

Please note: Proof Alliance acknowledges that not every person who can become pregnant identifies as a woman. Although we try to use gender-neutral language as often as possible, much of the current research available currently refers only to “women” when discussing the ability to become pregnant. When citing this research, we refer to the language used in the study. In these cases, “woman” refers to someone who was assigned female at birth.

## Prevalence of prenatal alcohol exposure and FASD

All major medical organizations advise abstaining completely from alcohol during pregnancy – from conception through birth.<sup>1 2 3 4 5 6</sup>

Alcohol is a teratogen that crosses the placenta and can damage the central nervous system and other organs of the developing embryo/fetus.<sup>7</sup>

- No more than two hours after maternal ingestion, the blood alcohol level of the fetus is the same as or higher than the mother’s.<sup>8</sup>

In the United States, at least 1 in 9 (11.5%) pregnancies is exposed to alcohol.<sup>9</sup>

- This number is likely an underestimate. A different CDC study (2020) found that 19.6% of pregnant women in their first trimester had at least one drink in the past 30 days. 10.5% had engaged in binge drinking.<sup>10</sup>
  - While it is possible that conception had not occurred during each of the drinking episodes, this data suggests that the rates of alcohol-exposed pregnancies are likely higher than 1 in 9.
- In Minnesota, the rate is slightly higher than the national average: 12% of pregnancies are exposed to alcohol.<sup>11</sup>
  - This means that an estimated 8,200 babies are born with prenatal alcohol exposure each year in Minnesota.<sup>12</sup>

Fetal alcohol spectrum disorders (FASD) are more common than many people realize:

- Experts estimate as many as 1 in 20 children in the U.S. have an FASD.<sup>13</sup>
- Globally, more than 1,700 infants are born with an FASD each day.<sup>14</sup>

## Prenatal alcohol exposure is the leading preventable cause of birth defects in the United States.<sup>15</sup>

In the United States, FASD is more common than spina bifida, anencephaly, and trisomy 18.<sup>16</sup>

Prenatal alcohol exposure can cause a number of birth defects, including:

- Microcephaly, a condition in which the baby’s head and brain are significantly smaller than expected<sup>17 18</sup>
- Structural brain defects<sup>19 20</sup>
- Congenital heart diseases<sup>21</sup>
- Abnormal facial development in the lip, mid-face, and eyes<sup>22</sup>

- This facial dysmorphism only occurs when alcohol is consumed during the first trimester. It affects 17% of individuals on the fetal alcohol spectrum.<sup>23 24</sup>
- In the absence of facial dysmorphism, FASD is commonly underdiagnosed or misdiagnosed as autism spectrum disorder, attention deficit hyperactivity disorder (ADHD), and conduct disorder.<sup>25</sup>

## Effects of prenatal alcohol exposure are lifelong.<sup>26 27 28</sup>

FASD is a brain-based permanent disability that has wide ranging effects.<sup>29 30</sup>

- Prenatal alcohol exposure may result in cognitive deficits related to executive function, learning, attention, language, memory, and visual spatial reasoning.<sup>31 32</sup> These issues can last across the lifespan.<sup>33 34</sup>
- Prenatal alcohol exposure alters the trajectory of brain development over the lifetime.<sup>35</sup>

## Effects of prenatal alcohol exposure are irreversible.<sup>36</sup>

Prenatal alcohol exposure adversely affects brain development.<sup>37</sup>

- Prenatal alcohol exposure can alter the brain size, brain shape, white matter, brain maturation, and brain activation related to sensory processing and cognition.<sup>38 39</sup>
- Studies have demonstrated functional connectivity disruptions<sup>40</sup> and structural brain abnormalities,<sup>41</sup> such as abnormal development of the cerebellum and brainstem<sup>42</sup> and reductions in the temporal, frontal, and parietal lobes as well as the total brain, resulting from prenatal alcohol exposure.<sup>43</sup>

Although the effects of prenatal alcohol exposure on the brain are irreversible, appropriate accommodations and supports can assist people with an FASD to lead empowering, successful lives.<sup>44 45</sup>

## There is no known safe amount of alcohol use during pregnancy.

Scientists have been unable to identify a safe “threshold” for prenatal alcohol exposure.

Even drinking at low levels can affect fetal development.<sup>46 47 48 49 50</sup>

- Harmful effects from prenatal alcohol exposure have been well-documented by researchers for decades.<sup>51 52 53</sup>
- The risks posed to the fetus increase as maternal alcohol use rises.<sup>54</sup>
- Binge drinking has been found to be particularly harmful to fetal development.<sup>55 56</sup>

Overall, the scientific community continues to advise that the healthiest and safest choice is to abstain from alcohol during pregnancy.<sup>57 58</sup>

## Drinking during pregnancy

The latest data from the CDC suggests that 11.5% of pregnancies are exposed to alcohol, and nearly 1 in 25 are exposed to binge drinking.<sup>59</sup> The highest prevalence of reported alcohol use during pregnancy was among those who were ages 35 – 44 (14%), college graduates (12.7%), and not married (15%).

Many complex factors contribute to increased risk of prenatal alcohol exposure.<sup>60 61 62 63</sup>

- This includes (but is not limited to) alcohol use disorder, incorrect or misleading information about alcohol use during pregnancy, adverse early life experiences, unplanned pregnancy, living with a partner who consumes alcohol, and lack of social support.

While it is recommended that medical care personnel screen all women of childbearing age for risky drinking, many feel uncomfortable discussing alcohol with patients, inadequately trained to do so, or feel that not all patients need to be screened.<sup>64</sup>

- However, virtually all (97%) pregnant women consider verbal screening for alcohol use during prenatal care acceptable and indicated that they were willing to honestly confirm their use.<sup>65</sup>

One in 5 women in Minnesota report either not receiving any message about alcohol use from their doctor or being told they could drink lightly or in moderation during pregnancy.<sup>66</sup>

4% of female substance use disorder treatment admissions are pregnant.<sup>67</sup>

40% of pregnancies in Minnesota, and nearly half (45%) across the United States, are unplanned.<sup>68</sup>

- 70% of women in their childbearing years in the United States are at risk of having an unintended pregnancy.<sup>69</sup>
- Although most people quit drinking once they confirm their pregnancy, many continue to drink alcohol until confirmation and expose the embryo to alcohol within the first several weeks after conception.<sup>70</sup> Because of this, it is critical that health care providers discuss alcohol use during preconception care.<sup>71</sup>

## Financial costs of FASD

**Please note:** It is important to be thoughtful about the benefits/consequences of sharing information related to the financial costs of FASD. For example, in their article in *Critical Public Health*, social scientist A. Salmon argues: "Although they have instrumental value as tools for garnering political support for preventive initiatives, using economic costing arguments can also undermine social justice concerns, by suggesting that mothers who give birth to children with an FASD threaten the interests of State institutions in the form of 'extra lifetime costs' they pose to those (presumably limited) resources." Focusing on the cost of FASD can be problematic if it dehumanizes people with an FASD and showcases them as nothing more than a financial burden.

In addition to the typical costs of raising a child, costs for a child with an FASD are an additional \$22,810 per year. The cost per year for an adult with an FASD is \$24,308.<sup>72</sup>

- These costs include the economic impact of FASD on health care, special education, residential care, criminal justice system, productivity losses due to morbidity and premature mortality, productivity losses of caregivers of children with FASD, and intangible costs.

Children with a diagnosed FASD incur 9 times more health care costs than children without an FASD.<sup>73</sup>

## Costs to people with an FASD

There are a number of barriers to diagnosis, and FASD is often under- or misdiagnosed.<sup>74</sup>

- Barriers include: “frequent lack of clear physical findings in children affected by alcohol exposure, the historically confusing language and diagnostic terminology applied to alcohol-affected children, and the perceived stigma against addressing alcohol use by pregnant women.”<sup>76</sup>
- In addition, in a survey of American Academy of Pediatrics members, only 50% of respondents felt prepared to make a diagnosis within the fetal alcohol spectrum.
- Because of this, people with an FASD are frequently identified later in life when issues and needs are identified by different (non-medical) systems, such as education or criminal justice. Those who do not receive an early diagnosis are often not able to access early intervention services.
  - More so, there is no clear path to obtaining a diagnosis of FASD in adulthood. In many cases, clinics providing diagnosis will exclude adults due to a lack of professional expertise to work with that population.<sup>77</sup>

Early diagnosis is crucial for early intervention. Early intervention is important as it can decrease the risk of adverse life outcomes.<sup>78 79</sup>

- Without intervention individuals with an FASD risk developing secondary issues such as school disruptions, unemployment, homelessness & incarceration.<sup>80</sup>

Prenatal alcohol exposure has been linked with:

- Hearing or vision problems<sup>81 82</sup>
- Difficulties in school<sup>83</sup>
- Poor coordination<sup>84</sup>
- Sensitivity to light, touch, and/or sound<sup>85</sup>
- Hyperactive behavior<sup>86</sup>
- Difficulty paying attention<sup>87</sup>
- Memory issues<sup>88</sup>
- Poor social skills<sup>89</sup>
- Impulsivity<sup>90</sup>
- Poor reasoning and judgment skills<sup>91</sup>

Children with an FASD have higher rates of mental illnesses, intellectual disabilities, and learning disabilities.<sup>92 93</sup>

- 90% of individuals with an FASD have mental health concerns, with the most prevalent mental illnesses being depression and mood and anxiety disorders.<sup>94</sup>

- 50% also have ADHD (10 times the expected rate). This is the highest rate among all mental health disorders that have been studied in relation to FASD.<sup>95</sup>
- 23% also have an intellectual disability (23 times the expected rate).
- 20% also have a learning disability (twice the expected rate).
- 16% also have oppositional defiant disorder (5 times the expected rate).
- 14% also have depression (4 times the expected rate).
- 12% also have psychosis (25 times the expected rate).
- 9% also have bipolar disorder (3 times the expected rate).
- 6% also have post-traumatic stress disorder (1.5 times the expected rate).
- 5% also have obsessive-compulsive disorder (4 times the expected rate).
- 5% also have reactive attachment disorder (9 times the expected rate).

### People with an FASD are overrepresented in the child welfare system.<sup>96</sup>

- On average, a child with an FASD is 17 to 19 times more likely to be in the child welfare system than someone without an FASD.<sup>97</sup>
- In Minnesota, 41% of children with an FASD are in foster care, and an additional 28% have been placed in adoptive homes.<sup>98</sup>
  - These numbers are further exacerbated among children of color.<sup>99</sup> For example, child welfare agencies in Minnesota are 12 times more likely to place American Indian children in out-of-home placement than white children.<sup>100</sup> Nationally, a third of children in foster care are Black, although they make up only 15% of the child population.<sup>101</sup>
- Despite being overrepresented in these systems, most (86.5%) of children with an FASD in out-of-home placement have never been diagnosed or have been misdiagnosed.<sup>102</sup> Without a proper diagnosis, children are not accessing the crucial FASD-informed supports and services needed.

### People with an FASD are overrepresented in the criminal justice system.<sup>103</sup>

- As many as 60% of adolescents and adults with an FASD have contact with the criminal justice system, a rate 30 times higher than the general population.<sup>104</sup>

Dr. Ann Striessguth's 2004 study is still the largest study on secondary outcomes beyond the mental health implications of FASD. It is important to note that within the adult sample used in this study, 59% had a diagnosis of Fetal Alcohol Syndrome (FAS). She and her team found:

- 61% of adolescents experienced school disruptions (e.g., dropped out).<sup>105</sup>
- 60% of people with an FASD had a history of trouble with the law.<sup>106</sup>
- 50% of people with an FASD had a history of confinement in a jail, prison, residential treatment drug facility, or psychiatric hospital.<sup>107</sup>
- 50% of adolescents and adults with an FASD display inappropriate sexual behaviors.<sup>108</sup>
- 79% of adolescents and adults with an FASD experienced problems with employment.<sup>109</sup>

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