

BEGINNINGS AND BEYOND ENGAGEMENT (BABE)

BIRTH REGISTRATION PROJECT REPORT AND RECOMMENDATIONS

October 2017

Project name	Beginnings and Beyond Engagement
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Beginnings and Beyond Engagement Report

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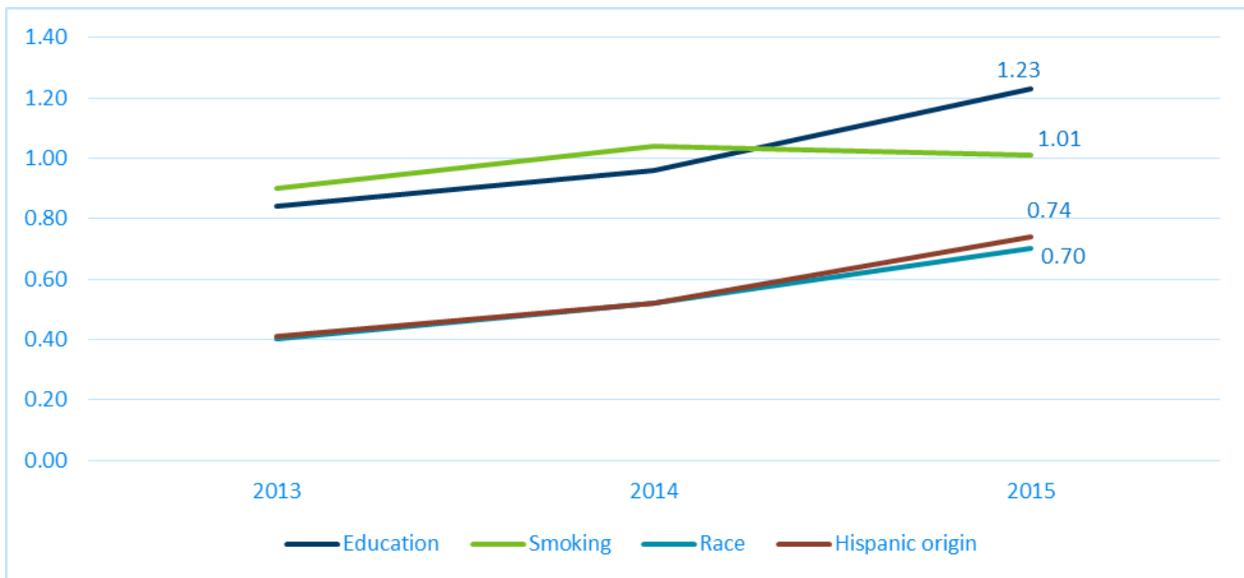
Project summary

Beginnings and Beyond Engagement (BABE) brought together a cross-section of communities in order to examine current processes, tools, and attitudes involved in providing, collecting, maintaining, and using vital records birth data.

An assignment given to programs by the Health Policy division director to conduct a community engagement project in 2016 served as the impetus for BABE. The Office of Vital Records (OVR) took this opportunity to explore an existing issue: since 2013, the percentage of birth records with “unknown” responses for some demographic data self-reported by mothers at the time of birth registration had been trending upward. The specific data items considered were:

- Mother’s education level
- Mother’s cigarette use before and during pregnancy
- Mother’s race
- Mother’s Hispanic origin

Percentage of birth records with unknown responses for selected data items



These items are included in the data set that the Centers for Disease Control, National Center for Health Statistics (NCHS), requires from OVR as part of its Vital Statistics Cooperative Program contract. They are part of the 2003 Revision of the U.S. Standard Certificate of Live Birth, the most recent revision published by NCHS. NCHS sets an allowable “tolerance” level of 1% for birth records filed annually that may contain unknown responses for these four items. With nearly 70,000 births in Minnesota, this amounts to 650-700 records for each item.

Beginning in 2014, the percentage of records with unknown responses for mother’s education and cigarette use (smoking) exceeded tolerance. While mother’s race and Hispanic origin were still under tolerance at the end of 2015, the upward trend suggested that these, too, would go over within the next two years unless OVR could discover and address the cause(s) for the trend.

Data on birth records are a critical part of our nation’s official vital statistics. Public health professionals use both the demographic and health data contained in vital records to identify and monitor health problems, risk factors and disease patterns, and to assess the impact of interventions. Furthermore, these four data items contribute to an understanding of health inequities within Minnesota. Mother’s cigarette use (a behavioral factor) and her education level (a socio-economic factor) are considered high risk factors and are reviewed by state and local public health programs to identify resources for, and intervention needs of, mothers and newborns.

In its 2015-2019 strategic plan, the Minnesota Department of Health (MDH) called advancing health equity the “central challenge facing state, local and tribal health departments in Minnesota and across the nation.” The department also adopted a new vision in November 2015:

The MDH vision is for health equity in Minnesota, where all communities are thriving and all people have what they need to be healthy.

So at the same time that public health intensified its commitment to advancing health equity, certain data central to identifying inequities, informing decisions, and supporting policy goals was becoming less available on birth records.

Strategy

The BABE team used a community engagement framework to fulfill the project’s two primary goals:

1. Gather information from all birthing facilities within Minnesota on data collection practices and tools, alignment with health equity principles, and quality improvement activities.
2. Gather information from the public health community on the use and application of birth data as it directly relates to the individuals who provided the data.

Staff from OVR’s Field Services and Data Quality units comprised the project team. These staff contributed subject matter expertise in data reporting, quality assurance, training and education, and communication.

Team roles and responsibilities

Team member	Role(s)	Responsibilities
Molly Crawford	Executive sponsor	Champion the project with division and department leadership; advocate for the project with internal and external stakeholders and customers; approve business goals, strategies, and solutions.
Heidi Granlund	Project lead	Coordinate with project sponsor to provide leadership and strategic direction; ensure clear direction for team at each step; facilitate team meetings and individual member meetings (check-ins); monitor project and assure timeframes and deliverables are met.
Gloria Haluptzok	Team lead	Operationalize project plan and action items related to information gathering from targeted facilities and data use stakeholders (surveys, meetings, focus groups, etc.).

Team member	Role(s)	Responsibilities
Kirsti Taipale	Communication specialist	Coordinate communications related to the project, such as newsletter articles, web content and revised worksheet; lead redesign of mother's worksheet.
Cindy Coleman	Technical subject matter expert and IT liaison	Provide technical assistance with birth queries and report card data; participate in information-gathering meetings with facilities and data users.
Maria Schaff	Subject matter expert (field representative)	Provide support for project; assist with relationship building; participate in information gathering meetings with facilities and data users; incorporate project purpose, activities and goals into education and outreach tasks.
Sally Almond	Subject matter expert (field representative)	Provide support for project; assist with relationship building; participate in information gathering meetings with facilities and data users; incorporate project purpose, activities and goals into education and outreach tasks.
Nancy Bollman	Subject matter expert (data sharing)	Provide support for project; assist with data gathering; provide connection to local public health; participate in information-gathering meetings with facilities and data users.
Cheri Denardo	Subject matter expert (data quality and reporting)	Provide support for project; assist with data gathering; participate in information-gathering meetings with facilities and data users.
Neeti Sethi	Subject matter expert (data quality and sharing)	Provide support for project; assist with data gathering; participate in information-gathering meetings with facilities and data users.

The project team split into subgroups to accomplish the following activities:

- Interview hospital birth registration staff
- Interview public health staff within MDH and local public health departments
- Survey hospital birth registrars
- Survey mothers
- Revise the worksheet used to collect demographic birth data from mothers

The project subgroups organized small group interviews to gather information from the following project partners in birth hospitals and public health programs:

- Tina Ayde, Jaclyn Falkenstein, Sarah Swoboda (Regions Hospital)
- Julie Ham, Deb Fjerstand, Barbara McMichael, Mary Smieja (HealthEast Hospitals)
- Sharon Kolbe (Hennepin County Public Health)
- Susan Klossner (Brown County Public Health)
- Cynthia Jean-Baptiste (Bloomington Public Health)
- Rick Carlson (Minneapolis Public Health)
- Rich Danilla, Cheryl Barber, Dawn Ginzl, George Kraus, Jared Shenk (Infectious Disease Epidemiology, Prevention and Control Division, MDH)
- Molly Meyer, Mira Sheff, Marcia McCoy, Sook Ja Cho (Community and Family Health Division, MDH)

While BABE was initially conceived to be a quality improvement project in addition to a community engagement project, the team realized early on that determining and implementing solutions was not feasible within the project time frame. OVR lacked both data and information about the birth registration process. OVR management agreed with the team's assessment and

supported an approach that allowed time for education and discovery. Decisions about project scope, strategies, and deliverables kept the team appropriately within the “Plan” phase of the Plan-Do-Check-Act improvement cycle – identifying and analyzing the issue and exploring root causes.

Scope

The team conducted a scoping exercise early on to narrow the project’s focus to activities considered achievable within the project time frame. While there was much consensus about major activities and areas the project should include, certain items were debated at length and eventually determined to be out of scope by the project manager.

Scoping exercise

In	Out
Hospital birth registration	Freestanding birth center births
Compare baseline data from hospitals against data provided by home birth midwives and freestanding birth centers	Home births
Mother's worksheet revision	Fetal death reporting
Explicitly allow/encourage multiple race choices	Death registration
Interview mothers re: current worksheet & improvements	Determine if home birth midwives and freestanding birth centers use birth record data
Identify if marital status impacts data completeness	Set goals for acceptable % of unknowns
Survey all hospitals	Improve overall quality of mother's education, cigarette use, race, and Hispanic origin
Determine number of hospitals that use OVR worksheet	Align Minnesota’s birth record data set with NCHS standard
Map process for demographic data collection at partnering hospitals	Eliminate option for reporting “unknown”
Determine uses of birth data (by hospitals, MDH programs, local public health)	Develop online Minnesota-specific birth registrar training
Identify additional birth data needed	Meet with all birth registrars to review project results and recommendations
Create/improve parent educational/informational materials	Map process for health data collection at partnering hospitals
Track unknown % statewide & by facility monthly	Use DVDs as tool to educate mothers on data meaning/importance
Talk to other jurisdictions about similar issues and how addressed	

Engagement activities

Birth registration staff interviews

OVR announced the BABE project to birth registrar users of the statewide online vital records application, the Minnesota Registration & Certification (MR&C) system, with a memo in April 2016, detailing the purpose and goals of BABE, and calling for facility volunteers to participate and engage. Staff from several hospitals inquired about the project and expressed interest; out of these, the project team selected two – Regions Hospital in St. Paul and St. John’s Hospital in Maplewood. The team chose these hospitals in part because they have a comparable number of annual births but belong to different health care systems, serve different populations, and vary greatly in the reporting of “unknowns”.

A project subgroup was formed to conduct in-person interviews with health professionals involved in birth registration and to map data collection processes with birth registration staff at these two hospitals. Each interview included the primary birth registrars and supervisors; joining the interview at St. John’s were birth registrars from St. Joseph’s Hospital and Woodwinds Hospital, part of the same HealthEast system. The interviews explored the same topics:

- Health care organization mission, vision, values, and how health equity informs the birth registration process
- Data collection process and barriers
- Use of data reports from MR&C
- Improvement suggestions

Out of consideration for the birth registrars’ schedules and workloads, the plan for process mapping sessions evolved into having the ‘project team lead’ job shadow two of the birth registrars for several hours, getting first-hand experience of the data collection process, and observing interactions between staff and mothers.

The project team was also committed to gathering information from all birth registrars at other facilities across the state through an online survey. An online survey of all birth registrars covered a wide range of questions, including the organizational role of the person primarily responsible for registering births, how mothers receive the worksheet, access to interpreters, assumptions about why some mothers leave information blank on the worksheet, and how staff treat blank responses when inputting data from the worksheet into MR&C.

Interview insights

During the group interviews, there did not seem to be a conscious connection between specific health equity efforts at the hospitals and the birth registration process, although the discussions revealed various ways hospital staff strive to provide equitable service to their patients. All birth registrars reported consistent access to interpreters or interpretation services and they shared that they use OVR’s translated non-English language worksheets for mothers whose primary language is Spanish, Somali, or Hmong.

At Regions, the mother's worksheet is provided in a packet of materials when the mother is admitted; the HealthEast birth registrars personally deliver the worksheet to the mother and answer any initial questions. All registrars follow up with mothers if information is missing, and may occasionally call mothers after discharge to get missing information or clarify responses. There was disagreement between the two groups about whether or not it is acceptable to take some information from the mother's medical record, such as cigarette use, when the mother declines to provide that information on the worksheet. The demographic information collected on the worksheet is meant to be self-reported by the mother. If the mother has previously shared her cigarette use during a clinic visit, it is unclear if this "counts" as self-reporting for the purpose of birth registration.

Some of the barriers encountered in getting complete birth record information involve immigrant communities – the registrars theorized that fear of deportation may contribute to mothers providing incomplete or inaccurate information. One key theme emerged from the Regions interview regarding trust. Regions staff believe that many immigrant mothers trust their primary care providers and more freely provide information about themselves to their community clinics where they receive prenatal care than they do to hospital staff who register the birth.

The registrars shared other obstacles, including:

- a sense of stigma or shame may inhibit some mothers from reporting cigarette use and their highest education level (if less than a high school diploma),
- an assumption that only the information that prints on a birth certificate is important, and that the other demographic information (such as race, Hispanic origin, cigarette use, and education) is not actually required
- a lack of understanding about how the information is used,
- confusion about how certain questions are asked on the worksheet, and
- the layout of information on the worksheet itself.

Birth Registration Observation

Shadowing the Regions and St. John's birth registrars during rounds allowed the 'project team lead' to see first-hand some of the barriers encountered as well as ways the registrars and other hospital staff have tried to make the data collection and registration process run as smoothly as possible during a very short window of opportunity.

Registrars at both hospitals followed a similar routine, starting their days by gathering the worksheets completed the previous day which were dropped off by nurses. Next, they retrieved additional information from medical records. Then they checked that day's list for planned discharges to see which mothers needed to complete worksheets, whether or not an interpreter was needed, and whether or not paternity forms needed to be completed. Registrars visited mothers to drop off new worksheets, inquire about missing information, or to present the birth verification form so mothers have a chance to review and approve information that will print on their child's birth certificate. Visiting mothers to complete birth registration tasks is not always a straightforward process; registrars must work around visits by doctors and nurses.

Hospital staff surveys

Gathering information from all birth registrars marked OVR's first foray into survey use, design, and methodology. Because the survey was confidential, it was not intended to link particular birth registration practices to specific hospitals, but rather to provide an overview of the entire spectrum of registration practices and processes. Registrars from 61% of the state's birth hospitals responded. Some key findings from the survey:

- Asked if the same person who collects the birth record information also enters it into MR&C, the "yes" responses equaled the "rarely" or "never" responses combined.
- Only 22 percent of the respondents stated they interview the mother to complete the worksheet.
- 21 percent stated there is no weekend or holiday coverage for this task at their facility
- Roughly three out of four said they use the standard MDH worksheet, while the others use it with modifications or use their own hospital form.
- More than one-third of respondents believe that when information is left blank on the worksheet, the mother has intentionally refused to provide it; an equal number believe the mother left it blank because she either did not see the question or understand how to answer it.
- Given a list of suggested worksheet improvements, the most popular feedback was to explain how the data is used and why it is collected.

Public health staff interviews

An important component of BABE was to gather information about how public health professionals use birth data. A project subgroup tasked with engaging public health professionals started by reviewing OVR's internal data use authorizations to identify MDH programs that received one or more of the BABE data items. The project manager then sent an email invitation to the directors of the Infectious Disease Epidemiology, Prevention and Control division (IDEPC), the Community and Family Health division (CFH), and the Center for Health Statistics. The division directors recommended several staff that the project team could engage, and two group interviews were set up with IDEPC and CFH staff. The interview with IDEPC resulted in one additional interview with investigators working in the STD/HIV/AIDS Program as part of the Partner and Care Link Services unit. The Center for Health Statistics did not respond to OVR's invitation.

To engage staff working in local public health departments, the subgroup relied on a team member's existing connections within this community to communicate OVR's invitation to participate. Staff representing public health programs at Hennepin County, Brown County, and the cities of Minneapolis and Bloomington responded. A conference call facilitated this group interview.

The subgroup used the same set of questions for all interviews. They asked:

- Why is this data important to your work? Could you accomplish your work without it?
- What communities are impacted by your work?
- Do you know if this data benefits, directly or indirectly, the individuals (mothers) who provided it?

- What are your assumptions about how this data is collected? Does the collection method matter?
- Do you have concerns about incomplete data? Inaccurate data? The timeliness of data?
- Do you have other sources for this data? If so, how do you resolve differences between data sources?
- Can you share examples of reports, studies, grants, etc. that highlight use of this data?

Interview insights

Among all the groups interviewed, public health professionals said that mother's race and Hispanic origin data was the most valued, in part because Minnesota (having high concentrations of east African and southeast Asian communities) offers more categories to mothers to self-report their race than the national standard. For the IDEPC staff working in epidemiology and surveillance, this information helps them identify communities to target for prevention and intervention efforts. Some communities that IDEPC provides services to are African-American, American Indian tribes, church-based groups, and refugee. They rely heavily on birth record data to supplement other data sources, which are often much less complete and reliable.

MDH program engagement

Staff from the CFH division represented multiple programs using birth data, including Minnesota Women, Infants and Children (WIC), Pregnancy Risk Assessment Monitoring System (PRAMS), and Birth Defects Monitoring and Analysis. Other than the mother's race and Hispanic origin information, there was less consensus about the accuracy or primacy of certain birth data compared to other reporting sources. The WIC program began using birth record data in early 2016 for the first time, which allowed for a more refined analysis based on mother's race. WIC also finds the mother's education data particularly useful, as does PRAMS; Birth Defects pulls education and smoking information from medical records instead of birth records.

All MDH groups shared data briefs and reports made possible by the inclusion of birth record data in their studies, as well as grants provided to large and small communities statewide.

Local program engagement

Representatives from local public health agencies, although engaged in quite diverse activities, unanimously voiced their reliance on birth record data in order to accomplish their work. The data is crucial to sustain funding for programs or to seek new grants. Brown County determines home visits to new mothers based on the high-risk reports sent from OVR weekly; mother's cigarette use and an education level lower than a high school diploma are two of the many risk factors identified in the report. Mother's education level is used as a proxy to indicate a low-income family and help determine appropriate teaching materials. Because Brown County has a small population, the public health program is able to offer visits to every parent who delivers, adopts, or receives a child (up to the age of three) into their home.

In addition to using birth data to support funding requests, OVR learned that the data helps match mothers with programs that support them, such as the Family Literacy Academy, which works with low income parents who use English as a second language, and the Follow Along Program, for low birth weight and premature infants.

Birth mothers' surveys

Mothers were the most difficult community to engage, primarily because OVR has an indirect relationship with mothers. OVR does not interact on a regular basis with mothers during the birth registration process. The project team determined a short survey would be the easiest way to gather information from mothers, but struggled with how to get the survey to them. The team thought small – putting a survey in lactation rooms throughout MDH buildings; and the team thought big – asking Ramsey County Public Health to include a survey and postage paid return envelope with every Parent Notice they sent to mothers who gave birth in the county for a certain time frame. (A Parent Notice is a form county vital records offices mail to mothers to verify the birth record information that prints on a certified birth certificate, to provide an opportunity to make corrections, and includes instructions on how to order a birth certificate for their child.)

In the end, the team determined that the best method to survey mothers was to leverage the existing access that birth registrars have to these mothers. The team requested help from the partner hospitals. For a two-week period, the registrars agreed to offer the survey to new mothers after the worksheets were completed. The Brown County public health nurse also brought the survey with her on all home visits. The survey contained three questions that the team thought most pertinent, with instructions to mothers to circle all answers that apply:

1. How easy was it to complete the worksheet?
 - a. I wasn't sure how to answer the question(s). Some instruction or explanation of terms would be helpful.
 - b. I found the form confusing
 - c. I didn't see the education, race, ethnicity and cigarette use questions on the worksheet.
 - d. I had a difficult time reading the small print.
 - e. The form was easy to complete.
2. What did you think about being asked to give information about your education, race, ethnicity and cigarette use?
 - a. I was fine with giving the information.
 - b. I already gave that information at the clinic and didn't want to fill it out again.
 - c. That information is not printed on the birth certificate so it is not needed.
 - d. I'm not sure what the information is used for so I didn't want to give it.
 - e. I feel some of this information is personal/private and the government doesn't need it.
3. How do you think the education, race, ethnicity and cigarette use information is used?
 - a. I don't know how the information is used.
 - b. The information is used to assist in providing a healthy start for infants and young children (examples: Healthy Start Program; Women, Infants and Children).
 - c. The information is used to look at ways to improve the health of mothers and infants.
 - d. The information is combined along with other states' information to get a "picture" of the nation's health.

Survey results

Although one birth registrar was not able to continue handing out the survey after the first day, the other registrars integrated surveying mothers into their normal routines with little disruption. Most mothers were willing to complete the survey and had few questions. The Brown County public health nurse reported that most of the mothers she visited did not fully remember completing the birth worksheet due to the time that had elapsed between the child's birth and the home visit.

Because this was a paper survey, mothers were able to choose multiple responses to each question. Even so, the majority of mothers reported that the worksheet was easy to complete and that they felt comfortable providing the information.

- Understanding of data use was mixed: 55 out of 119 mothers said they did not know what the data is used for.
- The number of mothers aware that the data is used to support programs such as Healthy Start and WIC; to improve the health of mothers and infants; and that their data combined with data from other mothers across the U.S. is used to create national health statistics, were roughly equal.

Worksheet revision

OVR had long-considered revisions of the worksheet used to collect birth record demographic information, including mothers' self-reported data, and had started revisions shortly before the BABE project kicked off. OVR had followed its usual process for document revision that relied on little to no community engagement or data. OVR conducted an internal review that relied on anecdotal information from birth registrars and OVR staff's best guesses, and made assumptions about what needed to be changed and why. Before BABE, OVR's usual practice had been to release an updated form and informally gather feedback for possible future revisions. The timing of BABE allowed OVR to incorporate the worksheet revision into the project, when input could be gathered more thoughtfully and deliberately.

Ideas for improvement

Asking for worksheet improvements became part of the birth registrar interviews and survey. As with any "call for improvements" certain suggestions were contradictory. Some birth registrars wanted larger print, more instructions to mothers, and more white space, all of which would make the worksheet longer; others were adamant about keeping the worksheet to two pages (or one sheet double-sided) while improving how questions are asked. Multiple suggestions involved rearranging the worksheet sections in a variety of ways.

A small project subgroup based revisions on the most common improvement suggestions; they also reviewed the NCHS standard worksheet and guidelines for preferred data sources and reached out to a birth registration specialist at NCHS for clarification. Based on consultation with NCHS, some items were removed (child's sex, date of birth, and birth order) from the mother's worksheet and other items added (mother's pre-pregnancy weight and height). Language calling attention to the fact that certain data, including the data studied for this project, are collected for "research" only and do not print on a certified copy of the record was

removed. Once the group completed revisions, it asked the birth registrars collaborating on the project to pilot the new worksheet for two weeks.

Testing improvements

Overall, the redesigned worksheet was well received, although the registrars had much feedback on the items removed and added. Mothers questioned why they had to provide their height and weight, surprised that this information is collected as part of their child's birth record. Child's sex, date of birth, and birth order turned out to be crucial information that birth registrars used to match the worksheets with other medical records. Team members were surprised at the outcome. Without the engagement of the people involved in birth registration, the importance of these items for the birth registration process would not have been known.

Outcomes

The BABE project stayed true to its goals of gathering information about the birth registration process and learning how birth data is used to accomplish public health objectives.

- The team embraced the investigative nature of the project and allowed itself the luxury of truly understanding the current state before considering and testing out improvements.
- By honestly and deliberately engaging communities, the team sought not just anecdotal stories but qualitative data that can now be joined with quantitative data to provide strategies for improving data completeness.
- Engaging the communities of birth registrars and public health professionals allowed the team to see how demographic birth data provided by mothers can be used to fund programs that indirectly and directly benefit those mothers.
- Surveying mothers and talking with birth registrars underscored a lack of awareness about this, a gap that OVR can partially bridge with additional educational materials.
- Approaching demographic data such as education, race, Hispanic origin, and cigarette use through the lenses of health equity and the determinants of health helped team members redefine the concept of "health" data, and will hopefully lead to a stronger and more consistent emphasis on the importance of this data for mothers and newborns.

In addition to the primary communities of mothers, birth registrars, and public health data users, the team also engaged NCHS at specific points in the project and sought information from neighboring states on similar issues. NCHS provided guidance on the preferred source for some data items, which the project team communicated back to the partnering hospitals. (For cigarette use, the mother is the *preferred* source, although this information may be retrieved from the mother's medical or prenatal record.)

North Dakota and Wisconsin responded to inquiries regarding their birth registration processes, practices, tools, and education. Both states reported a similar process for collecting the birth record demographic information from the mother. North Dakota targets "problem" facilities for

additional training. Wisconsin suspects most of their data issues are confined to certain facilities, although staff are not currently available for adequate research or training.

After BABE ended, OVR invited all hospital and public health staff who participated in the project as well as MDH management and staff who played a role to a formal Report Out presentation, where project members shared the full range of engagement activities and lessons learned. OVR presented project partners certificates of appreciation. The meeting also allowed time for questions and interaction and hopefully provided all those who attended a better understanding and appreciation of how birth data is collection and why it is important.

The final team meeting included a review of activities initially deemed in scope. While the team was not able to accomplish all it thought it would, what it did accomplish held true to the core mission of the project – engage mothers, engage birth registrars, engage data users, gather information and data, and understand the process and factors that impact the completeness and quality of mothers’ self-reported data.

Scope review

In Scope	Results
Hospital birth registration	Completed
Compare baseline data from hospitals against data provided by home birth midwives and freestanding birth centers	Not pursued
Mother's worksheet revision	In progress
Explicitly allow/encourage multiple race choices	Not pursued
Interview mothers re: current worksheet & improvements	Completed
Identify if marital status impacts data completeness	Not pursued
Survey all hospitals	Completed
Determine number of hospitals that use OVR worksheet	Some information on this was gathered through the birth registrar survey; it was impossible to determine exact numbers since not all registrars completed the survey and multiple birth registrars completed the survey at many hospitals
Map process for demographic data collection at partnering hospitals	Due to time constraints with hospital partners, job shadowing of birth registrars was done in lieu of a process mapping exercise
Determine uses of birth data (by hospitals, MDH programs, local public health)	Completed
Identify additional birth data needed	Not pursued
Create/improve parent educational/informational materials	In progress; an informational sheet directed towards mothers is planned to accompany the new worksheet
Track unknown % statewide & by facility monthly	Completed, but not published
Talk to other jurisdictions about similar issues and how addressed	Completed

The team also completed a force field analysis, identifying factors that moved the project forward and those that inhibited forward progress. This activity brought out several project lessons learned. Using subgroups to focus on different areas benefitted the project because it allowed OVR to move forward on various aspects simultaneously, but the team felt that more all-team meetings would have helped to share information among subgroups. The team recognized that finding a manageable scope restrained the project, and this is borne out by the scope review above. The existing culture within OVR at the start of BABE – the lack of community engagement when making decisions and the preference to act on solutions before examining data and analyzing the root cause and other factors – was also difficult to overcome. The team agreed that access to MDH experts helped broaden knowledge of what community engagement is and how to go about it and management’s support for discovery contributed to the experience and overall success.

Force field analysis

Driving forces	Restraining forces
Existing issue	Lack of community engagement knowledge
Division director assignment and multi-layered leadership support	Had to learn how to address issues differently
Need to revise mother’s worksheet	Tension between engagement ideas and practicality
Desire to find new ways to approach issues	Existing culture
Desire to investigate assumptions and use data	Learning new tools (Verint survey software)
Staff capacity and time – made project a priority	Lack of communication within team; all-team meetings
Willing communities	Availability of partner communities
Technical assistance from community engagement experts	Uncertainty about how to engage mothers
Project deadline	Finding a manageable scope
Subgroups helped accomplish tasks	
External partners willing to carry work forward	
Partners/communities willing to share the work they do	
Flexibility within project timeframe; allowing for continual refinement and improvement of ideas	

Finally, OVR had two opportunities to share the BABE project nationally. The project manager and team lead were invited to present on the project at the 2017 Open Forum for Quality Improvement sponsored by the National Network of Public Health Institutes. The breakout presentation focused on increasing community engagement to help drive and create quality improvement initiatives. The project manager also presented to other vital records and vital statistics professionals at the annual joint meeting between the National Association for Public Health Statistics and Information Systems and the National Center for Health Statistics.

Next steps

In October 2017, OVR will release an updated version of the worksheet used to collect data from mothers which incorporates feedback from testing and information learned from the BABE project. OVR will encourage statewide use of the worksheet to support uniform data collection and mitigate any loss in quality loss due to facilities modifying worksheets to ask mothers for the same data differently.

In early 2018, OVR plans to improve facility worksheets used to collect medical information about the mother's pregnancy, delivery, and newborn.

And, after the new worksheet has been in use, later in 2018, OVR will initiate a quality improvement project to improve the completeness of mothers' self-reported data of her race, ethnicity, education, and cigarette use before and during pregnancy.

Recommendations

OVR should continue to incorporate community engagement as a key element in its improvement activities. Too often, the office assumes to know what the communities of stakeholders, partners, customers, and general public want or need, or struggles to identify community needs in isolation. In addition to projects, community engagement should constitute a core feature of everyday work.

The following activities (listed in no particular order) may be combined into a formal quality improvement project to pursue quantitative goals around community engagement and data quality; others may be taken up independently. If a quality improvement project is launched, the activities and deliverables of that project should form a new way of approaching birth registration training, education, and quality assurance, and replace or be integrated with current methods and approaches in order to more easily operationalize the results of the project.

1. Identify other communities OVR can engage in its pursuit of complete, high-quality birth data. Suggestions:
 - a. Hospital administration, particularly those involved quality improvement; completing a birth record timely and accurately should be part of a hospital's commitment to quality care. Shared interests and goals can be found in hospital Community Health Needs Assessments, many of which address community demographics, social determinants of health, and the importance of health equity.
 - b. Prenatal clinics: the insight provided by staff at Regions Hospital that mothers trust their neighborhood clinic more than they trust the hospital should be explored. Perhaps mothers in a clinic setting would be more receptive to learning about what information will be needed to register a child's birth record (and why that information can help them personally in the form of local support and services) than immediately after giving birth.

- c. Professional organizations such as the Minnesota Hospital Association, which provides information about quality measures and eliminating health care disparities on its website.
2. Collaborate with other MDH programs, such as the Health Economics Program and Health Care Homes, to take advantage of existing relationships with health care facilities and professional associations, coordinate messaging, and align purpose and goals.
3. After release of the revised mother’s worksheet, publish on the MDH website, and promote use of it.
 - a. Translate into common non-English languages (Spanish, Somali, and Hmong).
 - b. Set expectation that hospitals use this worksheet, along with the standard facility worksheet, and that non-standard worksheets must be approved by OVR before use.
4. Compare and analyze the BABE data items against other data collected on birth records to identify trends and connections, if any. Determine if key data items are more or less likely to be reported as “unknown” based on the following (for example):
 - a. Mother’s residence address (county or zip code)
 - b. Mother’s birth state/country
 - c. Mother’s marital status
 - d. Mother’s age
 - e. Principal source of payment
 - f. Presence of a second parent on record
5. Identify key features of high-performing hospitals related to data quality and completeness. Compare these hospitals against others with comparable births and comparable patient demographics to determine best practices to promote. Suggested areas to investigate include:
 - a. Primary role of birth registration staff (administrative/clerical role or nurse)
 - b. Physical and organizational location of birth registration in relation to mothers
 - c. Access to medical records and prenatal records
 - d. Access to interpreters
 - e. Access to and relationships with medical professionals (nurses and physicians).
 - f. Create opportunities for hospital birth registrars and facilities to share information, best practices, and engage each other; encourage communities of practice throughout the state.
6. Develop a data dashboard similar to the Child Welfare Data Dashboard created by the Minnesota Department of Human Services as a way to publicize performance measures and bring awareness to facility-specific and state-wide progress in meeting performance goals.
7. Review the data items cut from the national standard by NCHS in 2015, engage local and state public health staff to determine continued need for these data items (or lack of need), recommend and make changes to the Minnesota data set.
8. Integrate user help guides into MR&C, including the Guide to Completing the Facility Worksheets published by NCHS, and make other information and resources easily accessible on the MDH website.
9. Require training for all new birth registrars and track their participation.
10. Provide ongoing training to experienced birth registrars and managers to improve and sustain performance related to data completeness, timeliness, and accuracy.

11. Provide specific guidance to birth registrars on primary and secondary preferred data sources for demographic information.
12. Standardize OVR's talking points about the importance of all data collected for the birth record and provide birth registrars some specific local and community based programs that use this data to provide a direct benefit to mothers.
13. Maximize the use of SharePoint as a tool for collecting, updating, and maintaining information about hospitals, such as standard worksheet usage, primary contact information, quality assurance contact information, and overall performance. This database could also be used to track training and other site visits.
14. Practice continuous improvement, apply lessons learned from BABE to other OVR efforts, and build in time for discovery and understanding before taking action.