account for other life events and risk factors that may arise after the perinatal period.

Figure 4 Modelling time period for individual cost elements

	Estimated cost element	Impact domain	Maximum quantitative modelling period		
			1 year	3 years	Lifetime
	Parent with PNDA				
	Increased use of primary and community health services	Health	■	■	
	Increased use of hospitals		■	■	
	Increased risk of chronic diseases		■	■	
	Increased risk of substance abuse		■	■	
	Increased workforce exit	Economic	■	■	
	Absenteeism		■	■	
	Presenteeism		■	■	
	Child of parent with PNDA				
	Increased risk of low birth weight/premature birth	Health	■	■	
	Reduced immune system response		■	■	
	Increased likelihood of asthma/respiratory conditions		■	■	
	Increased risk of depression	Wellbeing		■	■
	Increased risk of anxiety			■	■
	Increased risk of ADHD			■	■
	Wider family of parent with PNDA				
	Increased likelihood of family breakdown	Economic	■	■	
	Required to fill carer role		■	■	



03

Key findings

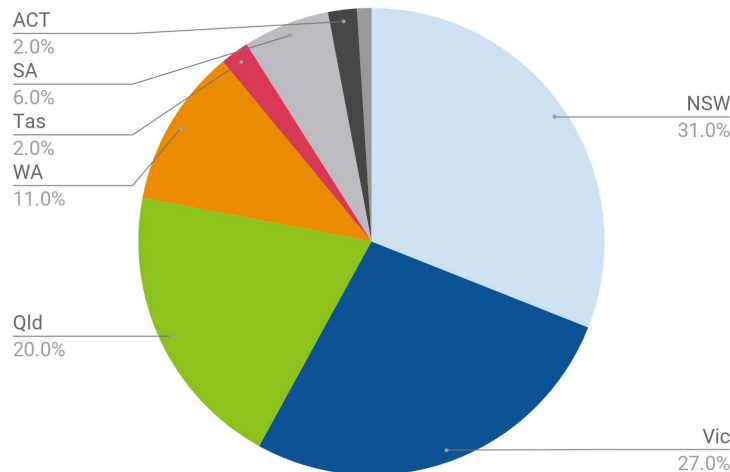
3. Key findings

Estimated impacts of PNDA in the first year alone total \$877m, with additional lifetime costs

Of the 600,000 parents birthing in Australia annually, it is estimated that 60,000 mothers and 30,000 fathers/partners have PNDA. With the average ages of mothers and fathers in Australia at 30.6 and 33.3 respectively^{14 15} the onset of PNDA can have significant impacts on health, productivity and social wellbeing for years to come.

Using the number of mothers with PNDA, and accounting for those who give birth to multiples (i.e. twins/triplets), it is estimated that up to 61,000 children will be impacted by the effects of PNDA. As shown in **Figure 5**, births nationwide are heavily distributed toward NSW, Victoria and Queensland. Despite this, appropriate care settings should be available and accessible to all mothers across Australia to prevent and treat PNDA and subsequently avoid the detrimental impacts to the parent, child and wider family.

Figure 5 State and territory of birth, based on AIHW Data tables for Australia's mothers and babies (2017)



Cost of PNDA in Australia

As shown in **Figure 6**, PNDA has a significant health, economic and wellbeing burden over a one, three and lifetime period of analysis. Health costs are greatest in the first year due to the increased level of hospital and primary and community health services used by mothers and fathers/partners experiencing PNDA in addition to the health system costs associated with an increased likelihood of preterm birth and low birth weight. Economic and productivity costs are present at both one and three years, due to presenteeism, absenteeism and increased workforce exit. Social and wellbeing impacts are evident over all periods of analysis, with significant lifetime impacts due to an increased probability of depression, anxiety and ADHD in children of parents with PNDA.

Figure 6 Summary of costs associated with PNDA

Year one impacts

\$227m	\$643m	\$7m	\$877m
Health costs	Economic costs	Wellbeing costs	Total impacts in year one

Years two to three impacts

\$195m	\$1.0b	\$14m	\$1.2b
Health costs	Economic costs	Wellbeing costs	Total impacts in years two to three

Lifetime impacts

\$5.2b	\$5.2b	\$7.3b
Wellbeing costs	Total lifetime impacts	Total overall impacts

November 2019

3. Key findings

The parent, child and wider family are all affected by PNDA

There are three stakeholder groups directly impacted by PNDA, as outlined in the figure below. In addition to these groups, each of these impacts also has flow-on effects to the wider economy, and wellbeing of wider Australia.

Figure 7 Summary of impacts PNDA by stakeholder group

Parents with PNDA not only face a lower overall quality of life and increased health system use, but are also impacted by PNDA in their personal and work lives. Impacts for parents with PNDA include:

- increased use of primary and community health services
- increased use of hospitals
- increased risk of chronic diseases
- increased risk of substance abuse
- increased workforce exit absenteeism
- presenteeism
- lower quality of life
- increased risk of suicide.

The wider family of a parent with PNDA, including partners without PNDA and other children are also impacted by an increased likelihood of family breakdown in addition to the increased likelihood that they will have to step up and fill a carer role.



Children of parents with PNDA are affected in both the short and long term, with a number of impacts including:

- increased risk of low birth weight/premature birth
- increased likelihood of childhood injury
- reduced immune system response
- increased likelihood of asthma/respiratory conditions
- increased likelihood of childhood trauma
- increased likelihood of neurodevelopmental issues
- increased risk of depression
- increased risk of anxiety
- increased risk of ADHD.

Whilst the health care costs of low birth weight, premature birth, reduced immune system response and asthma/respiratory conditions are captured in the first year costs of PNDA, the more significant impacts on children of parents with PNDA are not seen until later in life. These include reduced productivity and increased health system costs due to depression, anxiety and ADHD.

3. Key findings

Health costs are substantial for both parent and child in the short to medium term

Parents with PNDA

Parents with PNDA generate costs to the healthcare system due to increased use of both hospital and primary and community health service usage. Based on survey responses from the National Infant Feeding Survey,¹⁶ it has been estimated that seven per cent of all parents with PNDA will see their GP for treatment, 46 per cent will see either a psychologist or counsellor, 15 per cent will be treated by a psychiatrist and one per cent will be admitted to hospital. Both generalist treatment and specialist care may be used in a hospital setting, relative to individual support requirements. Parents who are not seeking treatment for their PNDA or are using other interventions have been excluded from this analysis. In total, an estimated \$67m in primary and community health services and \$8m in hospital care annually has been attributed to PNDA as shown in **Figure 8**.

In addition to the use of health services for PNDA directly, costs are also incurred for the additional cases of chronic diseases and substance abuse arising from PNDA. Increased risk of type-2 diabetes, chronic disease and stroke has been linked to depression,¹⁷ with subsequent annual healthcare costs for treatment totalling an estimated \$10m in the first year, with an additional \$20m of costs in years two and three. PNDA has further been linked with increased risk of substance abuse (alcohol and tobacco)^{18,19} resulting in increased costs to the health system and wider economy of \$77m in the first year and \$155m in years two to three.

Children of parents with PNDA

Increased health care costs attributable to children of parents with PNDA includes estimated treatment costs of \$54m for increased cases of premature birth or low birth weight (LBW),²⁰ \$4m in increased cases of gastrointestinal infections due to reduced immune system response²¹ and an increased likelihood of asthma and other respiratory conditions²² resulting in \$5m cost in the first year. Whilst not quantified in this study, research has also shown that there is a link between PNDA and an increased likelihood of unintentional childhood injury,²³ likely representing additional health care and wellbeing costs annually.

Wider Family

Whilst not quantified in this study, PNDA has been associated with additional feelings of stress and less support in partners without PNDA,²⁴ potentially leading to a range of lifestyle changes and increased risk for substance or other abuse.²⁵

Figure 8 Estimated health costs for parents with PNDA

	Year one	Years two to three	Lifetime
 Primary and community health services	\$67m	NA	NA
Hospital care	\$8m	NA	NA
Chronic diseases	\$10m	\$20m	NA
Substance abuse	\$77m	\$155m	NA

Figure 9 Estimated health costs for children of parents with PNDA

	Year one	Years two to three	Lifetime
 LBW and premature birth	\$54m	NA	NA
Reduced immune system	\$4m	\$9m	NA
Asthma and respiratory conditions	\$5m	\$11m	NA

3. Key findings

Economic impacts are greatest for the parent with PNDA and wider family

Parents with PNDA

There are a broad range of economic and productivity impacts for parents experiencing PNDA. There is a reduced probability of mothers with PNDA being employed after birth,²⁶ resulting in increased workforce exit totalling \$175m in the first year after birth. Further, mental health conditions result in a number of absenteeism and presenteeism hours per person annually.²⁷ For parents with PNDA, this totals \$71m and \$238m of estimated costs respectively due to reduced productivity in the first year alone.

In this study, the quantum and value of domestic and childcare work has not been explicitly measured due to the difficulty of quantification. Further, there is a lack of research on the effect of PNDA on the distribution of this work between parents in both heterosexual and other couples. Additionally, whilst not quantified in this study, 21 per cent of maternal suicides can be attributed to severe depression,²⁸ incurring significant health system, productivity and emergency service costs per incident.²⁹

Figure 10 Estimated economic costs for parents with PNDA

	Year one	Years two to three	Lifetime
 Workforce exit	\$175m	\$351m	NA
..... Absenteeism	\$71m	\$141m	NA
..... Presenteeism	\$238m	\$469m	NA

Wider family

Of the women with a child under two in Australia, 86 per cent are married,³⁰ and those with PNDA face a reduced probability of remaining married after childbirth.²⁴ Divorce has been associated with a reduction in equivalised household income for women,³¹ with a total estimated cost of \$27m in the first year post birth and an additional \$54m in years two to three for mothers with PNDA.

Further, it has been assumed that the more severe cases of PNDA will require a family member to step in as a carer for the mother or father/partner experiencing the condition. Those Australians that are a primary carer are estimated to have a reduced earnings potential annually,³¹ totalling \$131m in the first year of PNDA alone.

Figure 11 Estimated economic costs for the wider family of parents with PNDA

	Year one	Years two to three	Lifetime
 Family breakdown	\$27m	\$54m	NA
..... Carer role	\$131m	NA	NA

3. Key findings

There are significant lifetime wellbeing cost for the child and parent with PNDA

Parents with PNDA

Parents with PNDA face a significantly lower overall quality of life due to their condition, equating to 35,670 DALYs. Each of these years lost due to ill-health represent a significant social and wellbeing cost for these parents, their children and wider family.

Further to these social costs, severe PNDA can increase the risk of infanticide,³² however this risk is higher for cases of postpartum psychosis which has been excluded from this study. Costs attributable to infanticide have therefore not been considered.

Children of parents with PNDA

Significant social costs are evident for the children of parents with PNDA, who are at risk of lifetime impacts to development, productivity and wellbeing. Children born to a parent who experienced antenatal depression have an increased likelihood of experiencing depression themselves later in life,³³ resulting in increased health and productivity impacts of an estimated \$400m over their lifetime. Similarly, antenatal depression has been associated with increased likelihood of anxiety in children at 18 years of age³⁴ resulting in an additional \$1.3b of lifetime costs.

Further to depression and anxiety, children born to parents with PNDA are more likely to be diagnosed with attention-deficit/hyperactivity disorder (ADHD)³⁵, with the majority of these childhood cases persisting into adulthood.³⁶ During childhood, ADHD has health care costs³⁷ and educational impacts, with increased probability of grade repetition and lower math and reading test scores.³⁸ In adulthood, ADHD has additional health system costs as well as crime and justice and productivity costs.³⁷ Of the children born to parents with PNDA annually, there are \$21m estimated costs in the first three years after birth due to ADHD in addition to a further \$3.4b in lifetime costs

Whilst not included in this study, children born to parents with PNDA have an increased likelihood of neurodevelopmental issues, attributed to decreased IQ points³⁹ and lower cognitive test scores.⁴⁰

Figure 12 Estimated wellbeing costs for children of parents with PNDA

	Year one	Years two to three	Lifetime
Depression	NA	NA	\$400m
Anxiety	NA	NA	\$1.3b
ADHD	\$7m	\$14m	\$3.4b

Overall, it is evident that PNDA has significant health, economic and wellbeing costs for parents, children being born and the wider family of those experiencing the condition. A summary of the costs for stakeholder groups over each time period of analysis is shown in **Figure 13**. These costs include the health, economic and wellbeing costs detailed in the preceding pages.

Figure 13 Summary of all estimated costs by stakeholder

	Year one	Years two to three	Lifetime	Total
Parent	\$648m	\$1.1b	NA	\$1.8b
Child	\$71m	\$34m	\$5.2b	\$5.3b
Wider family	\$158m	\$54m	NA	\$212m

3. Key findings

There are a number of limitations to the approach and data used in this study, that additional research would reduce

The approach to modelling has been subject to a number of limitations which are outlined below. Many of these limitations are due to data and research gaps where the impact was unable to be quantified. Where there has been a limitation, a conservative approach has been taken and it is likely that the cost presented in this report is understated.

Research has centred on depression with less focus on anxiety

The term PNDA covers depression and anxiety experienced during pregnancy to one year after birth. Many studies to date have focused on postnatal depression, particularly maternal postnatal depression. It has therefore been difficult to quantify the isolated difference in prevalence rates and costs for depression and anxiety experienced in the antenatal period as well as for the postnatal period.

Where studies have focused on the impacts of PNDA as a whole we have assumed that the impacts are consistent across both depression and anxiety. Further, as our research focuses on the prevalence rates of PNDA as a whole, we have not explicitly been able to determine the overlap between groups experiencing depression and anxiety and whether it occurs in the antenatal or postnatal period.

The impact of PNDA between parents is unknown

There has been limited research exploring how one parent experiencing PNDA affects the potential onset in the other parent as a result. In this study, we estimate childhood impacts using the number of mothers with PNDA (including multiple births), however this number does not account for situations where the father/partner may be experiencing PNDA and the mother is not.

There is a higher likelihood of PNDA in some cohorts

As noted in the introduction, there are some cohorts that are generally more exposed to risk factors associated with PNDA, including Aboriginal and Torres Strait Islander, CaLD and LGBTIQ+ communities. Members of these communities often face barriers to access of mental healthcare services, whether due to lack of

proximity or perceptions of stigma associated with mental illness. As such, many cases of PNDA in these communities may go undiagnosed and will not be included in studies in this area. This lack of diagnosis and untreated PNDA is likely to lead to higher costs in the long-term.

As there is little research on PNDA within these specific communities, this study has taken a conservative approach and has not adjusted for the increased prevalence and subsequent cost of PNDA within these communities.

Little is known about the experience of LGBTIQ+ couples with PNDA

There has been very little research on LGBTIQ+ couples and their experiences with PNDA. The research that exists tends to focus on maternal PNDA for biological mothers in LGBTIQ+ couples, meaning there is very little information on men with children in LGBTIQ+ relationships. This limitation is further confounded by the relatively limited amount of research on paternal PNDA.

As discussed above, members of this community are exposed to a number of risk factors associated with PNDA that are likely to exacerbate their experience of the condition. This study has made a conservative attempt to include the cost of PNDA for LGBTIQ+ couples by using the number of people who become mothers and fathers annually as a starting point. We acknowledge that this does not include non-biological parents (for both heterosexual and LGBTIQ+ couples) and this is an area for further research.

The value of domestic work has not been quantified

In calculating the cost of PNDA we have included costs of lost work hours at a job. It is difficult to quantify both the quantum and the value of domestic and childcare work and therefore the value of the work that is lost due to a parent experiencing PNDA and the cost of someone else taking on this role. This study has taken an approach to value this work based on the number of hours lost at work due to the secondary or another carer becoming the primary carer as the primary carer is experiencing PNDA.

A photograph of a man in a light green t-shirt holding a baby in a white patterned onesie. The man is looking down at the baby. A woman's hand is visible on the right, holding a smartphone to take a picture of the baby. The background shows a window with a view of trees. A green square with the number '04' is overlaid on the left side of the image.

04

Recommendations

4. Recommendations

PNDA is a complex and far-reaching issue that requires holistic prevention and treatment

PNDA has significant impact on individuals, families and the Australian economy. Therefore, prevention, early intervention, and tailored treatment and integrated support pathways are essential mechanisms to assist in the reduction of society's financial burden and to foster improvement in the mental health and wellbeing of families.

There must be proactive identification and prevention

Opportunities for the prevention of PNDA should be explored, including comprehensive antenatal programs focusing on overall parental health and wellbeing, with rapport building front of mind when administering these programs. Further, services and treatment options should be supported by a high quality and comprehensive screening program which has been developed in collaboration with health professionals and consumers.

Informal and formal support networks for mothers and fathers during this period of life change are invaluable and should also be encouraged and supported alongside other community health interventions.

Ongoing treatment is essential

In an environment of increasing demand, it remains crucial that investment is prioritised for a broad range of integrated, evidence based services, support and treatment options to ensure that appropriate options are available to families. Service requirements are varied, ranging from individual clinical care through to group support options, and must be offered in a variety of modalities including face-to-face and tele-health. Service providers can range from peers to clinicians to community health organisations, dependent on the individual's needs and preferences.

Challenges of diagnosis and barriers to receiving treatment still exist

Programs and services should include a focus on supporting vulnerable cohorts, such as Aboriginal and Torres Strait Islander,

Culturally and Linguistically Diverse and LGBTIQ+ communities. These cohorts are also considered less likely to seek help due to barriers to access which may include proximity to services, language barriers, perceived shame, stigma and social isolation and a lower mental health literacy level. Therefore, effort should be made in helping to identify cases of PNDA and provide culturally appropriate treatments in culturally safe environments.

There is a risk of PNDA recurrence

The risk of experiencing PNDA is higher for those who have a previous history of mental illness. Similarly, the risk of recurrent PNDA is relatively high, particularly when the PNDA is experienced towards the severe end of the spectrum. A study has found that women who are hospitalised for the first episode of PNDA were 46 times more likely to experience PNDA in subsequent pregnancies.⁴¹

This information should be used to highlight the importance of previous episodes of PNDA and a history of mental illness as predictors for future occurrences and to allow treatment and identification plans to be tailored accordingly.⁴²

Holistic care is required to reduce PNDA risk factors

There are a number of factors that increase the risk of a parent experiencing PNDA. Of these, smoking and alcohol misuse and could benefit from focused interventions and holistic care to reduce overall risk.

In Australia, overall fewer women are smoking during pregnancy now compared to 15 years ago (8.3 per cent in NSW), however many Aboriginal women who are pregnant still smoke (41.3 per cent).⁴³ Similarly, 44 per cent of women have been reported to consume alcohol whilst pregnant, with 16.2 per cent drinking 1-2 times per month.⁴³ Focusing awareness and efforts on these preventable risk factors may help to reduce the likelihood of mothers experiencing PNDA.

4. Recommendations

PNDA is a complex and far-reaching issue that requires holistic prevention and treatment

An increased focus on awareness raising would assist in building community understanding

A sustained awareness raising program should be funded using social and traditional media to increase understanding of perinatal mental health at a population level, and to increase the number of people seeking help, therefore improving overall family wellbeing.

Information should be made available in a variety of community languages to ensure accessibility. Further, media campaigns need to reflect the diversity of the community, and short videos in different languages should be produced for social media campaigns targeting those with low health literacy or have English as a second language.

Support from workplaces is necessary to reduce family pressures

A recently published survey of more than 6,000 Australian parents⁴⁴ has shown that over 62 per cent find it difficult to look after their own physical and mental health as they attempt to balance work and family pressures. Further:⁴⁴

- one-third of parents reported that the combination of work and family responsibilities contributed to stress and tension in relationships with their partners and children
- one in four parents and carers report that they had considered, or actively intended leaving their job in the next 12 months, due to difficulties combining their job with caring
- half of all parents returning to work after parental leave report significant fatigue, a third are worried and anxious, and one in five report feeling depressed

- two-thirds of parents reported that it was more acceptable for women to use family-friendly work options than for men
- men face more barriers accessing flexible work citing the impact on their career and reputation, how it would be perceived by their employer or colleagues and whether they could afford it.

It is clear from these findings that workplaces have a long way to go to help supporting parents during pregnancy and in their return to work after the birth of a child. Employee mental health can be affected by a number of risk factors in the workplace such as high job demands, poor support, poor organisational culture, remote work or traumatic events.⁴⁵

Workplace policies and practices that reduce these organisational risk factors in addition to encouraging parents to balance their carer and other at-home commitments should be developed and advocated for at all leadership levels. Further, these policies and flexible working options should be available for both men and women equally, supported by a culture of acceptance and encouragement to reduce the stigma around mental health conditions in general and in particular in the period of pregnancy and childbirth.

Further research opportunities exist

Ongoing research should include all aspects of perinatal mental health and wellbeing, including the prevalence and impact of paternal PNDA, and the needs of more vulnerable communities. A focus on defining and capturing data evidencing the needs of individuals, families and the services that support them is fundamental in better meeting the needs of people across Australia. Research into the best approaches to preventing and treating PNDA should continue and be built upon as new data and literature becomes available.



05

References

5. References

- ¹ Ayers et al.(2018), *Development of a Measure of Postpartum PTSD: The City Birth Trauma Scale*
- ² SA Maternal, Neonatal & Gynaecology Community of Practice. (2017), *Perinatal Practice Guideline: Clinical Guideline: Perinatal Anxiety and Depressive Disorders (Including Postnatal Depression)*
- ³ Gidget Foundation Australia (2018), *Welcome to Parenthood*
- ⁴ Eastwood et al. (2011), *Postnatal Depression and Socio-demographic Risk: Factors Associated with Edinburgh Depression Scale Scores in a Metropolitan Area of New South Wales, Australia*
- ⁵ Stewart et al. (2003), *Postpartum Depression: Literature Review of Risk Factors and Interventions*
- ⁶ Kornfeind and Sipsma (2018), *Exploring the Link Between Maternity Leave and Postpartum Depression*
- ⁷ Imaz (2012), *Smoking During Pregnancy and Postnatal Period and Postpartum Depression*
- ⁸ NHS (2019), *Twins and Postnatal Depression*. <https://www.nhs.uk/conditions/pregnancy-and-baby/multiples-postnatal-depression/>
- ⁹ Beyond Blue (2019), *Anxiety and depression in new dads*.
<https://healthyfamilies.beyondblue.org.au/pregnancy-and-new-parents/dadvice-for-new-dads/anxiety-and-depression-in-new-dads>
- ¹⁰ Centre of Perinatal Excellence (2014), *Aboriginal and Torres Strait Islander Perinatal Mental Health Mapping Project*
- ¹¹ Victorian Transcultural Psychiatry Unit (2012), *The Culturally and Linguistically Diverse (CaLD) Perinatal Depression Project: Report*
- ¹² Corboz et al. (2008), *Feeling Queer and Blue: A Review of the Literature on Depression and Related Issues among Gay, Lesbian, Bisexual and Other Homosexually Active People*
- ¹³ Perinatal Anxiety & Depression Australia (2013), *LGBTIQ Families and Perinatal Anxiety & Depression*
- ¹⁴ AIHW (2017), *Data tables for Australia's mothers and babies Table 1.1*
- ¹⁵ ABS (2016), *Births, Australia, 2016*
- ¹⁶ AIHW (2012), *Perinatal depression Data from the 2010 Australian National Infant Feeding Survey*
- ¹⁷ RAND Corporation (2013), *Maternal Depression: Implications for Systems Serving Mother and Child*
- ¹⁸ Addiction Campuses (2018), *The Link Between Postpartum Depression And Addiction*,
<https://www.addictioncampuses.com/blog/postpartum-depression-addiction/>
- ¹⁹ Recovery Worldwide (2019), *Alcohol and Postpartum Depression*,
<https://www.alcoholrehabguide.org/resources/dual-diagnosis/postpartum-depression/>
- ²⁰ Eastwood et al. (2017), *The Impact of Antenatal Depression on Perinatal Outcomes in Australian Women*
- ²¹ Ban et al. (2010), *Association between perinatal depression in mothers and the risk of childhood infections in offspring: a population-based cohort study*
- ²² Giallo et al (2015), *Maternal Depressive Symptoms across Early Childhood and Asthma in School Children: Findings from a Longitudinal Australian Population Based Study*

5. References

- ²³ Yamaoka et al. (2016), *Association Between Maternal Postpartum Depression and Unintentional Injury Among 4-Month-Old Infants in Japan*
- ²⁴ Zerkowicz and Milet (1998), *Stress and support as related to postpartum paternal mental health and perceptions of the infant*
- ²⁵ Hegarty et al. (2004), *Association between depression and abuse by partners of women attending general practice: descriptive, cross sectional survey*
- ²⁶ Komodromou (2018), *Does Postpartum Depression Affect Employment?*
- ²⁷ PwC (2014), *Creating a mentally healthy workplace*
- ²⁸ Sit et al. (2015), *Suicidal Ideation in Depressed Postpartum Women: Associations with Childhood Trauma, Sleep Disturbance and Anxiety*
- ²⁹ KPMG (2013), *The economic cost of suicide in Australia*
- ³⁰ ABS (2017), *Pregnancy and Employment Transitions Table 4913.0*
- ³¹ Australian Government Department of Families, Housing, Community Services and Indigenous Affairs (2011), *The costs of caring and the living standards of carers*
- ³² Pearlstein et al. (2009), *Postpartum depression*
- ³³ Pearson et al (2013), *Maternal Depression during Pregnancy and the Postnatal Period*
- ³⁴ Capron et al (2015), *Associations of maternal and paternal antenatal mood with offspring anxiety disorder at age 18 years*
- ³⁵ Lesesne et al (2003), *Attention-deficit/hyperactivity disorder in school-aged children: Association with maternal mental health and use of health care resources*
- ³⁶ Ebejer et al (2012), *Attention Deficit Hyperactivity Disorder in Australian Adults: Prevalence, Persistence, Conduct Problems and Disadvantage*
- ³⁷ Deloitte (2019), *The social and economic costs of ADHD in Australia*
- ³⁸ Currie and Stabile (2006), *Child Mental Health and Human Capital Accumulation: The Case of ADHD*
- ³⁹ Evans et al. (2012), *The timing of maternal depressive symptoms and child cognitive development: a longitudinal study*
- ⁴⁰ Conroy et al. (2012), *Maternal Psychopathology and Infant Development at 18 Months: The Impact of Maternal Personality Disorder and Depression*
- ⁴¹ Rasmussen, M et al. (2017), *Risk, treatment duration, and recurrence risk of postpartum affective disorder in women with no prior psychiatric history: A population-based cohort study*
- ⁴² Lehman (2017), *One episode of postpartum depression raises likelihood of more*
- ⁴³ NSW Health (2019), *The first 2000 days framework*
- ⁴⁴ Parents at work and APLEN (2019), *Work-life conflict takes a toll on personal wellbeing: 2019 National survey of working families*
- ⁴⁵ Safe Work Australia (2019), *Mental health*, <https://www.safeworkaustralia.gov.au/topic/mental-health>

