Secretariat

Inquiry into Raising Children in the ACT

Standing Committee on Health and Community Wellbeing

[LACommitteeHCW@parliament.act.gov.au](mailto:LACommitteeHCW@parliament.act.gov.au)

30 May 2024

Dear Secretariat,

***RE: Submission to the ACT Legislative Assembly inquiry into raising children in the ACT***

The ACT Council of Social Service (ACTCOSS) advocates for social justice in the ACT and is the peak body representing not-for-profit community organisations. We work collaboratively with organisations and individuals to create a collective voice, advocating for positive social change, justice, and self-determination for Aboriginal and Torres Strait Islander peoples. Our vision is for an inclusive Canberra where no one lives in poverty.

ACTCOSS welcomes the opportunity to provide a submission to this Inquiry. Our submission is provided below and we would welcome the opportunity of providing further information or explanation in writing or in person.

## Summary/Overview

The media release announcing this Inquiry signalled that its purpose was to seek information about the factors underlining fertility decline in the ACT and policy options to address them.

This submission first draws attention to the importance of the factors listed in the Inquiry Terms of Reference as they affect the conditions for conception, pregnancy, birth and child development in the ACT. Achieving the best possible outcomes for the children actually conceived and raised in the ACT is a more pressing policy issue than attempting to boost a below-replacement level fertility rate while ACT population growth remains high and has been forecast to be the fastest in the country by 2026-27.[[1]](#footnote-2) Ensuring the optimal conditions for child development and family wellbeing is also the best way to promote fertility.

Since around the time of the industrial revolution, world population growth has exhibited two demographic transitions. The first followed reductions in infant mortality and the growth of urban job opportunities. The second has emerged as wealth and education levels have increased, and fertility control has opened career opportunities to women. Total Fertility Rate (TFR) is now below replacement level in all developed countries, leading to population decline in the absence of net migration. Developing countries are projected to follow suit.

The decline in TFR is partly due to conditions that discourage family formation before post-secondary educational qualifications have been acquired and secure employment has been obtained. This means that by the time decisions to have children are made, prospective parents face problems with age-related fertility decline, and difficulties achieving a first or subsequent pregnancy.

The increasing prevalence of medical infertility, which is associated with psychological and other health problems, is also affecting TFR. Problems in reproductive health can be linked to exposure to environmental toxins, untreated infections and problems such as obesity, overweight, poor nutrition, smoking, and alcohol and other drug use. Many of the relevant risk factors can be addressed through improved environmental protection and welfare policies that address the social and economic determinants of health.

The proportion of live births achieved through Assisted Reproductive Technology (ART) is growing, but not all medical infertility can be addressed by this means. The technology is costly, particularly where donor gametes are involved, and is currently not readily accessible for disadvantaged and marginalised groups.

There is scant Australian data on the factors most likely to influence decisions about having a first or subsequent child. Adequate income, job security, suitable housing and affordable childcare were ranked highly in a 2021 survey, which ignored factors such as concerns about the impact of climate change, the possible spread of international conflict, or the role of debt accumulated in the course of obtaining competitive job qualifications.[[2]](#footnote-3) To help overcome some of the most important barriers, the ACT Government could invest more in public housing as well as moving to the provision of universal, free child care. It could extend its currently limited early education programs to all public schools.

However, it is important to keep in mind that population decline may be both inevitable as well as desirable. Desirable, because environmental sustainability may not be possible without reducing the pressure of population growth. Inevitable, because pro-natalist policies have had limited success both here and in other developed countries – they have not succeeded in returning TFR to replacement level.

For these reasons, governments need to develop policies to deal with the social and economic consequences of population decline, including the loss of family support mechanisms and an increase in the age dependency to working age ratio. Such policies could include increasing health span by investing in optimal child development,[[3]](#footnote-4) increasing the proportion of older workers through the availability of more flexible work practices, and resourcing civil society organisations to provide additional support to families and individuals who lack children, siblings or extended family.

## Interpreting the terms of reference

In her [media release](https://www.parliament.act.gov.au/__data/assets/pdf_file/0004/2409385/01.-Media-Release-New-Inquiry-into-Raising-Children-in-the-ACT.pdf) of 6 March 2024, Chair of the ACT Assembly’s Committee on Health and Community Wellbeing, Jo Clay MLA, expressed concern that the ACT had the lowest fertility rate in Australia and said that this Inquiry would examine ‘support and challenges for ACT residents who are hoping to have children’. Hence, we have interpreted the Terms of Reference (ToRs) for the Inquiry as seeking information about why the birth rate in the ACT is so low, along with suggestions as to how it might be raised.

In our response to these ToRs, ACTCOSS wishes to emphasise that creating the conditions for optimal child development and family and parental wellbeing is the best way to support fertility. This in turn requires a holistic, multisectoral approach that takes into account the diverse socioeconomic and institutional realities that may lead people to have fewer children than they desire. This includes implementing policies to reduce the incompatibility between caring for children and participation in the labour force, alleviating economic and housing insecurity, reducing the costs of raising children, and ensuring equitable access to health and family support services. Greater consideration also needs to be given to alleviating the gendered economic disparities arising from parenthood. This approach is not only the best way to support people to realise their fertility goals,it has the significant co-benefits of supporting parents and carers to ensure every child is nurtured to reach their full potential.

Given these relative priorities, this submission begins by providing comment on how key factors listed in the ToRs affect the developmental health of children and how policies could change to reflect the evidence about what is needed for optimal outcomes. It then gives a broader context for fertility trends in the ACT and suggests policies that government might adopt to reduce preventable infertility, while preparing for an equitable transition to population stability.

## Optimal conditions for child development encourage family formation

Creating optimal conditions for having and raising children in the ACT means ensuring that prospective parents enjoy the highest possible state of reproductive health, and that families with children or wanting children have the resources and the support required to meet their own needs as well as those of their offspring. This is what the research on early child development and on falling fertility rates implies.

### Summarising the research on early childhood

Harvard University’s Center on the Developing Child summarises and communicates major findings of the research on child development for policy makers. In its brief on the bodily connections between health and learning, it underscores three key elements that are pivotal in shaping developmental outcomes:

1. ***Healthy aging starts in utero: interventions that prevent harm are the most cost effective.***

‘Experiences during the prenatal period and first 2-3 years after birth affect lifelong health at least as much as they affect school achievement.’[[4]](#footnote-5)

‘…experiences and exposures during pregnancy and the first few years after birth affect developing biological systems in many ways that are difficult to change later. For example, if a woman experiences excessive stress, poor nutrition, or toxic environmental exposures during pregnancy, it can affect how organs, stress response, and metabolic systems develop, with long-lasting impacts into adulthood, such as increased risk for heart disease, obesity, diabetes, and mental health conditions.’[[5]](#footnote-6)

1. ***Early exposure to chronic stress leads to health problems.***

‘Experiencing persistently adverse environments very early in childhood may produce chronic inflammatory conditions that can last for a lifetime, including heart disease, diabetes, depression, arthritis, gastrointestinal disorders, autoimmune diseases, multiple types of cancer, and dementia, among many others.’[[6]](#footnote-7)

1. ***All bodily systems interact as they respond to the environment.***

‘Because all biological systems in the body are connected, supporting families with young children and strengthening responsive relationships not only build a foundation for social-emotional development, school readiness, and future learning; they also strengthen the building blocks for a lifetime of physical and mental health.’[[7]](#footnote-8)

Research in Australia has consistently found that ‘the burden of developmental vulnerability[[8]](#footnote-9) is concentrated in the most disadvantaged population groups combined with the convergent evidence that the uptake of universal child health and early education services favours more advantaged children.’[[9]](#footnote-10)

A study using Tasmanian data found evidence of the ‘inverse care law’ in access to both health care and early education services: that is, the children who were the most regular users of both services were those with the lowest assessed level of cumulative risk.[[10]](#footnote-11) Tasmania is the only Australian jurisdiction offering a universal child-parent early education program, Launching into Learning (LiL), which is school based and operates from birth to four years of age.[[11]](#footnote-12)

Maltreatment impairs child development and has long-term negative impacts on child health, learning and relationships. The child protection system is both costly and not equipped to be a substitute for well-functioning families. Australian research on child maltreatment has found:

* higher levels of economic disadvantage, poor parental mental health and substance use, and social instability are strongly associated with increased risk of child maltreatment;
* the risk of maltreatment increases exponentially with the number of risk factors experienced, with prevalence of maltreatment in the highest risk groups exceeding 80%;[[12]](#footnote-13) and
* preventing child maltreatment could prevent almost one quarter of the burden of mental health conditions involving depression, anxiety and substance abuse.[[13]](#footnote-14)

The framework for universal access to child health and education is based on the recognition that ‘children’s health, development and learning are intrinsically linked and influenced by a common set of inter-related risk and protective factors.’[[14]](#footnote-15) Success in addressing the social and economic determinants of health and development is thus likely to require close cross-sectoral cooperation and coordination, but a siloed view of service provision continues to limit the effectiveness of policies confined to single portfolios.[[15]](#footnote-16)

Despite recording the highest median household income in Australia[[16]](#footnote-17) and the highest level of education,[[17]](#footnote-18) ACT children show higher levels of vulnerability in the Australian Early Development Census (AEDC) than any other jurisdiction except the NT.[[18]](#footnote-19) However, the ACT’s classification as one of the least socially and economically disadvantaged regions in Australia,[[19]](#footnote-20) masks the fact that it contains disadvantaged neighbourhoods,[[20]](#footnote-21) that are poorly equipped to cope with the ACT’s high costs of living.

It is essential to ensure that families expecting children have the financial resources to meet their own needs. It is particularly important to protect pregnant women from stress. Maternal stress during pregnancy affects foetal brain development – observable in utero – and is negatively associated with infant cognitive outcomes.[[21]](#footnote-22)

Governments need to ensure that outreach services are available for families where parents and children experience disadvantage or chronic stress and to assist them to take advantage of universal services in health and education. Recommendations made by ACTCOSS in its *2023 Cost of Living Report* should be implemented to support this.

Many of the same factors that create developmental risks for children may also act to discourage families from having children. People need to feel confident about their capacity to create and maintain a family environment in which children can be nurtured and supported financially and emotionally. However, when parents have limited resources—whether economic resources, time, secure housing, or financial, social, or human capital—they are less likely to be able to invest in all of the things that support healthy family functioning and children’s development and well-being.

Recommendations:

* The ACT Government develop whole-of-government strategies to prioritise protection of expectant birthing parents and families with children from exposure to toxic stress through the provision and funding of relevant services.
* The ACT Government pay particular attention to addressing the risk factors for child maltreatment through the provision of additional support to families.
* The ACT Government develop an outreach system to reduce inequities in access to health and educational services among families expecting or raising children.

### Cost-of-living pressures

Intense cost-of-living pressures can both deter or delay potential parents’ decisions to have children and undermine the conditions for providing a secure and nurturing environment for raising children. There have been unprecedented rises in central family budgetary costs over the last five years in the ACT, including: vehicle fuel (37%), transport (23%), electricity (25%), medical and hospital services (19%), housing (21%), education (20%) and food (18%).[[22]](#footnote-23) These are not discretionary items, and the increases have disproportionately affected low-income households in the ACT. The increase in demand for community sector services in housing, cost of living and mental health is particularly marked among those living on low incomes, but also extends to individuals on average wages and/or in full-time employment.

Average wages have grown at less than half the pace of inflation since the COVID-19 epidemic, but the gap between working age income support payments and the real costs of living has reached critical proportions.[[23]](#footnote-24) ACOSS’s most recent survey of recipients found:

* 94% of those renting privately (nearly half of the sample) experienced housing stress – spending more than 30% of their income on rent, and placing many at risk of homelessness;
* more than half reported healthy food was unaffordable;
* many faced energy-related debt or having to cut back on usage for heating, cooling, hot showers or lighting;
* a high incidence of stopping or curtailing car usage, even for essential appointments, because of high fuel costs; and
* a high prevalence of a mental or physical health problems, with nearly two thirds reporting they had difficulty affording necessary medication.[[24]](#footnote-25)

Cost-of-living pressures are felt most acutely in households experiencing economic and social disadvantage, and this in turn can have significant implications for the fertility choices and outcomes of potential parents. Aboriginal and Torres Strait Islander peoples are more likely to live in the lowest income quintile (35% vs 20%) and to rely on a government pension or allowance as their main source of income.[[25]](#footnote-26) Using a benchmark of 50% of median income adjusted for housing costs, an estimated 17% of Australian children (and 13% of people) lived in poverty in 2019-20.[[26]](#footnote-27) The proportions were higher in households where the main income earner was unemployed (62%); in single parent families (34% compared with 11% in partnered families); in households where the woman was the main earner (18% vs 10%); among people with a disability who needed assistance with self-care, mobility or communication (20%); in households renting privately (20%); and in public housing (52%). Migrants with a non-English-speaking background were more likely to live in poverty (18%) than individuals born in Australia (11%). Rates of poverty were particularly high amongst people living on Jobseeker (60%), Parenting Payment (72%) and Youth Allowance (34%). [[27]](#footnote-28)

Given the rise in costs of living since 2019-20 when the data for this report was collected, it is inevitable that the levels of financial hardship have risen further. In addition, despite the ACT’s relatively high median income and lower overall poverty rate (defined according to the 50% median national income benchmark), the relatively high costs of living are pushing many low- and moderately-low income households into significant financial hardship and economic insecurity. The evidence shows that a substantial proportion of the Australian households in which children are conceived and are raised, experience financial stress, and that such households are more common among those subjected to intersectional disadvantage.

The incompatibility of work and parenting, and how this intersects with persistent gender inequities and expectations, is a further consideration that is key to understanding the implications of cost-of-living pressures for fertility, child development and family wellbeing. There is a substantial body of evidence showing that gendered expectations about caring and the incompatibility between caring for children and participation in the paid labour force are key factors contributing to women delaying motherhood or limiting the number of children they have.[[28]](#footnote-29) As McDonald has argued, ‘if women are provided with opportunities nearly equivalent to those of men in education and market employment, but these opportunities are severely curtailed by having children (…) then women will restrict the number of children that they have to an extent which leaves fertility at a precariously low long-term level.’[[29]](#footnote-30)

Women in Australia face a substantial ‘motherhood penalty’, with their earnings reducing by an average of 55% in the first five years after the birth of a child, making mothers particularly susceptible to the impact of increases in the costs of living.[[30]](#footnote-31) This earning penalty continues through the first decade after childbirth. Single mothers are at greatest risk, as 50-56% remain in or move into poverty during that period, compared with 23-25% of mothers in two-parent households.[[31]](#footnote-32) Research by the Grattan Institute using data from the 2017 HILDA Survey further estimated that an average 25-year-old woman with children will earn around $2 million less over her lifetime than an average 25 year old man with children, and nearly $1 million less than an average woman without children.[[32]](#footnote-33)

Lower participation rates and reduced working hours amongst mothers contribute significantly to the increase in the gender earnings gap, which suggests that increasing parental leave, providing more flexible working arrangements and increasing the affordability of early childhood education and care (ECEC) would reduce the motherhood penalty, and enable more women to combine work and parenthood.[[33]](#footnote-34) Critically, such policy settings need to facilitate greater participation of men in caregiving roles: as long as policies to reduce work and family incompatibility are considered relevant only to women, it is likely women will continue to shoulder the responsibility for caring.

The social expectation of women giving birth and then staying home to care for children is reinforced through pay inequity. As long as women continue to earn on average less than men, the pressure on women to give up paid employment in exchange for unpaid caring obligations will continue. With unequal pay and a highly gender segregated workforce, many couple families cannot make a genuine choice to share care in ways that differ from the default option of full-time male breadwinner and part-time or full-time female primary carer. This ongoing gender inequity in pay rates also limits the life choices of men to undertake non-traditional roles because families cannot afford to lose the larger part of a double income.

Studies have shown paid parental leave provisions and flexible work practices are amongst the most effective policies to reduce the motherhood penalty and encourage greater participation of men in caregiving and greater equality in household dynamics.[[34]](#footnote-35) However, current trends in the availability and uptake of flexible working arrangements, particularly part-time and remote work, are highly gendered. Women make up 67 per cent of part-time workers and are nearly three times more likely to use a flexible working arrangements to manage caring responsibilities than their partners (80 per cent compared to 28 per cent), and there is evidence that people who use flexible working arrangements are penalised and offered fewer opportunities for advancement, training or professional development.[[35]](#footnote-36) Unless flexible working is established in a gender-equitable way and accessible to all employees, flexible work polices can inadvertently reinforce gender gaps in the access and accumulation of skills, opportunities and experience, working against efforts to improve the economic security of families and create the conditions to support fertility goals and meet cost of living pressures.

We commend the ACT Government’s efforts to establish more flexible work arrangements within Canberra’s public sector workforce, which has been credited with supporting caring obligations and improving gender pay equity in the ACT public service.[[36]](#footnote-37) Current government funding and policy settings, however, inhibit the capacity of the community sector to offer more generous paid parental leave arrangements to its workforce – an issue of particular significance given the community sector workforce is highly feminised and is the third largest by industry in the ACT. Over many years, ACT Government funding to the community sector has failed to keep up with increases in wages and operational costs, leaving limited scope for organisations to offer parental leave beyond the minimum statutory obligations. ACTCOSS urges the Government to provide funding that enables the sector to offer more generous paid parental leave and family-friendly working conditions, as well as wages that overcome gendered pay inequities and other structural barriers to parenting and the economic security of families.

Recommendation:

* That the ACT Government develop and implement policies to increase access to paid parental leave, flexible work arrangements, and accessible, affordable and quality ECEC.

### Availability of affordable housing suited to the family’s needs

‘Access to good quality, affordable housing is fundamental to wellbeing’, as stated in the ACT Government report against its Wellbeing Framework.[[37]](#footnote-38) For many young couples, secure housing is seen as a pre-condition to start a family, and housing security plays an important role in supporting child development outcomes.[[38]](#footnote-39) The 2021 Australian Youth Barometer, which surveyed more than 500 Australians aged 18 to 24 from diverse backgrounds, found that the overwhelming majority of young people regard a stable home and financial independence as prerequisites for having a family. Most of the young people surveyed, however, considered both a stable home and financial independence as unattainable in the current employment and housing market, with 65% of those who are very pessimistic about their housing prospects stating they are also very pessimistic about having children, while only 9% were very optimistic about having children.[[39]](#footnote-40)

In 2019-20, the most recent period for which data is available, only 55 homes per 1,000 low or moderate-income people were built or sold in the ACT.[[40]](#footnote-41) As at January 2024 there were more than 3,000 applications for social housing in the ACT.[[41]](#footnote-42)

Among Australian families in the bottom two income quintiles, 30.3% of couple families with dependent children and 41.8% of single parent families exceeded the threshold for housing stress in 2019-20.[[42]](#footnote-43)

Housing in the ACT is more unaffordable than any other state or territory jurisdiction in Australia. Anglicare’s Rental Affordability Snapshot in 2023 showed that no rental properties in the ACTwere affordable for single income households on Jobseeker, Youth Allowance, or other payments. Only one rental property (0.1%) was affordable for a couple with two children on minimum wage and only two rental listings (0.2%) were affordable for a single person on minimum wage.[[43]](#footnote-44) According to analysis commissioned by Everybody’s Home, more than one third (36.1%) of households in the ACT who are renting or have a mortgage are experiencing housing stress.[[44]](#footnote-45)

Affordability is a necessary but not sufficient characteristic of housing in order for it to meet the needs of families with or expecting children – it must also offer minimum levels of amenity and security. On affordability alone it is clear that for families with children whose income is very or moderately low, housing options, even in the ACT, are not sufficient.

Crowding – more than two persons per bedroom – and housing instability – three or more moves by the ages of four to five – are both factors increase the risk of poor child development outcomes.[[45]](#footnote-46)

Australian research on disadvantaged neighbourhoods showed that ‘better housing affordability, objectively measured housing tenure (ownership) and perceived and objectively measured lower-density public housing’ were associated with a reduction in observed childhood developmental health inequities.[[46]](#footnote-47)

Access to secure housing of adequate quality is a factor that influences fertility decisions (see section on fertility below) as well as the health of parents and the developmental outcomes of their children.

Recommendation:

* Improve the affordability of housing for people on low incomes, including the availability of secure and affordable social housing that meets the needs of families, particularly the developmental needs of young children.

### Ongoing costs of children

The ANU’s guide to the cost of living in Canberra in 2024 estimated the additional cost per child as $5,400 per annum excluding childcare and education.[[47]](#footnote-48) It said that childcare needed to be booked well in advance and would cost about $770 per week ($154 per day) based on figures for November 2023.[[48]](#footnote-49) According to the Productivity Commission, Centre based childcare in the ACT is the most expensive in Australia.[[49]](#footnote-50)

The 2023 McCrindle Education survey found that more than 66% of parents reported that education costs were having a significant effect on their household finances.[[50]](#footnote-51) The Futurity Investment Group's Investment in Education Index estimated that the lifetime costs of free government education in the ACT rose by over $4000 last year to exceed $80,000, most of which would be incurred by ancillary costs, such as participation in school excursions.[[51]](#footnote-52)The most recent Report on Government Services revealed that the ACT has far and away the highest out-of-pocket costs for childcare across all income groups, particularly for those on the lowest incomes.[[52]](#footnote-53)

ACTCOSS’s own analysis of CPI over the five years to December 2023 revealed that, excluding alcohol and tobacco, education is the CPI Group that has increased the most over the five years from December 2018 to December 2023. Increases have also been observed in the costs of individual items that contribute to the ongoing costs of children and in many instances are higher in Canberra than the national average.[[53]](#footnote-54)

Since 2022, the ACT Government has provided one-off, annual payments to low-income parents/guardians with children attending ACT schools, or independent students, to help cover the costs of education expenses.[[54]](#footnote-55) While this assistance is positive, it does not fully offset the average annual cost of over $5,000 for public school students in the ACT, nor is it sufficient to lift families reliant on income support out of poverty.

The ACT Government’s five Early Childhood Schools offer integrated service centres for children from birth to 8 years, and a site for children to receive early childhood education and care, pre-school and kindergarten through to Year 2. In 2023, the ACT Government also announced that it would fund 300 hours of free Early Childhood Education and Care (ECEC) for three-year-old residents at participating childcare centres.[[55]](#footnote-56)

A large longitudinal study in the United States found that children from low-income backgrounds who had access to at least 24 months of high-quality early childhood education and care before the age of 5 had, at the age of 26, salaries and records of college graduation statistically indistinguishable from those of their higher income peers.[[56]](#footnote-57) However both the quality and the duration of the ECEC were critical for increasing school readiness and reducing the achievement gap.[[57]](#footnote-58)

The ACT Government’s initiatives reflect the importance of early childhood experiences and the potential of ECEC to support child development, increase workforce participation by parents with young children and reduce a major cost barrier to parenthood. However, the costs of childcare in the ACT remain high and the desirable goal of universal access to free childcare in hubs that encourage access to a range of family support services in a non-stigmatising setting remains unfulfilled.

Recommendations:

* Replicate Early Childhood Schools throughout the ACT and provide universal, free ECEC in hubs with wraparound services, particularly designed to meet the needs of the most marginalised families.
* Provide free primary school education at all public schools in the ACT.

### Intersectionality

Policies to optimise the conditions for raising children needed to be grounded in an understanding of intersectionality – how various experiences of marginalisation or exclusion may affect reproductive choices, access to health services and parenting supports, financial resources, and other factors affecting the wellbeing of children and parents. This includes considering the perspectives and needs of people with disability, LGBTIQA+ parents, people living in poverty, Aboriginal and Torres Strait Islander parents, culturally and linguistically diverse peoples.[[58]](#footnote-59)

Recommendation:

* The ACT Government ensure policies designed to support fertility goals and child and family wellbeing are inclusive and take into account intersecting forms of marginalisation and exclusion, including barriers and considerations relevant to disability, Aboriginal and Torres Strait Islander peoples, people living in poverty, culturally and linguistically diverse peoples and LGBTIQA+ parents.

## A context for the low TFR in the ACT

According to the WHO, falling TFR can result from the interaction of factors that (a) that increase medical infertility, (b) arise from inability to access Assisted Reproductive Technology (ART) and other forms of fertility care, and (c) result from social changes that lead to a reduction in pregnancies or live births.[[59]](#footnote-60)

A study estimating the global disease burden of infertility[[60]](#footnote-61) found that between 1990 and 2017 the age-standardised prevalence of infertility increased by 14.96% in females, and 8.22% in males.[[61]](#footnote-62) Increasing infertility rates were found in all countries, regardless of income level, but in the top income group the highest rate of increase was found among females.[[62]](#footnote-63) Note that this study reported a **decrease** in infertility amongst Australian females over the period, but an increase among Australian males.[[63]](#footnote-64)

Estimating comparative rates of infertility is notoriously difficult. In their systematic review, Cox et al. (2022) found evidence of high rates of global and regional rates of infertility, but drew attention to the need to standardise methodology and data collection because ‘[v]alid and reliable estimates of infertility are needed to understand its burden and to facilitate advocacy, and provision and monitoring of prevention efforts and fertility care services.’[[64]](#footnote-65) Age-standardised disability-adjusted life-years (DALYs) of infertility have been calculated to have increased by 0.396% per year for females and 0.293% per year for males between 1990 and 2017.[[65]](#footnote-66)

The ACT has the lowest Total Fertility Rate (TFR) in Australia, with a completed family size of 1.41 children per woman compared with the national rate of 1.63.[[66]](#footnote-67) A TFR of 2.1 is widely accepted as the minimum level to prevent population decline in the absence of net immigration.[[67]](#footnote-68)

In 2022 the TFR for Aboriginal and Torres Strait Islander peoples nationally was 2.35 – above replacement level. No data was available for the ACT.[[68]](#footnote-69)

The OECD average TFR in 2022 was 1.59[[69]](#footnote-70) and rates across member countries have been declining, so that even those countries currently above replacement rate are projected to sink below it by 2030.[[70]](#footnote-71)

At 1.41, the ACT’s TFR remains above the ‘lowest low’ threshold of 1.3.[[71]](#footnote-72) The TFR in South Korea, already the world’s lowest at 0.72 in 2023 is expected to fall to 0.68 this year.[[72]](#footnote-73)

### Factors affecting fertility decisions

In a study commissioned by the Commonwealth to explore policy options for increasing fertility, ANU researchers drew on survey data to identify major obstacles to family formation or extension. Average ratings of the factors suggested in the survey are shown in Table 1 below.

**Table 1. Rated importance of factors associated with fertility decisions (ANU, August 2021)[[73]](#footnote-74)**

Asterisked questions applied only to respondents with children

Table 1 shows the average rating survey respondents gave to considerations that might influence their decisions about whether to have a(nother) child. Two financial factors were given equal top rating (3.15 out of 5) – the general cost of raising children and the security of the respondent’s own or their partner’s job. Being able to buy a home or a better home, and the availability and affordability of childcare, also figured prominently in survey responses.

This survey did not invite comment about other considerations that might be salient to fertility decisions: including being in a stable relationship with a trusted partner, having accumulated debt (such as HECS),[[74]](#footnote-75) fears about the repercussions of international conflict, personal views about the morality of human population increase, or fears about the liveability of a world affected by climate change.

The Report noted the importance of cohort, as there were trends over time. For example, for women born between 1940 and 1970, the proportion of childlessness among rose from 14% to 18% among the most highly educated, from 9% to 14% among those with medium education level, and 6% to 12% among those with the lowest level of education.[[75]](#footnote-76)

## Climate change

The level of climate concern among potential parents is set to increase. In a survey of 6500 women taken before the 2019 election, one in three under the age of thirty, and more than one in five aged between 30 and 39, said they were ‘reconsidering having children or more children because I am increasingly worried that if I have children, they will face an unsafe future from climate change’.[[76]](#footnote-77)

In 2021, a survey of 10,000 young people aged between 16 and 25 was undertaken in 10 countries, including Australia, to ascertain respondents’ thoughts and feelings about climate change and related government action. It found that 84% were at least moderately worried, and 59% were very or extremely worried, with more than 45% reporting negative effects of these concerns on their daily lives and functioning.[[77]](#footnote-78)

In the ACT, perinatal wellbeing services have indicated that the catastrophic summer fires of 2019-2020, and the attendant smoke that covered Canberra, had a detrimental and lasting effect on the wellbeing of pregnant mothers, a finding that has been subsequently confirmed in survey research involving pregnant women and mothers of newborn babies in the ACT and south-east New South Wales.[[78]](#footnote-79) This research found that, of the 1088 women who responded to the survey, more than three-quarters reported one or more acute bushfire exposures, and 63% reported severe smoke exposure, and this in turn had detrimental effects on their mental health.

Subsequent research has also found the 2019-2020 bushfires contributed to an increase in adverse health outcomes for newborns.[[79]](#footnote-80) Such research reinforces systemic reviews of climate change effects on reproductive health, which indicate various pathways by which climate change may adversely affect male and female fertility, the developing foetus, and obstetric outcomes.[[80]](#footnote-81)

As Australia experiences increasing frequency and intensity of extreme weather events,[[81]](#footnote-82) it seems inevitable that concerns about the impact of climate change will depress fertility rates. The ACT Government can ameliorate these concerns by policies to hasten the Territory’s achievement of net zero emissions, and by investing in adaptation measures to address the risks posed by climate change, particularly amongst the most marginalised and disadvantaged. Children are particularly vulnerable to climate change, *inter alia,* because of reduced ability to regulate their body temperature in heatwaves and greater susceptibility to air pollution.[[82]](#footnote-83)

Recommendation:

* The ACT Government ensure clear climate adaptation plans for the ACT community, including funding the community sector to adapt, and communicate adaptation plans to reassure the public.

## The gap between desired and actual family size

A working paper by the UNFPA concludes that the gap between desired and actual family size is a major driver of the very low FTRs in some countries, and notes that the gap is larger for highly educated women who find it difficult to combine the demands of professional and family life.[[83]](#footnote-84)

Among the main drivers of low fertility is the incompatibility between professional career and family life. In times of women’s massive post-secondary education and labor force participation on the one hand and rising individualistic aspirations on the other hand, the inability to combine paid work with childrearing often results in childlessness or having one child only. This is closely connected with persistent gender inequalities in housework division: for decades, societies with strong traditional gender role norms have been continuously witnessing very low fertility. More recent factors contributing to fertility decline include the trend towards intensive parenting as well as labor market uncertainty and instability coupled with soaring housing prices.[[84]](#footnote-85)

According to the research summarised above low fertility is associated with the gendered division of unpaid work: women’s burden is from 2 to 10 times that of men around the world.[[85]](#footnote-86) The importance of expanding access to parental leave, reducing the motherhood penalty, and expanding access to high quality ECEC have been discussed earlier.

The ACT Government could also increase access to family-friendly workplace arrangements that minimise the detrimental labour market (and economic) consequences of having children. Such arrangements should extend beyond the public sector to cover funding contracts with the community sector, thus enabling community sector organisations to offer more generous paid parental leave and other family-friendly workplace arrangements. Current funding levels have not kept pace with wages and the costs of delivering services, thereby preventing family-friendly provisions as well as contributing to relatively low levels of pay in a highly feminised workforce. In the community sector (which is the third largest workforce by industry in the ACT), the combination of the feminised nature of the workforce, relatively low wages and limited access to affordable childcare has the effect of reinforcing the gendered expectation that women will stay home to care for children, given that the higher earner - usually the male in couple families - will typically take on the lion's share of paid work while the lower earner is left with the lion's share of unpaid caring responsibilities, regardless of parenting preferences or the needs of the recipients of care.

It should also be noted that people who are recently arrived migrants have unequal access to Commonwealth Parental Leave Pay, Dad and Partner Pay, Parenting Payments, Care Allowance and Family Tax Benefit Part A - this includes those on Temporary Visas, as well as people who are permanent residents and subject to a waiting period for these payments. While responsibility for the eligibility criteria for such payments resides with the Commonwealth, it is vital that eligibility for reproductive and family services and other supports provided by the ACT Government are inclusive of people from migrants backgrounds, including new residents.

Recommendations

* Ensure that funding of the community sector is sufficient to provide access to public sector parental leave provisions.
* Encourage flexible family friendly workplace arrangements throughout all sectors.
* Promote gender balance in unpaid domestic and caring work.
* Ensure that people from migrant backgrounds employed by the ACT Government are able to access parental pay provisions equivalent to their colleagues.
* Advocate that the Commonwealth repeal discriminatory waiting periods for migrants granted permanent residence.

## Infertility and fertility care

The World Health Organisation (WHO) estimates that infertility affects approximately 1 in 6 people of reproductive age in their lifetime.[[86]](#footnote-87)

In an unprecedented ‘consensus’ document prepared by the International Federation of Fertility Societies (IFFS), Fauser et al. (2024) reviewed initiatives in ‘family building’ – ‘the process by which individuals or couples create or expand their families’.[[87]](#footnote-88) They noted that up to 10% of children born in some high-income countries resulted from some form of assisted reproduction technology (ART). In Australia the number of live births achieved using ART more than doubled from under 2% in 2002 to 5% in 2022.[[88]](#footnote-89)

Internationally recognised human rights standards imply an obligation on governments to enable equitable access to fertility care. This stems from the definition of health as ‘a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.’[[89]](#footnote-90) It also reflects Principle 8 set out in the report of the UN Conference on Population and Development, which includes this clause:

All couples and individuals have the basic right to decide freely and responsibly the number and spacing of their children and to have the information, education and means to do so.[[90]](#footnote-91)

The WHO notes that infertility interferes with the realisation of these essential human rights and that:

Addressing infertility is therefore an important part of realizing the right of individuals and couples to found a family.[[91]](#footnote-92)

‘Fertility care’ encompasses more than treatment for infertility – it includes a range of activities or services intended to ‘assist individuals and couples to realize their desires associated with reproduction and/or to build a family’, including fertility awareness, support, and fertility management.[[92]](#footnote-93)

## Inequities in access to fertility care

Governments are responsible for enabling equitable access to fertility care, thus ensuring that couples and individuals face no barriers to access based on gender, marital status, ethnicity, race, LGBTQI+ status, disability or economic resources.

In practice, the high cost of fertility treatment in many jurisdictions, including the ACT, where services are privately not publicly provided, is prohibitive for those experiencing economic disadvantage. The ACT Government’s response to Dr Marisa Payne’s (MLA) motion for an inquiry into ART noted that cost was the most frequently reported barrier to access, as there were no free or low-cost options.[[93]](#footnote-94)

Federal Government subsidies through Medicare are limited to those experiencing ‘medical infertility’[[94]](#footnote-95) rather than ‘social infertility’, such as single individuals or members of the LBGTQ+ community, and costs involving donor gametes are particularly high.[[95]](#footnote-96) A finding by a Commonwealth Government inquiry that accessing reproductive health care could be:

a harmful experience for transgender people, non-binary people, and people with variations of sex characteristics [and that] reproductive healthcare services [were] often not affirming or trauma-informed.[[96]](#footnote-97)

This finding was also confirmed by the ACT government, which found a need for specialist support or counselling services.[[97]](#footnote-98)

Recommendation:

* Fertility care be made available to all on an inclusive and equitable basis.

## The consequences of TFR below replacement level

A positive feedback loop in populations with a TFR below replacement rate leads, in the absence of net immigration, to accelerating population decline, as successive generations have ever smaller reproductive capacity.[[98]](#footnote-99) South Korea’s population is expected to halve by 2100.[[99]](#footnote-100)

A 2020 article in the Lancet summarises the impact of its forecast decline in global population as having:

Positive implications for the environment, climate change, and food production, but possible negative implications for labour forces, economic growth, and social support systems in parts of the world with greatest fertility declines.[[100]](#footnote-101)

## Policies to increase TFR

The WHO lists strategies to prevent medical infertility, thus reducing the need for some costly and inequitably accessed ART programs, including:

* Incorporating fertility awareness in sexuality education programs
* Promoting healthy lifestyles to reduce behavioural risks, including prevention, diagnosis and early treatment of STIs, preventing complications of unsafe abortion, postpartum sepsis and abdominal/pelvic surgery, and
* Addressing environmental toxins associated with infertility.[[101]](#footnote-102)

An Australian study of 15–18-year-olds concluded that information about fertility should be included in the national education curriculum, and that it should be designed to be inclusive of minority groups.[[102]](#footnote-103)

Being obese, underweight or overweight, as well as smoking, excessive alcohol use and poor nutrition are known risk factors for infertility.[[103]](#footnote-104) These conditions are more prevalent in disadvantaged and marginalised groups and are targeted in population health programs. Although TFR is higher in the Aboriginal and Torres Strait Islander population compared to the non-Indigenous population, risk factors for infertility are higher in the former.[[104]](#footnote-105)

Toxic air pollution from vehicles, industrial processes, bushfires and fuel used domestically is associated with both male and female infertility.[[105]](#footnote-106) Endocrine disrupting chemicals, found in pesticides, such as dioxin, phthalates and bisphenol A (BPA), can cause fertility-impairing conditions such as endometriosis.[[106]](#footnote-107)

An ANU Report commissioned by the Commonwealth Government emphasised the need to consider TFR as resulting from the interaction of individual and social factors:

Fertility theories highlight a number of important societal factors that influence the decision to have a child. These include: the costs and benefits of having a child for the parents in that historical place and time; economic conditions such as labour market stability, recessions or other uncertainty; and social attitudes and norms including gender-role attitudes and autonomy.[[107]](#footnote-108)

Its evaluation of Australia policy interventions to increase birth rates found:

* Financial transfers to ease the financial cost of children were likely to have minimal impact on birth rates – as exemplified the Baby Bonus introduced in 2002, estimated to have increased overall births by 2% and first births by 3%.[[108]](#footnote-109)
* Paid Parental Leave was associated with a stable increase in births of 5% by those receiving it compared to those who were not, whose birth rate declined, with comparable findings for Dad and Partner Pay, where recipient groups showed a 3% increase in comparison to the control.[[109]](#footnote-110)
* Reform of Family Tax Benefit A and B resulted in a very small increase in the expectation of having children and number of intended children.[[110]](#footnote-111)

The Global Burden of Diseases, Injuries, and Risk Factors Study (GBD) 2021 produced global fertility and population forecasts out to 2100. Using its ‘reference scenario’, it forecast global fertility rates of 1·83 (1·59–2·08[[111]](#footnote-112)) in 2050 and 1·59 (1·25–1·96) in 2100.[[112]](#footnote-113) An alternate scenario included meeting Sustainable Development Goals in education and contraception as well as implementing pro-natalist policies including: ‘paid parental leave, the right to return to work, and subsidised or universal childcare,’ i.e. measures expected to make it more financially feasible to have children.[[113]](#footnote-114) The parameters used in the pro-natal scenario were ‘drawn from previously observed increases in TFR that coincided with pro-natal policies and broader empirical evidence regarding effects of pro-natal policies in low-fertility contexts’.[[114]](#footnote-115) This scenario forecast global TFRs of 1·65 (1·40–1·92) in 2050 and 1·62 (1·35–1·95) in 2100.[[115]](#footnote-116)

In other words, pro-natalist policies that meet human rights standards relevant to education and reproductive health were not forecast to raise global TFR above replacement rate.

However, a review of human rights compliant policies used since 1970 in Europe, the United States, Canada, and Australia found that childcare expansions boosted completed fertility, increased cash transfers had temporary effects, and more recent evidence on wider provision of parental leave – particularly from Central Europe – suggested ‘larger effects than previously established’.[[116]](#footnote-117)

The review noted that high-earning couples benefit more from greater access to parental leave expansions and that expanding childcare programs could ‘reduce social inequalities on other domains’.[[117]](#footnote-118)

### Increasing access to ART

Wider access to ART techniques has been promoted to enable access for those in the LGBTQI+ community, single people, and those needing to use third-party reproduction (donor sperm, eggs, embryos, or surrogacy).[[118]](#footnote-119) The freezing of gametes for later use by those concerned about age-related fertility decline, or those facing infertility as a result of essential medical treatment, may help some individuals and couples to achieve desired family size, and may contribute to increased TFR among these groups.[[119]](#footnote-120)

The review of pro-natalist policies mentioned above found that subsidising ART showed ‘some promise of increasing birth rates for women over the age of 35’.[[120]](#footnote-121)

## Need to ensure that pro-natalist policies protect reproductive rights

In their published comment on fertility forecasts that imply global population decline, Mbutu, Kiairie and Allotey from the WHO warn against the temptation to walk back hard-earned reproductive rights when developing policies to increase birth rates, suggesting four guiding principles.

‘First, policy responses should be rights-based and geared towards providing, promoting, and protecting sexual and reproductive health and rights, to ensure that people are empowered to achieve their reproductive goals. There is a risk that, when faced with declining fertility, some countries might adopt pro-natal policies that restrict services related to sexual and reproductive health and rights, and reduce reproductive autonomy, which includes the right to choose whether or not to have children, the timing and spacing of pregnancies, and access to comprehensive sexual and reproductive health care. Declines in TFR should not be used to limit or coerce utilisation of contraception, abortion, or fertility services.

Second [policies should be chosen to suit local conditions and a]t a minimum, interventions should be numerous to promote choice, evidence-based, predictable to influence successive cohorts, and stable over the long term to facilitate accurate measurement of impact.

Third, efforts should be directed at addressing the root causes of declining TFR, and not only its consequences. Given that multiple factors prevent the realisation of fertility intentions, understanding the reasons underlying reproductive decisions is crucial, bearing in mind that modelled associations do not indicate causality, low TFR does not necessarily mean low fecundity despite birth postponement mediating both, and policy interventions have limits. For example, international migration can only be a temporary solution, as declining fertility becomes universal. Moreover, ideational shift in family structure, relationships, fertility intentions, and gender equity is rooted in personal values, individual self-fulfilment, and choice, and might not be subject to policy directives.

Finally, communications about decreasing TFR should not be sensationalised, but nuanced, balancing between gloom and optimism. Fertility is an issue that concerns multiple stakeholders and disciplines. Scientific predictions and policy discourses are essential as we all search for answers. Accurate communication will facilitate better understanding of the issue and informed decisions. Declining TFRs will challenge the global community and could prompt innovations that assist us in achieving sustainable development in the long term’.[[121]](#footnote-122)

In addition to developing rights compliant and evidence-based interventions to help individuals and couples achieve their desired family size, governments need to develop policies to deal with the social and economic consequences of population decline including the loss of family support mechanisms and an increase in the age dependency to working age ratio. Such policies could include increasing health span by investing in optimal child development, increasing the proportion of older workers through the availability of more flexible work practices, and resourcing civil society organisations to provide additional support to families and individuals who lack children, siblings or extended family.

## Summary of recommendations

|  |
| --- |
| That the ACT Government:   * Develop whole-of-government strategies to prioritise protection of expectant birthing parents and families with children from exposure to toxic stress through the provision and funding of relevant services. * Pay particular attention to addressing the risk factors for child maltreatment through the provision of additional support to families. * Develop an outreach system to reduce inequities in access to health and educational services among families expecting or raising children. * Develop and implement policies to increase access to paid parental leave, flexible work arrangements, and accessible, affordable and quality ECEC. * Improve the affordability of housing for people on low incomes, including the availability of secure and affordable social housing that meets the needs of families, particularly the developmental needs of young children. * Replicate Early Childhood Schools throughout the ACT and provide universal, free ECEC in hubs with wraparound services, particularly designed to meet the needs of the most marginalised families. * Provide free primary school education at all public schools in the ACT. * Ensure policies designed to support fertility goals and child and family wellbeing are inclusive and take into account intersecting forms of marginalisation and exclusion, including barriers and considerations relevant to disability, Aboriginal and Torres Strait Islander peoples, people living in poverty, culturally and linguistically diverse peoples and LGBTIQA+ parents. * The ACT Government ensure clear climate adaptation plans for the ACT community, including funding the community sector to adapt, and communicate adaptation plans to reassure the public. * Ensure that funding of the community sector is sufficient to provide access to public sector parental leave provisions. * Encourage flexible family friendly workplace arrangements throughout all sectors. * Promote gender balance in unpaid domestic and caring work. * Ensure that people from migrant backgrounds employed by the ACT Government are able to access parental pay provisions equivalent to their colleagues. * Advocate that the Commonwealth repeal discriminatory waiting periods for migrants granted permanent residence. * Implement the recommendations from the ACTCOSS Cost of Living Report 2023.[[122]](#footnote-123) * Cooperate with national bodies to develop data collections to monitor rates of infertility among major socio-demographic groups and elucidate the key variables affecting changes in those rates over time. * Commission well-designed research to monitor trends in the relative importance of factors that influence decisions about fertility in the ACT. * Ensure that sex education in the ACT includes explicit information about fertility that is equally accessible to minority groups and the LGBTIQ+ community. * Improve environmental protection arrangements to protect the population from environmental toxins that impair fertility. * Develop rights-compliant and evidence-based interventions to help individuals and couples achieve their desired family size. |

ACTCOSS would welcome the opportunity to further discuss any matters raised in this submission, and looks forward to continuing to work with the ACT Government to ensure the wellbeing of children and families across the ACT.

Yours sincerely



Dr Devin Bowles

Chief Executive Officer     
ACT Council of Social Service     
[devin.bowles@actcoss.org.au](mailto:devin.bowles@actcoss.org.au)

1. A Brown A, [ACT budget shows population, economy are set for growth](https://citynews.com.au/2023/act-budget-shows-population-economy-are-set-for-growth/#:~:text=Canberra's%20population%20is%20set%20to,or%20territory%20by%202026%2F27.) *City News,* 27 June 2023. [↑](#footnote-ref-2)
2. E Gray, A Reimondos, E Lazzari, R Breunig, R Steinhauser, J Zhang, N Biddle, & M Gray, [*Impacts on policies on fertility rates*](https://population.gov.au/sites/population.gov.au/files/2022-03/ANU_Impacts-of-Policies-on-Fertility-Rates-Full-report.pdf), ANU, 2022. [↑](#footnote-ref-3)
3. ‘Health span’ refers to the number of years an individual is heathy and free from debilitating disease. [↑](#footnote-ref-4)
4. Harvard Center on the Developing Child, [*Health and Learning Are Deeply Interconnected in the Body: An Action Guide for Policymakers*](https://developingchild.harvard.edu/resources/health-and-learning-are-deeply-interconnected-in-the-body-an-action-guide-for-policymakers/)*,* n.d. [↑](#footnote-ref-5)
5. Harvard Center on the Developing Child, [*Health and Learning Are Deeply Interconnected in the Body,*](https://developingchild.harvard.edu/resources/health-and-learning-are-deeply-interconnected-in-the-body-an-action-guide-for-policymakers/)n.d. [↑](#footnote-ref-6)
6. Harvard Center on the Developing Child, [*Health and Learning Are Deeply Interconnected in the Body,*](https://developingchild.harvard.edu/resources/health-and-learning-are-deeply-interconnected-in-the-body-an-action-guide-for-policymakers/)(no date). [↑](#footnote-ref-7)
7. Harvard Center on the Developing Child, [*Health and Learning Are Deeply Interconnected in the Body,*](https://developingchild.harvard.edu/resources/health-and-learning-are-deeply-interconnected-in-the-body-an-action-guide-for-policymakers/)(no date). [↑](#footnote-ref-8)
8. Assessed by level of exposure to known risk factors or adverse child experiences. [↑](#footnote-ref-9)
9. C Taylor, D Christensen, AJ Venn, DB Preen, J Stafford, E Hansen, K Jose, SR Zubrick, [Use of administrative record linkage to examine patterns of universal early childhood health and education service use from birth to Kindergarten (age four years) and developmental vulnerability in the Preparatory Year (age five years) in Tasmania, Australia](https://pdfs.semanticscholar.org/b1d7/3de3e1212825708911676f76dbc1fac8fab4.pdf), *International Journal of Population Data Science*,6,3,3, 2021, p 2. [↑](#footnote-ref-10)
10. Taylor et al., Use of administrative record linkage to examine patterns of universal early childhood health and education service use. [↑](#footnote-ref-11)
11. Taylor et al., Use of administrative record linkage to examine patterns of universal early childhood health and education service use. [↑](#footnote-ref-12)
12. Doidge J et al. (2017) [Risk factors for child maltreatment in an Australian population-based birth cohort](https://pubmed.ncbi.nlm.nih.gov/28027464/) *Child Abuse & Neglect,* February, 64, 47-60 [↑](#footnote-ref-13)
13. May N (2024[) ‘Huge’ proportion of mental health conditions in Australia found to be caused by childhood maltreatment](https://www.theguardian.com/australia-news/article/2024/may/09/huge-proportion-of-mental-health-conditions-in-australia-found-to-be-caused-by-childhood-maltreatment), 9 May [↑](#footnote-ref-14)
14. Op. cit. p 7 [↑](#footnote-ref-15)
15. Op.cit. p2 [↑](#footnote-ref-16)
16. ABS (2022) [Income and work: Census](https://www.abs.gov.au/statistics/labour/earnings-and-working-conditions/income-and-work-census/latest-release) 28 June [↑](#footnote-ref-17)
17. ID Australia (No date) [Canberra Qualifications](https://profile.id.com.au/australia/qualifications?WebID=250) [↑](#footnote-ref-18)
18. AEDC (No date) [Number and percentage of children developmentally vulnerable in 2021](https://www.aedc.gov.au/data-explorer/) [↑](#footnote-ref-19)
19. ABS (2023) [Socio-Economic Indexes for Areas (SEIFA), Australia](https://www.abs.gov.au/statistics/people/people-and-communities/socio-economic-indexes-areas-seifa-australia/latest-release) 27 April [↑](#footnote-ref-20)
20. Tanton R et al. (2015) [Disadvantage in the Australian Capital Territory](https://www.tandfonline.com/doi/abs/10.1080/01442872.2014.981062) *Policy Studies*, 36,1, 92–113 [↑](#footnote-ref-21)
21. This is just one example form a large and burgeoning literature: Yu et al. (2022) [Association of Elevated Maternal Psychological Distress, Altered Fetal Brain, and Offspring Cognitive and Social-Emotional Outcomes at 18 Months](https://jamanetwork.com/journals/jamanetworkopen/article-abstract/2791732) *JAMA Netw Open*. 2022;5(4) and see too commentary on this article by Monk and Fernandez that provides good background on the Developmental Origins of Health and Disease: [Neuroscience Advances and the Developmental Origins of Health and Disease Research](https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2791736) [↑](#footnote-ref-22)
22. ACTCOSS, [*2023 ACT Cost of Living Report*](https://actcoss.org.au/publication/2023-act-cost-of-living-report/), 2023, p 5 [↑](#footnote-ref-23)
23. Stanford J [Profit-Price Spiral: The Truth Behind Australia’s Inflation Australia Institute](https://australiainstitute.org.au/wp-content/uploads/2023/02/Profit-Price-Spiral-Research-Report-WEB.pdf), 23 February 2023 [↑](#footnote-ref-24)
24. ACOSS (2023) [“It’s not enough”: why more is needed to lift people out of poverty](https://www.acoss.org.au/wp-content/uploads/2023/09/ACOSS-COL-Report-Aug-2023_Web_v03.pdf) September, pp 4-5, [↑](#footnote-ref-25)
25. AIHW [Aboriginal and Torres Strait Islander Health Performance Framework: summary report March 2024](https://www.indigenoushpf.gov.au/measures/2-08-income), Income. Canberra: AIHW. [↑](#footnote-ref-26)
26. In his strategies to address health inequities, Sir Michael Marmot uses the 60% median income level after housing costs, the poverty benchmark used in the European Union. See Marmot M (2023) [The Health of Nations](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10028533/) *BJPsych Bull*, February, 47, 1, 56-59 [↑](#footnote-ref-27)
27. UNSW (2023) [New report highlights depth of poverty for people on income support](https://www.unsw.edu.au/newsroom/news/2023/03/new-report-highlights-depth-of-poverty-for-people-on-income-supp) 22 March [↑](#footnote-ref-28)
28. T Sobotka, A Matysiak, Z Brzozowska, [*Policy responses to low fertility: How effective are they?*](https://www.unfpa.org/sites/default/files/pub-pdf/Policy_responses_low_fertility_UNFPA_WP_Final_corrections_7Feb2020_CLEAN.pdf) Working Paper No. 1, UNFPA, Population and Development Branch, 2019; L Cooke, & J Baxter, “Families” in international context: comparing institutional effects across western societies, *Journal of Marriage and Family*, 2010 72(3), 516-536; OECD, *Doing Better for Families*, Paris, OECD Publishing, 2011; D Bloom, M Kuhn, K Prettner, Fertility in high-income countries: Trends, patterns, determinants, and consequences, *Annual Review of Economics*, 2023 Oct,16. [↑](#footnote-ref-29)
29. P McDonald, Gender equity, social institutions and the future of fertility, *Journal of Population Research*, 17(1), 1-15, 2000. [↑](#footnote-ref-30)
30. E Bahar, N Bradshaw, N Deutscher, & M Montaigne, [*Children and the Gender Earnings Gap: Evidence for Australia*](https://treasury.gov.au/publication/p2023-372004)*,* Treasury Working Paper, 2023, Australian Government. [↑](#footnote-ref-31)
31. Gamarra Rondinel A & Price A [Raising children in the lucky country: Understanding the income penalty and poverty at childbirth](https://www.powertopersuade.org.au/blog/raising-children-in-the-lucky-country-understanding-the-income-penalty-and-poverty-at-childbirth/11/10/2023) (12 October 2023) Power to Persuade [↑](#footnote-ref-32)
32. D Wood, K Griffiths and O Emslie, [*Cheaper childcare: A practical plan to boost female workforce participation*](https://grattan.edu.au/wp-content/uploads/2020/08/Cheaper-Childcare-Grattan-Institute-Report.pdf), Grattan Institute, 2020. [↑](#footnote-ref-33)
33. Treasury [Children and the Gender Earnings Gap: Evidence for Australia](https://treasury.gov.au/publication/p2023-372004) (2023) Australian Government [↑](#footnote-ref-34)
34. Deloitte Access Economics, [*Breaking the norms: Unleashing Australia’s economic potential*](https://www.aiiw.org.au/wp-content/uploads/2022/11/DAE-AIIW-breaking-the-norm-unleashing-australia-economic-potential-031122.pdf), Report prepared in partnership with Australians Investing in Women, 2022. [↑](#footnote-ref-35)
35. Chief Executive Women and Bain & Company, [*Equitable Flexibility: Reshaping our Workforce*](https://www.bain.com/contentassets/8e98a13e9c624107b5097d72d2bff12c/bain_brief_equitable_flexibility_reshaping_our_workforce.pdf), 2021. [↑](#footnote-ref-36)
36. F Buick, M Glennie, H Dickinson, D Blackman, S Williamson, V Weeratunga, M Tani, [*Flexible working in the Australian Capital Territory Public Service (ACTPS)*](https://anzsog.edu.au/app/uploads/2022/10/Flexible-working-in-the-ACTPS-RI-CoverFINAL.pdf), Melbourne, ANZSOG, 2022; L Bladen, ACT head of service Kathy Leigh said flexible working arrangements helps to close the gender pay gap, *Canberra Times,* 8 November 2022. [↑](#footnote-ref-37)
37. ACT Wellbeing [Framework, Housing affordability and availability](https://www.act.gov.au/wellbeing/explore-overall-wellbeing/housing-and-home/housing-affordability-and-availability) [↑](#footnote-ref-38)
38. Gray, E, Reimondos, A, Lazzari, E, Breunig, R, Steinhauser, R, Zhang, J, Biddle, N., & Gray, M, [. *Impacts on policies on fertility rates*](https://population.gov.au/sites/population.gov.au/files/2022-03/ANU_Impacts-of-Policies-on-Fertility-Rates-Overview.pdf)*,* ANU, 2022; Atalay K, Li A, Whelan S, Housing wealth, fertility intentions and fertility. *Journal of Housing Economics*. 2021 Dec 1;54:101787; O'Donnell J, Kingsley M, The relationship between housing and children’s socio-emotional and behavioral development in Australia, *Children and Youth Services Review*. 2020 Oct 1, 117:105290; Dockery M, Ong R, Colquhoun S., Li J, and Kendall, G, [*Housing and children's development and wellbeing: evidence from Australian data, AHURI Final Report No. 201*](https://www.ahuri.edu.au/research/final-reports/201), Australian Housing and Urban Research Institute Limited, Melbourne, 2013. [↑](#footnote-ref-39)
39. L Walsh, B Gallo Cordoba, B Cutler, ‘[We get the raw deal out of almost everything’: a quarter of young Australians are pessimistic about having kids](https://theconversation.com/we-get-the-raw-deal-out-of-almost-everything-a-quarter-of-young-australians-are-pessimistic-about-having-kids-173751)’, *The Conversation,* 21 February 2022. [↑](#footnote-ref-40)
40. ACT Wellbeing [Framework, Housing affordability and availability](https://www.act.gov.au/wellbeing/explore-overall-wellbeing/housing-and-home/housing-affordability-and-availability) [↑](#footnote-ref-41)
41. [Waiting lists for public housing - ACT Government](https://www.act.gov.au/housing-planning-and-property/public-housing/waiting-lists-for-public-housing) [↑](#footnote-ref-42)
42. Nicholas J (2024) [As 190,000 households wait for social housing, application numbers are only increasing](https://www.theguardian.com/news/ng-interactive/2024/apr/18/as-190000-households-wait-for-social-housing-application-numbers-are-only-increasing) *Guardian Australia*, 18 April [↑](#footnote-ref-43)
43. Anglicare, [*Rental Affordability Snapshot: Regional reports \ fourteenth edition*](https://www.anglicare.asn.au/wp-content/uploads/2023/04/Rental-Affordability-Snapshot-Regional-Reports.pdf)*,* 27 April 2023, accessed 27 April 2023. [↑](#footnote-ref-44)
44. Everybody’s Home, [*Financial stress map: Canberra*](https://everybodyshome.com.au/financial-stress-map-canberra/), accessed 1 April 2024. [↑](#footnote-ref-45)
45. N Biddle & R Seth-Purdie, *Relationship between development risk and participation in early childhood education: how can we reach the most vulnerable children?* 2013, ANU, p 17 [↑](#footnote-ref-46)
46. Villaneuva K et al. [*Local Housing Characteristics Associated with Early Childhood Development Outcomes in Australian Disadvantaged Communities*](https://www.mdpi.com/1660-4601/16/10/1719) (2019) Int. J. Environ. Res. Public Health, 16,10 [↑](#footnote-ref-47)
47. ANU (undated) [Estimated Cost of Living in Canberra](https://www.anu.edu.au/students/program-administration/fees-payments/estimated-cost-of-living-in-canberra) [↑](#footnote-ref-48)
48. ANU (undated) [Estimated Cost of Living in Canberra](https://www.anu.edu.au/students/program-administration/fees-payments/estimated-cost-of-living-in-canberra). [↑](#footnote-ref-49)
49. Productivity Commission, [*Report on Government Services 2024: Child care, education and training (part B)*](https://www.pc.gov.au/ongoing/report-on-government-services/2024/child-care-education-and-training/Rogs-2024-partb-overview-and-sections.pdf), 2024, p 24 [↑](#footnote-ref-50)
50. Futurity Investment Group, [*Cost of Education in the Australian Capital Territory 2024*](https://www.futurityinvest.com.au/insights/futurity-blog/2024/02/14/cost-of-education-in-the-act-2024)*.* [↑](#footnote-ref-51)
51. Lindell J, [Lifetime cost to parents of ACT public schooling surpasses $80,000](https://www.canberratimes.com.au/story/8488589/cost-of-sending-a-child-to-public-school-in-act-increases-by-4000/) January 17, 2024 [↑](#footnote-ref-52)
52. Productivity Commission, [*Report on Government Services 2024: Part B, Section 3, Early childhood education and care*](https://www.pc.gov.au/ongoing/report-on-government-services/2024/child-care-education-and-training/early-childhood-education-and-care)*,* Table 3A.23, 2024. [↑](#footnote-ref-53)
53. ACTCOSS preliminary analysis of most recent CPI data. [↑](#footnote-ref-54)
54. ACT Government Education Directory, [Help with the cost of schooling and everyday needs](https://www.education.act.gov.au/support-for-our-students/financial-and-resource-assistance-for-families), undated. [↑](#footnote-ref-55)
55. ACT Government (2023) [Three-year-old preschool providers ready for 2024](https://www.cmtedd.act.gov.au/open_government/inform/act_government_media_releases/yvette-berry-mla-media-releases/2023/three-year-old-preschool-providers-ready-for-2024#:~:text=Released%2030%2F10%2F2023%20%2D%20Joint%20media%20release&text=The%20ACT%20Government's%20biggest%20investment,%241%2C329%20per%20child%20for%20families.) 30 October. [↑](#footnote-ref-56)
56. Bustamante A et al., [High-quality early child care and education: The gift that lasts a lifetime](https://www.brookings.edu/articles/high-quality-early-child-care-and-education-the-gift-that-lasts-a-lifetime/). Brookings Institute commentary, November 4, 2021. [↑](#footnote-ref-57)
57. Bustamante A et al. (2021) [High-quality early child care and education: The gift that lasts a lifetime](https://www.brookings.edu/articles/high-quality-early-child-care-and-education-the-gift-that-lasts-a-lifetime/). [↑](#footnote-ref-58)
58. G Haintz, H McKenzie, B Turnbull, M Graham, Inclusive Policy? An Intersectional Analysis of Policy Influencing Womens’ Reproductive Decision‐Making. *Social Inclusion* 2023 May 25;11(2):124-35. [↑](#footnote-ref-59)
59. See, for example, World Health Organisation, [Infertility](https://www.who.int/news-room/fact-sheets/detail/infertility), 3 April 2023 and Fauser B, et al.(2024) [Declining global fertility rates and the implications for family planning and family building: an IFFS consensus document based on a narrative review of the literature](https://academic.oup.com/humupd/article/30/2/153/7513427?login=false), Human Reproduction Update, 30, 2, March-April [↑](#footnote-ref-60)
60. The estimates were based on survey data from 277 demographic and reproductive health surveys, statistically adjusted to take into account the heterogeneous nature of the data. See Sun H et al. (2019) below. [↑](#footnote-ref-61)
61. Sun H et al. (2019) [Global, regional, and national prevalence and disability-adjusted life-years for infertility in 195 countries and territories, 1990–2017: results from a global burden of disease study, 2017](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6932903/) *Aging* 11, 23, 10952–10991, p10952 [↑](#footnote-ref-62)
62. Ibid. [↑](#footnote-ref-63)
63. Sun H et al. (2019) [Global, regional, and national prevalence and disability-adjusted life-years for infertility in 195 countries and territories, 1990–2017: results from a global burden of disease study, 2017](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6932903/) *Aging* 11, 23, 10952–10991, p10952, Supplementary Table 3. [↑](#footnote-ref-64)
64. Cox et al. (2022) [Infertility prevalence and the methods of estimation from 1990 to 2021: a systematic review and meta-analysis](https://academic.oup.com/hropen/article/2022/4/hoac051/6825316?login=false) *Human Reproduction Open*, 4. [↑](#footnote-ref-65)
65. One DALY represents the loss of the equivalent of one year of full health. DALYs for a disease or health condition are the sum of the years of life lost to due to premature mortality (YLLs) and the years lived with a disability (YLDs) due to prevalent cases of the disease or health condition in a population (World Health Organisation [Disability-adjusted life years (DALYs)](https://www.who.int/data/gho/indicator-metadata-registry/imr-details/158)) [↑](#footnote-ref-66)
66. [Births Australia 2022](https://www.abs.gov.au/statistics/people/population/births-australia/latest-release#:~:text=There%20were%20300%2C684%20registered%20births,was%202.35%20births%20per%20woman.), ABS. [↑](#footnote-ref-67)
67. *Centre for Population (2022), Impacts of Policies on Fertility Rates: Overview of the Report Produced by the ANU for the Centre for Population*, Australian Government, Canberra, p 4 [↑](#footnote-ref-68)
68. [Births Australia 2022](https://www.abs.gov.au/statistics/people/population/births-australia/latest-release#:~:text=There%20were%20300%2C684%20registered%20births,was%202.35%20births%20per%20woman.), ABS [↑](#footnote-ref-69)
69. [Pensions at a glance 2023: OECD and G20 Indicators](https://d.docs.live.net/25c23a16f8283a04/Attachments):Fertility. Note that the Australian TFR for 2022 provided in this OECD publication is 1.6. It is not clear whether the ABS figure provided above – 1.63 – differs because it includes data from other Australian territories. [↑](#footnote-ref-70)
70. Ibid. [↑](#footnote-ref-71)
71. A term coined by Kohler, Billari & Ortega (2002 & 2006) and Billari & Kohler (2004), cited in Goldstein et al (2009) ‘The end of “lowest-low” fertility?’ *Population & Development Review*, 35, 4, 663-699, p 663. [↑](#footnote-ref-72)
72. Al Jezeera News: Health [Fears for future as South Korea’s fertility rate drops again](https://www.aljazeera.com/news/2024/2/28/fears-for-future-as-south-koreas-fertility-rate-drops-again#:~:text=A%20report%20from%20South%20Korea's,employment%2C%20housing%2C%20and%20childcare.), 28 February 2024. [↑](#footnote-ref-73)
73. From Gray E et al (2022-23) [Impact of Family Policies on Fertility Rates](https://population.gov.au/sites/population.gov.au/files/2022-03/ANU_Impacts-of-Policies-on-Fertility-Rates-Full-report.pdf), ANU [↑](#footnote-ref-74)
74. The Prime Minister has recently announced that the Government will consider the rate of HECS indexation, which has been growing faster than wages (see Karp P & Cassidy C (2024) [Labor looks to ease Hecs burden as student debts set to grow more than 4%](https://www.theguardian.com/australia-news/2024/apr/18/labor-hecs-fee-help-debt-indexation) *Guardian*, 18 April. [↑](#footnote-ref-75)
75. Gray E et al (2022-23) [Impact of Family Policies on Fertility Rates](https://population.gov.au/sites/population.gov.au/files/2022-03/ANU_Impacts-of-Policies-on-Fertility-Rates-Full-report.pdf), ANU, p 21 [↑](#footnote-ref-76)
76. Australian Conservation Foundation (2019) [New survey shows women will change their lives – and votes – for climate action](https://www.acf.org.au/women_will_change_their_lives_and_votes_for_climate_action) [↑](#footnote-ref-77)
77. Hickman et al. (2021) [Climate anxiety in children and young people and their beliefs about government responses to climate change: a global survey](https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196(21)00278-3/fulltext?ref=f-zin.faktograf.hr) *The Lancet Planetary Health,* 5, 12, 863-E873, December [↑](#footnote-ref-78)
78. Cherbuin N, Bansal A, Dahlstrom JE, Carlisle H, Broom M, Nanan R, Sutherland S, Vardoulakis S, Phillips CB, Peek MJ, Christensen BK, Davis D, Nolan CJ, Bushfires and Mothers' Mental Health in Pregnancy and Recent Post-Partum, *International Journal of Environmental Research and Public Health*. 2023 Dec 20;21(1):7. [↑](#footnote-ref-79)
79. Brew BK, Donnolley N, Henry A, Dahlen H, Jalaludin B, Chambers GM, Double jeopardy-pregnancy and birth during a catastrophic bushfire event followed by a pandemic lockdown, a natural experiment, *Environmental Research* 2022 Nov 1(214):113752. [↑](#footnote-ref-80)
80. Segal TR, Giudice LC, Systematic review of climate change effects on reproductive health. *Fertility and sterility*, 2022 Aug 1 118(2):215-23. [↑](#footnote-ref-81)
81. NSW Environment Protection Authority (updated September 2023) [Increasing frequency and intensity of extreme weather events](https://www.epa.nsw.gov.au/your-environment/climate-change/trends/extreme-weather-events#:~:text=Australia's%20weather%20patterns%20are%20demonstrating,degrees%20Celsius%20since%2019101.) [↑](#footnote-ref-82)
82. UNICEF, [The Climate Changed Child: A Children’s Risk Index Supplement](https://www.unicef.org/reports/climate-changed-child#:~:text=Infants%20and%20young%20children%20are,more%20vulnerable%20during%20extreme%20heatwaves.) 23 November 2023. [↑](#footnote-ref-83)
83. UNFPA Policy & Development Division, [*Policy responses to low fertility: How effective are they?*](https://www.unfpa.org/sites/default/files/pub-pdf/Policy_responses_low_fertility_UNFPA_WP_Final_corrections_7Feb2020_CLEAN.pdf) Working Paper No. 1, May 2019. [↑](#footnote-ref-84)
84. Op. cit. p 6 [↑](#footnote-ref-85)
85. OECD Development Centre, [Unpaid Care Work: The missing link in the analysis of gender gaps in labour outcomes](https://www.oecd.org/dev/development-gender/Unpaid_care_work.pdf), 2014. [↑](#footnote-ref-86)
86. Infertility is a ‘disease of the male or female reproductive system defined by the failure to achieve a pregnancy after 12 months or more of regular unprotected sexual intercourse’ (World Health Organisation, [Infertility](https://www.who.int/news-room/fact-sheets/detail/infertility), 3 April 2023) [↑](#footnote-ref-87)
87. Fauser B et al., [Declining global fertility rates and the implications for family planning and family building: an IFFS consensus document based on a narrative review of the literature](https://academic.oup.com/humupd/article/30/2/153/7513427?login=false), Human Reproduction Update, 2024, 30, 2, March-April. [↑](#footnote-ref-88)
88. Australian Institute of Family Studies (2023) [Births in Australia 2023: Facts and Figures](https://aifs.gov.au/research/facts-and-figures/births-australia-2023). [↑](#footnote-ref-89)
89. World Health Organisation [Constitution](https://www.who.int/about/accountability/governance/constitution) This was adopted in 1946 at an international conference. [↑](#footnote-ref-90)
90. United Nations, [*Report of the International Conference on Population and Development Cairo, 5-13 September 1994*,](https://www.un.org/development/desa/pd/sites/www.un.org.development.desa.pd/files/a_conf.171_13_rev.1.pdf) New York, 1995. [↑](#footnote-ref-91)
91. World Health Organisation, [Infertility](https://www.who.int/news-room/fact-sheets/detail/infertility), 3 April 2023. [↑](#footnote-ref-92)
92. Fauser B, Adamson G et al.(2024) [Declining global fertility rates and the implications for family planning and family building: an IFFS consensus document based on a narrative review of the literature](https://academic.oup.com/humupd/article/30/2/153/7513427?login=false), *Human Reproduction Update*, 30, 2, March-April [↑](#footnote-ref-93)
93. ACT Department of Health, [Assisted Reproductive Technology: Regulation and Access](https://www.parliament.act.gov.au/__data/assets/pdf_file/0003/2062911/Assisted-Reproductive-Technology-Regulation-and-Access-ACT-Government-Response.pdf), 2023 p1 [↑](#footnote-ref-94)
94. Services Australia (2021) [*Education guide - Billing assisted reproductive technology services*](https://www.servicesaustralia.gov.au/education-guide-billing-assisted-reproductive-technology-services) [↑](#footnote-ref-95)
95. Services Australia (2021) [*Education guide - Billing assisted reproductive technology services*](https://www.servicesaustralia.gov.au/education-guide-billing-assisted-reproductive-technology-services) [↑](#footnote-ref-96)
96. Senate Community References Committee, [*Report of the Inquiry into Universal Access to Reproductive Healthcare*](https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Community_Affairs/ReproductiveHealthcare)*,*  Commonwealth Government, Canberra, Para 4.4, 2023. [↑](#footnote-ref-97)
97. ACT Department of Health, [Assisted Reproductive Technology: Regulation and Access](https://www.parliament.act.gov.au/__data/assets/pdf_file/0003/2062911/Assisted-Reproductive-Technology-Regulation-and-Access-ACT-Government-Response.pdf), 2023, p1 [↑](#footnote-ref-98)
98. Ecologists use the term ‘extinction vortex’ to the process of ‘mutual reinforcement […] among biotic and abiotic processes that drives population size downward to extinction” (Brook, Sodhi & Bradshaw 2008) cited in CJA Bradshaw, [*The extinction vortex*](https://conservationbytes.com/2008/08/25/the-extinction-vortex/) Conservation Bytes, 25 August, 2008. [↑](#footnote-ref-99)
99. Al Jezeera News: Health [Fears for future as South Korea’s fertility rate drops again](https://www.aljazeera.com/news/2024/2/28/fears-for-future-as-south-koreas-fertility-rate-drops-again#:~:text=A%20report%20from%20South%20Korea's,employment%2C%20housing%2C%20and%20childcare.), 28 February 2024. [↑](#footnote-ref-100)
100. Vollset, S. E. et al., [Fertility, mortality, migration, and population scenarios for 195 countries and territories from 2017 to 2100: a forecasting analysis for the Global Burden of Disease Study](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)30677-2/fulltext?ref=themilsource.com), *The Lancet,* 2020, 396, 1285–1306. [↑](#footnote-ref-101)
101. World Health Organisation, [Infertility](https://www.who.int/news-room/fact-sheets/detail/infertility), 3 April 2023 [↑](#footnote-ref-102)
102. Ford et al. (2023) [Fertility knowledge in a cohort of Australia’s adolescents: a cross-sectional study of reproductive and sexual health education](https://www.tandfonline.com/doi/full/10.1080/14681811.2023.2255543) [↑](#footnote-ref-103)
103. World Health Organisation, [Infertility](https://www.who.int/news-room/fact-sheets/detail/infertility), 3 April 2023 [↑](#footnote-ref-104)
104. Gilbert E et al. (2020) *Infertility in Aboriginal and Torres Strait Islander people: A cause for concern?* *Aust. N. Z. J. Obstet. Gynaecol.*60:479–481 [↑](#footnote-ref-105)
105. Margiana R et al. (2022) [The effect of toxic air pollutants on fertility men and women, fetus and birth rate](https://www.degruyter.com/document/doi/10.1515/reveh-2022-0032/html) *Reviews on Environmental Health,* 38, 3, 565-576 [↑](#footnote-ref-106)
106. Interdonato L et al. (2023) [Endocrine Disruptor Compounds in Environment: Focus on Women’s Reproductive Health and Endometriosis](https://www.mdpi.com/1422-0067/24/6/5682) *Int. J. Mol. Sci.* 24, 6, 5682 [↑](#footnote-ref-107)
107. Gray E et al (2022-23) [Impact of Family Policies on Fertility Rates](https://population.gov.au/sites/population.gov.au/files/2022-03/ANU_Impacts-of-Policies-on-Fertility-Rates-Full-report.pdf), ANU, p 5 [↑](#footnote-ref-108)
108. Op. cit. p 6 [↑](#footnote-ref-109)
109. Ibid. [↑](#footnote-ref-110)
110. Ibid. [↑](#footnote-ref-111)
111. 95% Confidence Interval [↑](#footnote-ref-112)
112. The Global Burden of Diseases Injuries and Risk Factors Study (GBD ) 2021 (2024) [Global fertility in 204 countries and territories, 1950–2021, with forecasts to 2100: a comprehensive demographic analysis for the Global Burden of Disease Study 2021](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(24)00550-6/fulltext?ref=dailybrief.net#%20) *The Lancet*, 20 March [↑](#footnote-ref-113)
113. Op.cit. Appendix 1, p 18 The pro-natal scenario parameters were drawn from previously observed increases in TFR that coincided with pro-natal policies and broader empirical evidence regarding effects of pro-natal policies in low-fertility contexts. [↑](#footnote-ref-114)
114. Ibid. [↑](#footnote-ref-115)
115. Ibid. [↑](#footnote-ref-116)
116. Bergsvik J (2021) [Can Policies Stall the Fertility Fall? A Systematic Review of the (Quasi-) Experimental Literature](https://onlinelibrary.wiley.com/doi/full/10.1111/padr.12431) *Population and development Review* 5 October [↑](#footnote-ref-117)
117. Ibid. [↑](#footnote-ref-118)
118. Fauser et al. (2024) Human Reproduction Update, 30,2, 153–173, p 156 [↑](#footnote-ref-119)
119. Lazzari E (2023) [Projecting the Contribution of Assisted Reproductive Technology to Completed Cohort Fertility](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9912242/) *Popul Res Policy Rev.* 42,1,6 [↑](#footnote-ref-120)
120. Bergsvik J (2021) [Can Policies Stall the Fertility Fall? A Systematic Review of the (Quasi-) Experimental Literature](https://onlinelibrary.wiley.com/doi/full/10.1111/padr.12431) *Population and development Review* 5 October [↑](#footnote-ref-121)
121. Mbutu et al. (2024) [Towards a nuanced view and response to global fertility trends](https://www.thelancet.com/action/showPdf?pii=S0140-6736%2824%2900490-2) *The Lancet,* Comment, 24 March [↑](#footnote-ref-122)
122. ACTCOSS (2023) [2023 ACT Cost of Living Report](https://actcoss.org.au/publication/2023-act-cost-of-living-report/) June 2023 [↑](#footnote-ref-123)