

# **Postpartum Care of Women with Gestational Diabetes: Results of a Survey of West Virginia Women, Infants Children Program Participants**

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# **Postpartum Care of Women with Gestational Diabetes: Results of a Survey of West Virginia Women, Infants Children Program Participants**

## **Summary of Key Findings:**

Survey results from WIC participants represent approximately 22% of births in West Virginia (n=2164). All regions were represented. Of the survey respondents, 66.4% had a medical home while 3.3% "used to." The majority of respondents were tested for gestational diabetes (85.8%). More women were diagnosed with GDM (9.4%) compared to 7.4% in 2006. However, only about half (54.8%) of their health care providers told them they would need to get tested for diabetes postpartum. The majority completed their postpartum visit (89.0%); however, the most common reason for not completing it was issues with insurance/Medicaid coverage, specifically Medicaid/insurance expiration. The rate of completion of the postpartum testing for type 2 diabetes among patients who had gestational diabetes was 43.9%. The self-reported incidence of type 2 diabetes was 14.4%. The rate of health care providers recommending exercise and healthy eating was 47.8% while less told their patients about their chances of getting diabetes in the future, 37.6%. These survey findings reveal that while the majority of survey respondents were tested for GDM, and there was a relatively high rate of completion of postpartum follow-up visit, there is room for improvement with respect to postpartum testing for GDM and education to patients about the importance of postpartum testing for type 2 diabetes, with missed opportunities for this provider patient dialogue both during pregnancy and during the postpartum visit.

## **Introduction**

When women are pregnant, the body needs more insulin to keep the blood sugar at the right level. Women's bodies make more insulin during pregnancy but when the extra insulin is not enough to keep blood sugar normal, women get high blood sugar. This is called gestational diabetes (GDM). While blood sugar usually returns to normal after delivery, sometimes it does not or it becomes high again at a later time. When this occurs, the woman then has type 2 diabetes. Women who develop gestational diabetes have a seven-fold increased risk of developing type 2 diabetes (Bellamy, 2009). Moreover, 5% of women with a history of GDM will develop type 2 diabetes within six months of delivery and 60% within 10 years (AHRQ, 2009)

From 2000-2009 the incidence of GDM in West Virginia has ranged from 4% to nearly 7% (Hospital Discharge Report). Among the West Virginia's Women, Infants and Children (WIC) participants, the rate of GDM was higher, at 7.4% in 2006 (West Virginia Diabetes Control Program and the West Virginia Health Statistics Center, 2007). With around 66% of pregnant women in West Virginia receiving support from the WIC program, information about GDM and this group of women may be useful to drive practice change. Thus, the WV Diabetes Prevention and Control Program of West Virginia's Department of Health and Human Resources in collaboration with Health Services and Outcomes Research, of CAMC's Health Education and Research Institute developed a survey about GDM for WIC participants. The goal of this survey was to learn more about the health care that women with GDM receive (e.g., testing for and risk reduction counseling of type 2 diabetes). Before survey administration, WIC regional directors and staff provided feedback regarding survey content, format and ease of administration. The survey was piloted in two

West Virginia counties in April of 2011 and then launched on May 23, 2011 to all 57 WIC sites for six months of data collection.

## Methods

The survey consists of 10 questions, and is anonymous as no personal identifiers are on the survey. There are 57 WIC sites in West Virginia. Each site was mailed surveys to provide to their participants at their next WIC visit after they delivered their baby. A total of 5,752 surveys were mailed to the sites in total, as this was the estimated number of women expected at the sites. Survey administration took part over a 6 month time period from May 23 through November 23, 2011. Surveys were completed by the WIC participants themselves and then left at the WIC office. They were then returned to the Center for Health Services and Outcomes Research and CAMC Health Education and Research Institute for scanning, analysis and interpretation.

## Results

We received a total of 2164 surveys from 51 of the 57 sites, with a 96% completion rate. Six of the sites had no respondents including one site, which did not receive the surveys to administer. With approximately 10,000 total births in West Virginia in a six month time period, these survey results represent about 22% of these births.

While there are 55 counties in West Virginia, there are 57 WIC sites and 8 regions. Below is a list of these regions and the number of surveys returned from each region.

Region	Number	Percent
TSN (southern)	540	25.0%
Central WV (central eastern)	100	4.6%
Monongalia County (north east)	225	10.4%
Randolph-Elkin (eastern)	98	4.5%
Shenandoah Valley (eastern most)	284	13.1%
Wheeling-Ohio (northern)	202	9.3%
Mid Ohio (north western)	423	19.5%
Valley Health (state capital and western)	292	13.5%
<b>Total</b>	<b>2164</b>	<b>100%</b>

The following responses were reported by the women:

### Medical Home:

“Do you have a primary health care provider?”

Responses:	Number	Percent of Respondents
Yes	1396	66.4%
No	621	29.5%
Used to	72	3.4%
Don't know	14	0.7%
<b>Total</b>	<b>2103</b>	

**Note: Opportunity for improvement.**

**Postpartum Visit Completion:**

“Did you complete your postpartum visit (a visit with your health care provider around 6 weeks after you gave birth)?”

<b>Responses:</b>	<b>Number</b>	<b>Percent of Respondents</b>
Yes	1866	89.0%
No	208	9.9%
Don't know	22	1.0%
<b>Total</b>	<b>2096</b>	

“Why Not?”

<b>Reason</b>	<b>Number</b>
Issues with Insurance (Medicaid expired, insurance cancelled, no insurance etc.)	30
No transportation or too far	28
Scheduled/not time yet	25
Too busy	17
Didn't go	11
No appointment scheduled	9
Forgot	11
Illness/death or other issue in family	7
Didn't think needed it	6
Moved	7
Didn't want to go/didn't care	4
Bad weather	3
Saw PCP instead	2
No money	2
Didn't like care received before	2
Hospitalized	2
Pregnant again	3
Incarcerated	1
Doctor left	1
Too tired to drive	1
Could not find provider	1
Not applicable--foster parent	1
<b>Total</b>	<b>174</b>

Note: The women's honesty is commendable.

### GDM Testing and Diagnosis:

“During your most recent pregnancy, were you tested for gestational diabetes (diabetes or high blood sugar that started during this pregnancy)?”

Responses:	Number	Percent of Respondents
Yes	1782	85.8%
No	225	10.8%
No, I already have DM	23	1.1%
Did not complete testing	7	0.3%
Don't know	39	1.9%
<b>Total</b>	<b>2076</b>	

**Note: Further opportunities for improvement.**

“Were you told you had gestational diabetes (high blood sugar)?”

Responses:	Number	Percent of Respondents
Yes	178	9.4%
No	1695	89.4%
Don't know	22	1.2%
<b>Total</b>	<b>1895</b>	

**Note: This is higher than reported in 2006.**

### Type 2 Diabetes Prevention and Testing (n=178)

“Did your healthcare providers tell you that during your postpartum visit, you would need to get re-tested for diabetes?”

Responses:	Number	Percent of Respondents
Yes	96	54.8%
No	72	41.1%
Don't know	7	4.0%
<b>Total</b>	<b>175</b>	

Comment: There is lots of work to be done!

“During the postpartum visit with your healthcare provider, did you have a blood test for diabetes?”

Responses:	Number	Percent of Respondents
Yes	76	43.9%
No	87	50.3%
Don't know	10	5.8%
<b>Total</b>	<b>173</b>	

What was the result of your blood test?"

Responses:	Number	Percent of Respondents
High	18	16.8%
Normal	66	61.7%
Don't know	23	21.5%
<b>Total</b>	<b>107</b>	

"Were you told you still have diabetes?"

Responses:	Number	Percent of Respondents
Yes	15	14.4%
No	77	74.0%
Don't know	12	11.5%
<b>Total</b>	<b>104</b>	

Note: A disconnect exists between being told the result of a test and being told they still have diabetes.

"Did your healthcare provider offer any recommendations or suggestions for exercising/healthy eating (n=178)?"

Responses:	Number	Percent
Yes	85	47.8%

"Did your healthcare provider tell you anything about your chances of getting diabetes in the future (n=178)?"

Responses:	Number	Percent
Yes	67	37.6%

**Need a focus on counseling women about prevention and future affect on themselves and the next child.**

Fewer women with GDM completed their postpartum visits (83.7%) than women without GDM (86.5%), although not significant ( $p=0.308$ ). However, when missing responses and "Don't Know" responses were excluded, significantly less women (85.6%) with GDM completed their postpartum visits when compared to those without GDM (90.4%),  $p=0.05$ .

## Survey Responses by Region

### Medical Home:

“Do you have a primary health care provider?”

n=2103

Response: “Yes”

Region	Number	Percent of Respondents
TSN (southern)	320	61.0%
Central WV (central eastern)	77	78.6%
Monongalia County (north east)	143	64.4%
Randolph-Elkin (eastern)	72	73.5%
Shenandoah Valley (eastern most)	206	77.2%
Wheeling-Ohio (northern)	141	74.2%
Mid Ohio (north western)	259	62.6%
Valley Health (state capital and western)	178	61.6%
<b>Total</b>	<b>1396</b>	<b>66.4%</b>

### Postpartum Visit Completion:

“Did you complete your postpartum visit (a visit with your health care provider around 6 weeks after you gave birth)?”

n=2096

Response: “Yes”

Region	Number	Percent of Respondents
TSN (southern)	455	87.0%
Central WV (central eastern)	92	94.8%
Monongalia County (north east)	184	82.5%
Randolph-Elkin (eastern)	85	87.6%
Shenandoah Valley (eastern most)	243	91.4%
Wheeling-Ohio (northern)	171	91.0%
Mid Ohio (north western)	379	91.3%
Valley Health (state capital and western)	257	89.5%
<b>Total</b>	<b>1866</b>	<b>80.4%</b>

### GDM Testing and Diagnosis:

“During your most recent pregnancy, were you tested for gestational diabetes (diabetes or high blood sugar that started during this pregnancy)?”

n=2076

Response: “Yes”

Region	Number	Percent of Respondents
TSN (southern)	431	85.7%
Central WV (central eastern)	82	83.7%
Monongalia County (north east)	191	85.7%
Randolph-Elkin (eastern)	87	89.7%
Shenandoah Valley (eastern most)	235	88.0%
Wheeling-Ohio (northern)	155	81.2%
Mid Ohio (north western)	349	84.5%
Valley Health (state capital and western)	252	88.7%
<b>Total</b>	<b>1782</b>	<b>85.8%</b>

We need a statewide initiative around GDM for all providers!

“Were you told you had gestational diabetes (high blood sugar)?”

n=1895

Response: “Yes”

Region	Number	Percent of Respondents
TSN (southern)	38	8.2%
Central WV (central eastern)	11	12.8%
Monongalia County (north east)	28	13.9%
Randolph-Elkin (eastern)	6	6.5%
Shenandoah Valley (eastern most)	22	9.1%
Wheeling-Ohio (northern)	14	8.3%
Mid Ohio (north western)	34	9.1%
Valley Health (state capital and western)	25	9.4%
<b>Total</b>	<b>178</b>	<b>9.4%</b>

## Type 2 Diabetes Prevention and Testing (n=178)

“Did your healthcare providers tell you that during your postpartum visit, you would need to get re-tested for diabetes?”

Response: “Yes”

Region	Number	Percent of Respondents
TSN (southern)	18	48.6%
Central WV (central eastern)	8	72.7%
Monongalia County (north east)	12	42.9%
Randolph-Elkin (eastern)	4	66.7%
Shenandoah Valley (eastern most)	14	63.6%
Wheeling-Ohio (northern)	8	61.5%
Mid Ohio (north western)	14	42.4%
Valley Health (state capital and western)	18	72.0%
<b>Total</b>	<b>96</b>	<b>54.9%</b>

“During the postpartum visit with your healthcare provider, did you have a blood test for diabetes?”

Response: “Yes”

Region	Number	Percent of Respondents
TSN (southern)	19	51.4%
Central WV (central eastern)	7	63.6%
Monongalia County (north east)	12	42.9%
Randolph-Elkin (eastern)	2	33.3%
Shenandoah Valley (eastern most)	7	33.3%
Wheeling-Ohio (northern)	5	38.5%
Mid Ohio (north western)	16	74.1%
Valley Health (state capital and western)	8	34.8%
<b>Total</b>	<b>76</b>	<b>43.9%</b>

“What was the result of your blood test?”

Response: “High”

Region	Number	Percent of Respondents
TSN (southern)	4	14.8%
Central WV (central eastern)	1	12.5%
Monongalia County (north east)	5	31.3%
Randolph-Elkin (eastern)	1	20.0%
Shenandoah Valley (eastern most)	0	0.0%
Wheeling-Ohio (northern)	2	22.2%
Mid Ohio (north western)	3	15.0%
Valley Health (state capital and western)	2	18.2%
<b>Total</b>	<b>18</b>	<b>16.8%</b>

“Were you told you still have diabetes?”

Response: “Yes”

Region	Number	Percent of Respondents
TSN (southern)	3	11.5%
Central WV (central eastern)	3	37.5%
Monongalia County (north east)	2	12.5%
Randolph-Elkin (eastern)	0	0.0%
Shenandoah Valley (eastern most)	1	10.0%
Wheeling-Ohio (northern)	1	12.5%
Mid Ohio (north western)	3	15.0%
Valley Health (state capital and western)	2	18.2%
<b>Total</b>	<b>15</b>	<b>14.4%</b>

“Did your healthcare provider offer any recommendations or suggestions for exercising/healthy eating (n=178)?”

Region	Number	Percent of Respondents
TSN (southern)	21	55.3%
Central WV (central eastern)	6	54.5%
Monongalia County (north east)	16	57.1%
Randolph-Elkin (eastern)	4	66.7%
Shenandoah Valley (eastern most)	6	27.3%
Wheeling-Ohio (northern)	8	57.1%
Mid Ohio (north western)	16	47.1%
Valley Health (state capital and western)	8	32.0%
<b>Total</b>	<b>85</b>	<b>48.3%</b>

“Did your healthcare provider tell you anything about your chances of getting diabetes in the future (n=174)?”

Region	Number	Percent of Respondents
TSN (southern)	11	16.4%
Central WV (central eastern)	5	7.5%
Monongalia County (north east)	8	11.9%
Randolph-Elkin (eastern)	2	3.0%
Shenandoah Valley (eastern most)	12	18.0%
Wheeling-Ohio (northern)	5	7.5%
Mid Ohio (north western)	14	28.8%
Valley Health (state capital and western)	10	15.0%
<b>Total</b>	<b>67</b>	<b>38.5%</b>

## Survey Responses by Medical Home Status:

### Postpartum Visit Completion:

“Did you complete your postpartum visit (a visit with your health care provider around 6 weeks after you gave birth)?” (n=2096)

Response: “Yes”

Medical Home:	Number	Percent of Respondents
No	623	86.0%
Yes	1243	90.6%
<b>Total</b>	<b>1866</b>	<b>89.0%</b>

### GDM Testing and Diagnosis:

“During your most recent pregnancy, were you tested for gestational diabetes (diabetes or high blood sugar that started during this pregnancy)?” (n=2076)

Response: “Yes”

Medical Home:	Number	Percent of Respondents
No	617	86.3%
Yes	1165	86.0%
<b>Total</b>	<b>1782</b>	<b>85.8%</b>

“Were you told you had gestational diabetes (high blood sugar)?” (n=1885)

Response: “Yes”

Medical Home:	Number	Percent of Respondents
No	53	7.9%
Yes	123	10.2%
<b>Total</b>	<b>178</b>	<b>9.4%</b>

### Type 2 Diabetes Prevention and Testing (n=178)

“Did your healthcare providers tell you that during your postpartum visit, you would need to get re-tested for diabetes?” (n=175)

Medical Home:	Number	Percent of Respondents
No	26	50.0%
Yes	70	58.9%
<b>Total</b>	<b>96</b>	<b>54.9%</b>

“During the postpartum visit with your healthcare provider, did you have a blood test for diabetes?” (n=169)

<b>Medical Home:</b>	<b>Number</b>	<b>Percent of Respondents</b>
No	18	35.3%
Yes	58	47.5%
<b>Total</b>	<b>76</b>	<b>43.9</b>

“What was the result of your blood test?” (n=107)

Response: “High”

<b>Medical Home:</b>	<b>Number</b>	<b>Percent of Respondents</b>
No	4	14.8%
Yes	14	17.5%
<b>Total</b>	<b>18</b>	<b>16.8%</b>

“Were you told you still have diabetes?” (n=104)

Response: “Yes”

<b>Medical Home:</b>	<b>Number</b>	<b>Percent of Respondents</b>
No	4	3.8%
Yes	11	10.6%
<b>Total</b>	<b>15</b>	<b>14.4%</b>

“Did your healthcare provider offer any recommendations or suggestions for exercising/healthy eating?” (n=174)

<b>Medical Home:</b>	<b>Number</b>	<b>Percent of Respondents</b>
No	18	10.3%
Yes	67	9.5%
<b>Total</b>	<b>85</b>	<b>48.9%</b>

“Did your healthcare provider tell you anything about your chances of getting diabetes in the future?” (n=174)

<b>Medical Home:</b>	<b>Number</b>	<b>Percent of Respondents</b>
No	15	8.6%
Yes	52	30.0%
<b>Total</b>	<b>67</b>	<b>38.5%</b>

## **Summary of the Results:**

### **Medical Home:**

- 33.6% of the women reported that they did not have a medical home.
- Access to primary care services can be improved in every region of the state.

### **Post-partum Visit Completion:**

- 10.9% of the women had not completed a post-partum visit at the time they filled out the survey.
- 174 out of 230 women shared a reason why they had not completed a post-partum visit. The top five reasons are:
  - Issues with Insurance
  - No transportation or too far
  - Visit scheduled but not yet time for the visit
  - Too busy
  - No appointment scheduled and Forgot
- Using the Regional Data, post-partum visit completion is not associated with whether a woman has a primary health-care provider.

### **GDM Testing and Diagnosis:**

- 85.8% of the women reported being tested.
  - No difference was seen by region.
- 9.4% of the women were told they had GDM. The range was 8.2% to 13.9%.
- Women with a medical home reported a higher percentage of GDM (10.2%).

### **Type 2 Diabetes Presentation and Testing:**

- Only 54.8% of the women with GDM were told they would need to be re-tested for diabetes.
- Further, only 43.9% of the women with GDM had a blood test during their post-partum visit.
- There was considerable variation in testing among the WIC Regions – 37.3% to 58%.
- 16.8% of the women tested had HIGH results.
  - Only 14.4% of those were told they had diabetes.
- There is variation in practice among the regions.

### **Overall Observations Based on the Data:**

- Access to primary care (medical home) services can be improved.
- Awareness on the part of physicians about the affect of GDM on women is apparent across the state.
- Women reported an occurrence of 9.4% for GDM. This is different than documented in the Hospital Discharge Data. There continues to be a need for better documentation.
- The effect of GDM on women is not being shared with the women.
- Efforts to reduce the onset of Type 2 following GDM are limited.
- Many gaps in care exist with multiple opportunities to improve access, the care delivery system and enhance women-centered care.

## References

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