

**Appendix Table 1. Adverse childhood experiences measures on 5 states' Pregnancy Risk Assessment Monitoring System surveys, 2016-2018.**

	<b>State</b>				
	<b>North Dakota</b>	<b>South Dakota</b>	<b>Kansas</b>	<b>Michigan</b>	<b>Rhode Island</b>
<b>Year of Survey (Weighted Response Rate)</b>	2017 (70.2%) 2018 (59.9%)	2017 (66.9%) 2018 (64.3%)	2017 (62.9%) 2018 (60.8%)	2016 (54.7%) 2017 (56.1%) 2018 (57.7%)	2016 (59.5%) 2017 (58.6%) 2018 (57.6%)
<b>Adverse Childhood Experience Measures</b>					
<b>Time frame of exposure</b>	Before the age of <b>18</b> years		Before the age of <b>13</b> years		
<i>Abuse</i>					
Emotional abuse	Did a parent or other adult in the household swear at you, insult you, put you down, or humiliate you <b>OR</b> act in a way that made you afraid that you might be physically hurt? (Yes/No) <sup>b</sup>	Did a parent or other adult in the household swear at you, insult you, put you down, or humiliate you <b>OR</b> act in a way that made you afraid that you might be physically hurt? (Yes/No) <sup>b</sup>			

Physical abuse	Did a parent or other adult in the household push, grab, slap, or throw something at you <b>OR</b> ever hit you so hard that you had marks or were injured? (Yes/No) <sup>b</sup>	Did a parent or other adult in the household push, grab, slap, or throw something at you <b>OR</b> ever hit you so hard that you had marks or were injured? (Yes/No) <sup>b</sup>			
Sexual abuse	Did an adult or person at least 5 years older than you ever touch or fondle you or have you touch their body in a sexual way <b>OR</b> attempt or actually have oral, anal, or vaginal intercourse with you? (Yes/No) <sup>c</sup>	Did an adult or person at least 5 years older than you ever touch or fondle you or have you touch their body in a sexual way <b>OR</b> attempt or actually have oral, anal, or vaginal intercourse with you? (Yes/No) <sup>c</sup>			
<i>Neglect</i>					
Physical neglect	Did you feel that you didn't have enough to eat, had to wear dirty clothes, and had no one to protect you <b>OR</b> your parents were too drunk or high to take care of you or take you to the	Did you feel that you didn't have enough to eat, had to wear dirty clothes, and had no one to protect you <b>OR</b> your parents were too drunk or high to take care of you or take you to the			

	doctor if you needed it? (Yes/No) <sup>b</sup>	doctor if you needed it? (Yes/No) <sup>b</sup>			
Emotional neglect <sup>d</sup>	Did you feel that no one in your family loved you or thought you were important or special OR your family didn't look out for each other, feel close to each other, or support each other? (Yes/No) <sup>b</sup>	Did you feel that no one in your family loved you or thought you were important or special OR your family didn't look out for each other, feel close to each other, or support each other? (Yes/No) <sup>b</sup>	Most of the time, I had an adult who believed in me and who I could count on to help me. (Yes/No) <sup>e</sup>	Most of the time, I had an adult who believed in me and who I could count on to help me. (Yes/No) <sup>e</sup>	Most of the time, I had an adult who believed in me and who I could count on to help me. (Yes/No) <sup>e</sup>
<i>Household challenges</i>					
Exposure to intimate partner violence	Was your mother or stepmother pushed, grabbed, slapped, or had something thrown at her OR sometimes, often or very often kicked, bitten, hit with a fist, or hit with something hard OR ever repeatedly hit at least a few minutes or threatened with a gun or knife? (Yes/No) <sup>c</sup>	Was your mother or stepmother pushed, grabbed, slapped, or had something thrown at her OR sometimes, often or very often kicked, bitten, hit with a fist, or hit with something hard OR ever repeatedly hit at least a few minutes or threatened with a gun or knife? (Yes/No) <sup>c</sup>			

Exposure to substance abuse	Did you live with anyone who was a problem drinker or alcoholic or who used street drugs? (Yes/No) <sup>c</sup>	Did you live with anyone who was a problem drinker or alcoholic or who used street drugs? (Yes/No) <sup>c</sup>	A parent or guardian I lived with had a serious drinking or drug problem. (Yes/No) <sup>c</sup>	A parent or guardian I lived with had a serious drinking or drug problem. (Yes/No) <sup>c</sup>	A parent or guardian I lived with had a serious drinking or drug problem. (Yes/No) <sup>c</sup>
Exposure to mental illness	Was a household member depressed or mentally ill, or did a household member attempt suicide? (Yes/No) <sup>c</sup>	Was a household member depressed or mentally ill, or did a household member attempt suicide? (Yes/No) <sup>c</sup>			

<p>Parental separation or divorce</p>	<p>Were your parents <i>ever</i> separated or divorced? (Yes/No)<sup>c</sup></p>	<p>Were your parents <i>ever</i> separated or divorced? (Yes/No)<sup>c</sup></p>	<p>A parent or guardian I lived with got divorced or separated. (Yes/No)<sup>e</sup></p>	<p>A parent or guardian I lived with got divorced or separated. (Yes/No)<sup>e</sup></p>	<p>A parent or guardian I lived with got divorced or separated. (Yes/No)<sup>e</sup></p>
<p>Incarcerated household member</p>	<p>Did a household member go to prison? (Yes/No)<sup>c</sup></p>	<p>Did a household member go to prison? (Yes/No)<sup>c</sup></p>	<p>A parent or guardian got in trouble with the law or went to jail. (Yes/No)<sup>e</sup></p>	<p>A parent or guardian got in trouble with the law or went to jail. (Yes/No)<sup>e</sup></p>	<p>A parent or guardian got in trouble with the law or went to jail. (Yes/No)<sup>e</sup></p>

Food insecurity			Someone in my family or I went hungry because we could not afford enough food. (Yes/No) <sup>e</sup>	Someone in my family or I went hungry because we could not afford enough food. (Yes/No) <sup>e</sup>	Someone in my family or I went hungry because we could not afford enough food. (Yes/No) <sup>e</sup>
Housing instability			We had to move because of problems paying the rent or mortgage. (Yes/No) <sup>e</sup>	We had to move because of problems paying the rent or mortgage. (Yes/No) <sup>e</sup>	We had to move because of problems paying the rent or mortgage. (Yes/No) <sup>e</sup>

Lived in foster care			I was in foster care (removed from my home by the court or child welfare agency). (Yes/No) <sup>e</sup>	I was in foster care (removed from my home by the court or child welfare agency). (Yes/No) <sup>e</sup>	I was in foster care (removed from my home by the court or child welfare agency). (Yes/No) <sup>e</sup>
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<sup>a</sup> Grey boxes indicate that the question was not asked on that state's Pregnancy Risk Assessment Monitoring System (PRAMS) survey.

<sup>b</sup> Lead-in: While you were growing up, during your *first 18 years of life*, did any of the following things happen *often* or *very often*?

<sup>c</sup> Lead-in: While you were growing up, during the *first 18 years of life*:

<sup>d</sup> Emotional neglect questions differed between states. North Dakota and South Dakota asked, "Did you feel that no one in your family loved you or thought you were important or special OR your family didn't look out for each other, feel close to each other, or support each other?" Kansas, Michigan, and Rhode Island asked respondents if the following experience occurred before the age of 13 years, "Most of the time, I had an adult who believed in me and who I could count on to help me." This was reverse coded to calculate emotional neglect.

<sup>e</sup> Lead-in: Some of these things might happen to people during childhood. Childhood experiences may be important. Please tell us if any of these things ever happened to you from the time you were born through age 13.

**Appendix Figure 1.** Directed acyclic graph of variables operative in associations between adverse childhood experiences and pregnancy- and infant health-related indicators.

