



# Gestational Diabetes Management: A Right Care Protocol for Timely Patient-Centered Care for Middle Eastern Women

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## Background

- Gestational Diabetes Mellitus (GDM) occurs in 4-7% of all pregnancies in the United States however in the Middle Eastern population, GDM occurs at in 7.9-24.9% of all pregnancies (Agarwal et al., 2010).
- Exposes a fetus to periods of hyperglycemia and hyperinsulinemia and is associated with adverse perinatal outcomes such as: preterm labor, preeclampsia, macrosomia, shoulder dystocia, stillbirth, NICU admission, long-term obesity and Type II Diabetes of child, and long-term heart disease and Type II Diabetes of mother.
- An estimated annual burden to the healthcare system in the amount \$1.8 billion. (Lenoir-Wijnkoop et al., 2015).

### LOCAL PROBLEM

98% Middle Eastern  
42% diagnosed with GDM

- 28 days - Average length of time from +GTT to adequate management tool access
- 45% of patients don't respond to MFM attempts to contact, 30% of those are phone numbers are disconnected
- 40% compliance with weekly BGSM log submission
- Disjointed team management strategy
- Lack of readily accessible, culturally appropriate information
- Lack of patient engagement in care
- Inability to easily contact patients

## Aim

The aim of this quality improvement project was for 50% of Arabic-speaking women diagnosed with Gestational Diabetes Mellitus at the Henry Ford Health System ACCESS clinic to receive timely, patient-centered care after implementing a right care protocol over 8 weeks

## Planned Improvement

### Patient

Create a collaborative team communication process utilizing weekly huddles that ensures cohesiveness of multi-provider care.

### Team

Increase patient engagement in gestational diabetes management through the use of a culturally competent education program that employs multimodal learning strategies

### Monitoring

Decrease in time from positive glucose tolerance test to provider intervention in gestational diabetes management through the use of a standardized process

### Follow-up

Increase weekly blood glucose self-monitoring log submissions using a clinic-driven, telehealth initiative.

## Lessons Learned

- The most valuable tool you have in quality improvement is a motivated team.
- In a provider-driven process, it is important to evaluate the individual providers perception of workload impact as any perception of increased workload will decrease motivation in your team and thereby make success difficult.
- Techniques that can be used to decrease team member strain include sharing of data including successes and set-backs, highlighting individual team members contributions, and a clear conveyance of the process plan.
- Surveying patients for satisfaction and obtaining feedback on patient resources provides valuable insight in to changes that must be made to maximize patient engagement.

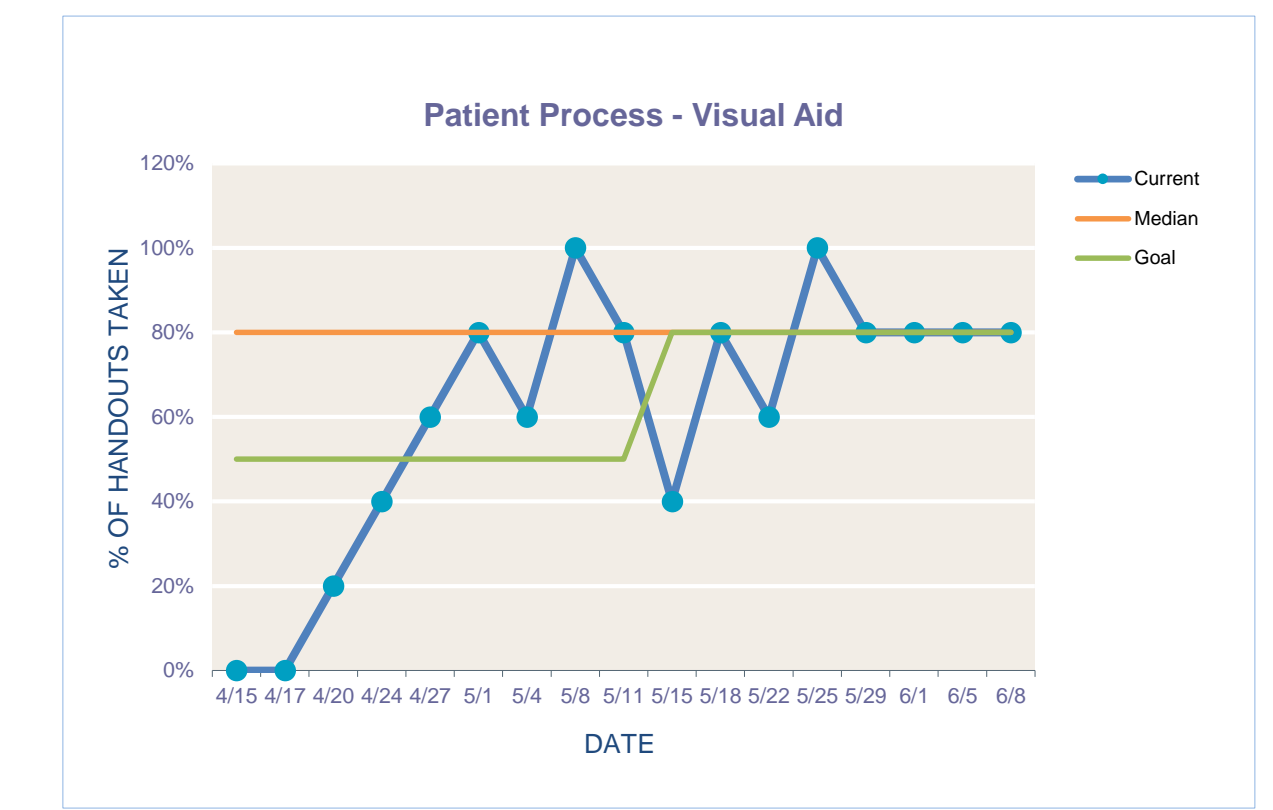
## Acknowledgements

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## Results

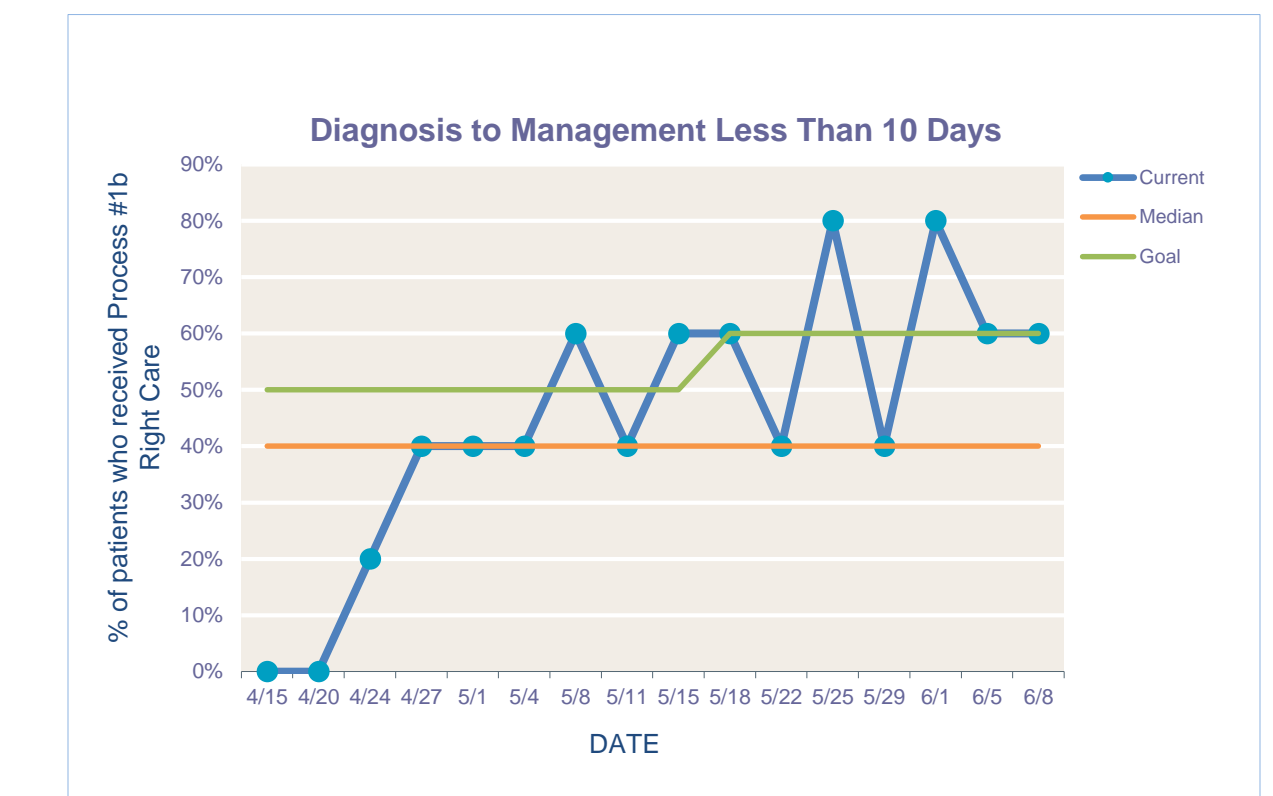
### Patient Process Measure

This graph represents the patient desire to be provided with culturally-competent educational material and the effects of different providers approaches to engagement. The addition of a new provider who was not engaged in the process and did not provide verbal cues to encourage patient engagement is noted to impact the process negatively.



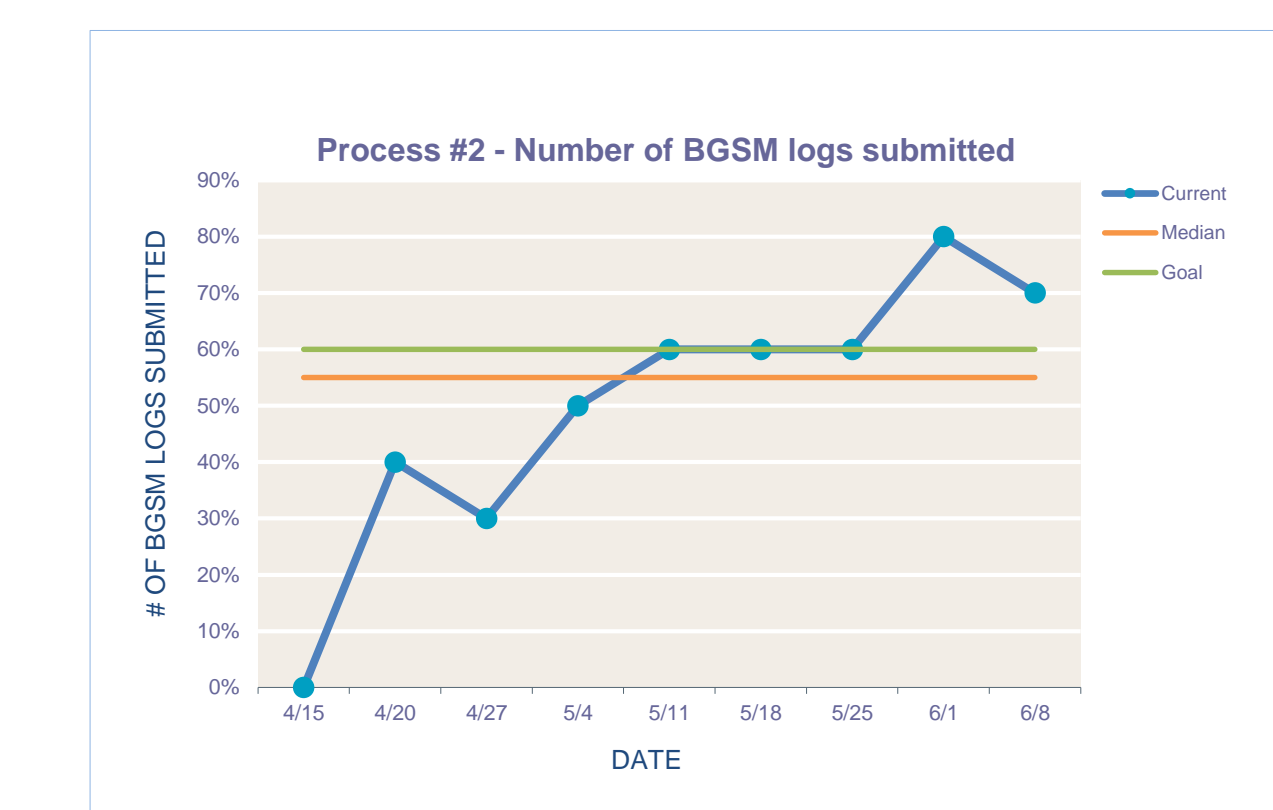
### Process Outcome Measure

This graph represents the effectiveness of a standardized plan to promptly address urgent lab results. Scheduling a 1-week lab follow-up appointment when notified of a positive glucose tolerance test ensured patients received appropriate care in a timely-manner.



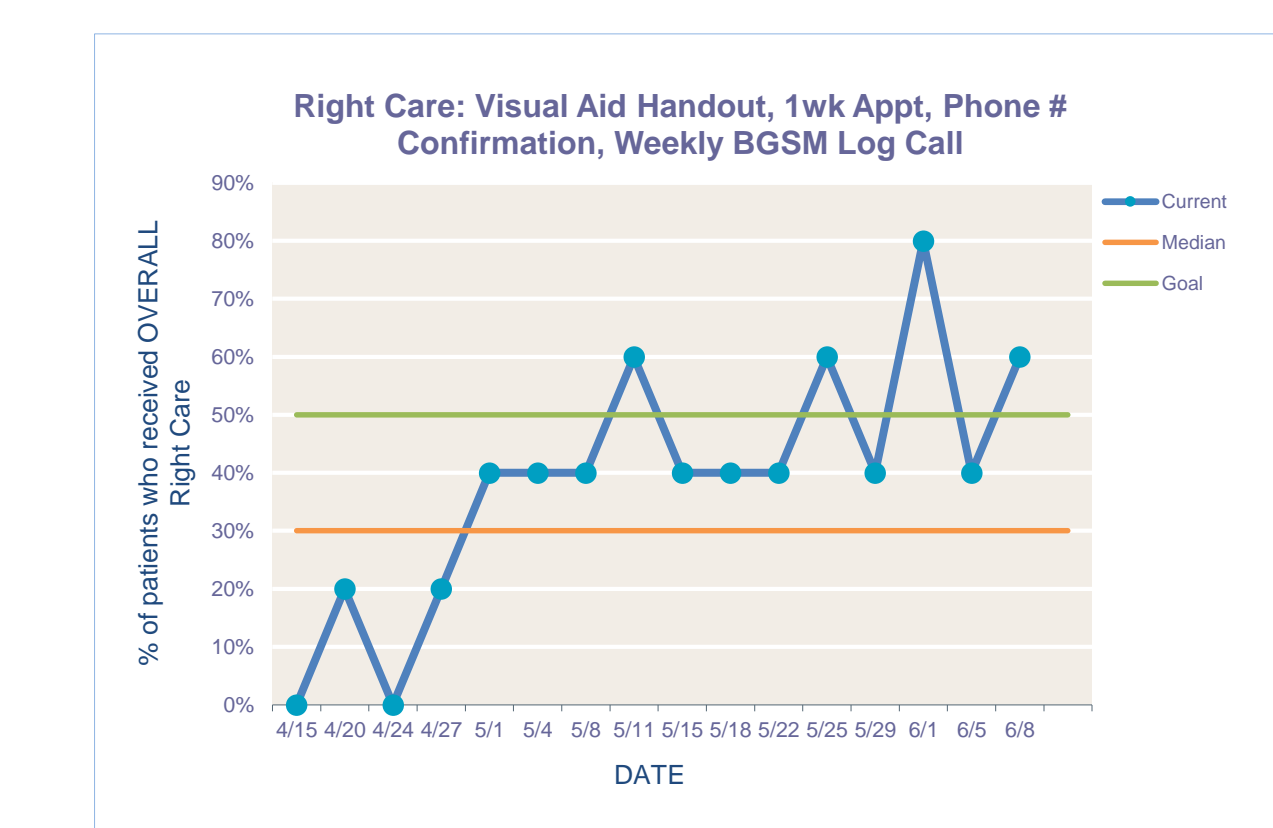
### Process Outcome Measure

This graph represents the positive impact a clinic-driven request for information can have on disease management. Through the use of phone calls to patients, rather than relying on patients to initiate submission, the compliance with BGSM log submission increased dramatically.



## RIGHT CARE

This graph represents the impact standardization and engagement has on management outcomes. Specifically, time from positive glucose tolerance test to implementation of a defined disease management strategy. For this graph, Right Care is defined as engagement with the culturally-appropriate visual aid, lab follow-up appointment within 1 week of diagnosis, and weekly submission of blood glucose self-monitoring logs



## Measures



TEST OF CHANGE	PROCESS MEASURE	OUTCOME MEASURE
<b>TEAM</b> PDSA#1 Virtual huddle PDSA#2 Electronic huddle PDSA#3 Team member highlight PDSA#4 MFM lunch & learn	<b>Huddle attendance:</b> 90% of team members will attend	<b>Team satisfaction:</b> 100% of team members will score all categories on modified SAFE Huddle Observation Tool as "agree" or "strongly agree"
<b>PATIENT</b> PDSA#1 Visual Aid PDSA#2 Additional signage PDSA#3 Work reallocation PDSA#4 Relocation	<b>Observation of board:</b> 50% of patients who observe board will take handout	<b>Patient engagement:</b> After viewing visual aid 50% of patients will score all categories on modified Patient Activation Measure (PAM) tool as "agree" or "strongly agree"
<b>FOLLOW-UP</b> PDSA#1 Process standardization PDSA#2 Posting algorithm PDSA#3 Work reallocation PDSA#4 Checkbox	<b>Appt scheduled:</b> 50% of patients who have labs drawn will be scheduled for a one week follow-up appointment  <b>Phone verification:</b> 50% of patients who have labs drawn will have two verified phone numbers in EMR	<b>Diagnosis to management:</b> Improve the average onset of GDM management from 17 days to 10 days or less for 50% of patients.
<b>TEAM</b> PDSA#1 Process standardization PDSA#2 Posting algorithm PDSA#3 Information sheet PDSA#4 EMR utilization	<b>Phone call:</b> 50% of patients who are diagnosed with GDM will receive weekly phone call to obtain BGSM logs	<b>Log submission:</b> Increase the rate of BGSM weekly log submission from 40% to 60%

**BALANCING MEASURE:** Based on Likert Scale scoring, team members will not perceive an increase in workload

## References

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- Lenoir-Wijnkoop, I., van der Beek, E. M., Garssen, J., Nuijten, M. C., & Uauy, R. D. (2015). Health economic modeling to assess short-term costs of maternal overweight, gestational diabetes, and related macrosomia - a pilot evaluation. *Frontiers in Pharmacology*, 6(103). doi:10.3389/fphar.2015.00103

## Conclusions

Data suggests that standardization of process, enhanced team communication, and patient engagement with care improves the overall outcome of Gestational Diabetes management in Middle Eastern women. At a local level, this process change made a significant impact on a patient's ability to be a participant in their care rather than a passenger.

- 71% success rate with the use of a virtual huddle, however changing the format from a virtual meeting to an electronic document made a significant impact in convenience when relaying information thereby improving the success rate to 85%.
- Using culturally relevant patient education visual aids, patient engagement in management tools resulted in 80% of patients being engaged in their care.
- Creating a standardized plan of care for patients diagnosed with gestational diabetes (lab follow-up, phone verification, weekly call for BGSM logs), resulted in a more closely managed disease process as evidenced by a decrease in diagnosis to management time from 28 days to 11 days and a BGSM log submission rate increase from 40% to 60%.

### REPLICATING THE GAINS OF CHANGE

This improvement initiative can be reproduced in any clinic setting. Implementation of huddles to engage employees, lab follow-up appointments, phone number verification, and a clinic initiated blood glucose self-monitoring log submission process are easily replicated. While the patient engagement component of this project relies heavily on education materials being provided in Arabic, the content is universal and can be easily translated in to any language.

### NEXT STEPS.....

#### For this clinic:

- Adopt changes as protocol
- Create written policy to integrate protocol in to practice,
- Continue to collect data, utilize run charts to identify trends and shifts, and make iterative changes
- Host DNP students to promote evidence-based changes.

#### For this health system:

- Implement at other sites within the system and test effectiveness
- Adopt system-side policy to ensure continuity of care

#### For your site:

- Conduct chart audit to determine appropriateness
- Adapt interventions to the cultural needs of your patient population
- Follow the PDSA process

