

# Utilizing Quality Improvement Methods to Address Low Birth Weight Births in Pierce County

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## Description of the problem

**Problem:** The Pierce County low birth weight rate (LBW) for singletons is worse than the WA State rate.<sup>1</sup> LBW is associated with developmental and growth problems.

**How identified:** Review of WA State and TPCHD health indicators by TPCHD Quality Improvement Council led to convening a LBW Priority Health Indicator workgroup.

## #1 Aim Statement

Increase by 20% the number of opened Maternity Support Services (MSS) referrals who received a Public Health Nurse (PHN) office or home visit within 20 working days from referral. (Baseline 60%)

## Theory for Improvement

IF we engage MSS eligible women early (1<sup>st</sup> trimester) in pregnancy for health promotion education and referral for behaviors and conditions associated with LBW, such as smoking, drug-use, poor nutrition and lack of medical and dental care THEN we can impact positive birth outcomes.

## QI Tools

*Work flow analysis* showed that there wasn't a single, consistent process for handling referrals across sites. Through *root cause analysis (fishbone)* we identified the competing responsibilities in addition to MSS that PHNs faced. *Trend charts* provided visual display for monitoring our intervention outcomes. A *Pareto chart* helped us identify and further define reasons some referred clients did not receive services (never opened).

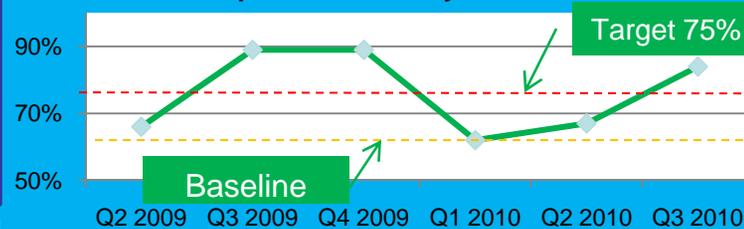
<sup>1</sup> Based on 2003-2005 data . For 2006-2007 the Pierce County LBW rate was similar to WA State

## PDSA Results & Discussion

Our project focused on internal processes for improvement.

1. Developed standardized referral process.
  2. Developed practice standard: PHNs to attempt 1<sup>st</sup> contact within 10 days of referral.
  3. Created new data collection fields (ex. due date, trimester care started).
  4. Revised disposition codes (reasons referrals closed or not opened).
- The **Aim Statement** measure has remained above baseline but did not meet the target for the last two quarters. Using the (S) Study phase for Q1 and Q2 2010 we theorized impact of furloughs, holidays, and increased leave times as causes. The average gestation for a first home visit has been getting earlier but is not yet in the first trimester. **Common cause or special cause variation?** We did not make any changes Q1 and Q2 2010 (A- Act) electing to continue to (S-study) data. With Q3 2010 above target we shared findings and considered factors for variations.

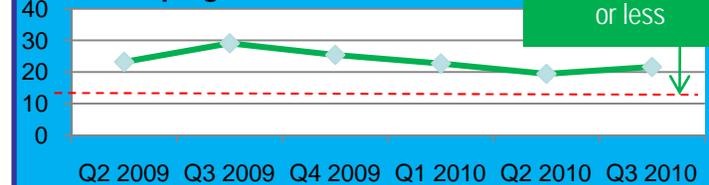
### Percent open within 20 days of referral



## Outcomes

- Data review now part of weekly supervisor meeting-work processes.
- Now capture number of referrals that received telephone consultation, but did not open for services (non-billable).
- After observing an increase in prenatal referrals we learned that one referral source was holding referrals then sending a "batch", delaying early referrals. Referent was educated and process now improved.
- A more than 250% increase in post-partum referrals over the project period. With further study we found that an increasing number not referred for prenatal MSS. We are continuing to understand the causes for this and improve on targeted outreach and education directly to selected MSS referral sources in Pierce Co. to encourage prenatal referrals.

### Weeks pregnant at first home visit



## Project refocused

In July 2009 the MSS program underwent major changes, including a 20% budget cut. Data analysis from DSHS at that time indicated that improved African American (AA) birth outcomes were associated with MSS enrollment. A new team convened and applied QI methods to the Black Infant Health (BIH) project. The BIH project recruits, trains and supports AA churches in efforts to enroll pregnant women in health services, including MSS. The percent of Pierce County MSS eligible AA women who receive prenatal MSS was below the WA State rate of 78.9%.

## #2 Aim Statement

Increase by 10% the number of MSS eligible AA women who receive prenatal MSS in Pierce County. (Baseline 70.4%).

## Performance measures

1. Number of women enrolled and tracked through BIH project.
  2. Recruit and support two additional BIH project referral churches/organization sites.
  3. Facilitate networking meetings with community partners working toward elimination of health disparities in AA births.
- 2010 targets for these measures have been met or approaching.

**Challenges: Impact of continued budget cuts on MSS.**