

DataSpeak

Moving the Needle on Maternal Health: Updates on Federal and State Initiatives

Maternal & Child Health Bureau

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Program Transcript

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Welcome, Overview, and Program Logistics

Michael Kogan, PhD – Director of the Office of Epidemiology & Research - Maternal and Child Health Bureau, Office of Epidemiology & Research

Good afternoon and welcome to today's DataSpeak web conference entitled "Moving the Needle on Maternal Health: Updates on Federal and State Initiatives." I'm Michael Kogan and I'm the Director of the Office of Epidemiology and Research at the Maternal and Child Health Bureau which is the sponsor of the DataSpeak series.

Helping women have healthy pregnancies and preventing pregnancy-related illness and mortality is a top priority at the bureau. We support programs and services in all 50 states that work to improve women's health before, during and after pregnancy, improving the quality and safety of maternity care is a major focus and one that has only grown in importance with recent news that the maternal mortality rate in the United States is on the rise.

The US is one of the few countries where this rate is on the increase and current research shows that there are significant disparities and interstate differences in maternal health and mortality. This webinar will present a current look at maternal health and mortality data with a focus on how this data is collected and defined, different measurement methods and how federal and state stakeholders are working to improve maternal health.

[1:14] We're excited to have with us today three expert speakers. Our first presenter, Dr. Bill Callaghan is Chief of Maternal and Infant Health in the Division of Reproductive Health at the CDC. He'll frame the issue of maternal health with current data, definitions and open questions in the field.

Our second speaker will be Kimberly Sherman, the Maternal and Women's Health Lead for the Division of Healthy Start and Perinatal Services at the Bureau. She'll provide an overview of HRSA's maternal and women's health initiatives highlighting the Women's Preventive Services Initiative and the Alliance for Innovation on Maternal Health.

Finally, our third speaker will be Dr. Elliot Main, Medical Director of the California Maternal Quality Care Collaborative. Dr. Main will present on how the state of California addressed their maternal mortality rate and achieved a significant reduction in maternal deaths through quality improvement.

And with that, I'd like to turn the program over to today's moderator, Sarah Lifsey. Sarah?

Sarah Lifsey – Analyst – Altarum Institute

[2:20] Thank you so much. First I would like to welcome our presenters and everybody who is in the audience today, thank you so much for joining us. Before we begin our presentations I do have some brief technical guidance for everyone.

First, I'd like to call your attention to the [DataSpeak website](#) which we hope you'll visit after today's program. On this website you'll find archives of all the DataSpeak programs going back to 2000 and the slide on your screen shows some of the most recent programs that are available and the address you can use to access them.

I'd also like to point out that you are able to download today's PowerPoint presentations directly from the screen that you're seeing right now, you can just click on the presentation that you're interested in to highlight it in the slide presentations pod on the left click "save to my computer" and follow the simple instructions on the screen. If you would like to make the slides larger simply press the "full-screen" button at the top of the slide pod, it looks like four arrows going outward, and if you would like to return to the original view just press that button again.

Finally, please know that your phone line will be muted during the presentations. At the completion of the program we'll be having a Q&A session and we'll provide instructions for asking questions over the phone at that time.

If you'd like to post a question online you can do so any time during the program just using the questions box on the bottom of your screen type your question in the box next to the arrow and hit "enter" and I will read it during the Q&A session at the end. Now I would like to turn it over to our first speaker, Dr. William Callaghan.

Overview of Maternal Health and Mortality (slides 6 – 28)

William Callaghan, MD, MPH - Senior Scientist in the Office of Epidemiology and Research - Maternal and Child Health Bureau

[3:53] Good afternoon and I very much appreciate the opportunity to talk about the burden of maternal...in the United States. I'm going to cover the burden of maternal mortality with an emphasis on some of the difficulties we have in counting it noting that we do have two parallel systems, one is the statistical system based on vital statistics and the second, the Pregnancy-related Mortality Surveillance System or PMSS that is housed in the Division of Reproductive Health in Atlanta both of which give us some information about what's going on with the state of maternal mortality in the country. Briefly, and very briefly, touch on population-based measures for severe maternal morbidity and hospital-based measures of severe maternal morbidity.

[3:53] This is a fairly familiar graph and it shows maternal mortality through the 20th Century and into the early 21st Century and as you can see there was just very dramatic progress made throughout the 20th Century. What you can't see very well, I didn't really explode it, but at the bottom of that we see what appears to be an upward tick and we're going to go through some of the data that tries to explain what's happening with an upward tick in maternal mortality.

[5:32] So, first of all the traditional historic way of accounting for any kind of death including maternal deaths is using vital statistics. A death certificate establishes the fact of a death and in the best of circumstances the cause of death. [5:48] This is the maternal mortality rate, this is deaths of women during or within 42 days of pregnancy that is caused directly by pregnancy or caused by other events and conditions that are aggregated by the pregnancy and as you can see through the early part of the 20th Century, since 1999, there has been a fairly dramatic, in fact, quite a dramatic increase, doubling of maternal mortality rate as measured by vital statistics.

[6:23] So, what's happened here? In 2003 the United States introduced a standardized death certificate that allowed for the death certifier to say if a woman died during pregnancy, within 42 days of pregnancy or beyond 42 days and states over time incrementally began using that form of the death certificate. So, there were 21 states in 2003, 34 states and DC in 2007, and 48 states plus DC using some form of a pregnancy question by 2014.

So, it would make sense that a pregnancy question that establishes a temporal relationship of a women's death to pregnancy would uncover heretofore unrecognized maternal deaths and would allow for an increase.

[7:21] But interesting things have happened along the same time. When we look at the maternal mortality rate due to the direct cause, the common direct causes of death such as hemorrhage, hypertension and embolisms during pregnancy during the same time we're actually seeing what appears to be a decrease in those traditional causes.

[7:52] It causes us to ask in vital statistics is the increase we're seeing...where are they and what are those causes. When we look at those causes we find that there is a dramatic increase in a specific set of complications and it's difficult to know what they are, the coding rules of international classification of diseases mandate that those deaths are put into this category called "other specified pregnancy-related conditions." So, it's really difficult to know what they are, but they've increased dramatically and they've decreased during the same time that the checkbox is being used.

[8:23] There is another set of relatively vague causes that have also increased dramatically, these other specified diseases and conditions complicating pregnancy childbirth and the postpartum period and again they've increased dramatically during this same time that the checkbox is being used. So, obviously the checkbox is uncovering some other conditions and when I show you some other data they might be something that we could expect.

[8:51] If we look at maternal mortality rate after removing those, and I'm saying this is a thought experiment, some of these deaths that are in O26.8 and O99.8 either they're all truly maternal deaths or some of them are maternal deaths and misclassified so it's not particularly fair to remove all of them but if we did do this thought experiment and removed all of them, which appear to be at least temporally related to the use of the checkbox, we see that the dramatic rate in maternal mortality is not as dramatic as initially expected and since the introduction of the checkbox allowing for some bouncing around it really hasn't changed very much.

[9:34] So, in response in the late 80's due to issues that we thought around vital statistics a parallel system was stood up called "pregnancy-related mortality." Now it's important to note this is not totally devoid of use of vital statistics, in fact, death records are used as well as linked birth and infant death records to try to identify all women who died as a result of pregnancy either from a direct complication or an indirect complication, however, the coding rules for international classification of diseases are not used rather we use our clinical eye to look at all of the information we can find on birth and death certificates to establish causes of death.

[10:22] So, when we looked at that during the same time period, the pregnancy-related mortality ratio, at the top it's a little bit lower than the peak from vital statistics but we are not seeing the same dramatic increase [10:39] and again, if we compare those with the orange bars showing maternal mortality rate based on vital statistics and pregnancy-related mortality based on the pregnancy mortality surveillance system we see that the vital statistics rate is surpassing pregnancy mortality surveillance which is just the opposite of what we saw in the early years prior to the checkbox.

[11:13] Now these are data from pregnancy mortality surveillance. At this point in time I think pending the validity testing of checkboxes and because we use a clinical eye in the pregnancy mortality surveillance system these are the data that we think are probably close to the best estimate with all the caveats around uncertainties of using any measure based purely on certificates.

[11:59] So, we can see first of all there's dramatic disparity between black women and white women in risk of death and we can also see that those same disparities are quite dramatic when we look at race and age with Non-Hispanic Black Women who are over 40 having just unacceptable risks of death during pregnancy.

[12:20] We are able to put these into buckets and we can see that the risk of hemorrhage, as we showed earlier, some of the more direct common causes, the risks appear to be going down at least as a percentage of mortality but we're seeing pretty big increases that are consistent in deaths from chronic diseases like cardiovascular disease, non-cardiovascular medical diseases and cardiomyopathy, and some of that goes along again with the checkbox. These are the causes of death that we might expect checkboxes to be picking up.

[13:00] Just a word about maternal morbidity because severe maternal morbidity is really much greater than the tip of the iceberg that we see with deaths [13:08] it's hard to define, there's a broad range of complications and conditions and all is somewhere on the continuum between healthy women and progressing along the line of severity, it has no defined set of metrics but we needed to start somewhere [13:26] so some years ago we put together a set of international classification of disease codes that we thought would account for the most severe complications of pregnancy both based on procedures or very specific diagnoses.

[13:43] When we put those together we can see that severe maternal morbidity, like maternal mortality, appears to be increasing in the United States. [13:55] It's hard to do this from a population stand-point we're not sure just like we have questions about validity of vital statistics to capture all the deaths that we want to capture are the codes really capturing what we want to capture.

We note that transfusion is the predominate indicator but not all transfusions are incredibly severe, some state inpatient databases are able to capture the number of units. We also know that there's a big challenge when we look at ICD-10 codes starting on October 15 ICD-10 was used to code all hospitalizations and there are far more codes to look at in ICD-10 than ICD-9, there are not necessarily direct mapping of those codes. For example, there is one code for transfusion but potentially 160 codes for transfusion in ICD-10. So, those are challenges that we're facing and we're addressing and actually did a lot of work with the AIM Program that you'll be hearing about later to try and do a reasonably good crosswalk.

[15:07] We also have looked at how to identify severe maternal morbidity in hospitals in birthing hospitals and have recommended that women who have transfusion of at least 4 units and/or an ICU admission be reviewed at the facility level.

[15:27] Now all these efforts are aligning up with the effort to put the "M" the mother back in MFM, the National Partnership to Eliminate Preventable Maternal Mortality which is a partnership with CDC, AMCHP and Merck for Mothers and the AIM Program that you'll be hearing about in just a few minutes. All of this is being run with a large national partnership for maternal safety for the Council on Patient Safety in Women's Healthcare.

[16:03] So, I'm going to thank you, I think I hopefully have presented, and I know this is very quick the 35,000 foot view, I think it's time now to come down through the clouds to ground level so that we can understand the importance of thorough reviews of cases and understand the real burden and causes of death and hopefully we'll be able to provide input to improve quality of care and the quality of the data that's necessary to monitor the quality and improvement efforts that you'll be hearing about over the next few minutes. Thank you, very much.

Sarah Lifsey

[16:39] Great, thank you so much. Just as a quick reminder to our audience, if you have a question for our speakers at any time as they're presenting you can submit it online using the form, the questions pod, on your screen and I will read it at the end during the questions and answer period or else you can just hold onto it and ask it over the phone.

Okay, so next I would like to turn to our next speaker, Kimberly Sherman.

National Goals and Initiatives in Maternal Health (slides 29 – 50)

Kimberly Sherman, MPH – Health Lead, Division of Healthy Start & Perinatal Services – Maternal and Child Health Bureau, HRSA

[17:00] Thank you so much Sarah and thank you everyone who has joined the call today for spending a little bit of your time during this very busy season to hear about the state of maternal health. My name is Kimberly Sherman and I'm proud to work in the Maternal and Child Health Bureau to specifically support two initiatives that we'll talk about today.

[17:21] I'd like to start by just highlighting our maternal health strategy in the bureau. We're really focused on working together to improve women's and maternal health together. We're doing that through coordination and collaboration within HRSA across HHS agencies with professional and private organizations both on the national, state and community level.

Our priorities for the past few years have been to focus on improving women's health before, during and after pregnancy, to also look at ways that we can improve access to care and not only access but the quality of care that's being provided specifically in clinic and public health settings.

And through the AIM Initiative we've been focused on quality improvement and the safety of maternity care and our future focuses on public awareness and education, and then partnering with others on research and surveillance.

[18:23] I'd like to just highlight a few of the initiatives in the bureau that are assisting in these efforts. On the community level we have the National Healthy Start Program, we also have the MIECHV Program which supports women directly in their homes to provide education and awareness and wraparound services to make sure that all women get the necessary services that they need.

On the state and national level we have implemented the AIM Program, it's currently in its third year. We have just launched the Women's Preventive Services Initiative that began in March of 2016 and many of you are very well aware of the National Infant Mortality CoIN which has specific aspects that also works to improve women's and maternal health.

[19:09] We have such a brief time today I'm going to highlight the AIM Initiative and then talk briefly about Women's Preventive Services. I want to thank Dr. Callaghan for the update on maternal mortality and severe maternal morbidity and as we continue to see that rise the bureau has partnered with ACOG and the Council on Patient Safety to implement the AIM Initiative and our focus is really on systems, a systems bubble approach, to change the quality improvement in maternity outcomes.

[19:43] AIM is a national alliance of clinicians, public health professionals, hospitals and patient safety organizations and patients all working together to reduce maternal mortality and severe morbidity.

Through this initiative AIM works directly with hospitals and hospital networks to assess the current culture of maternity care and safety, and then to employ resources to improve maternal health outcomes. This work is done through the implementation of maternal health safety bundles and rapid cycle QI strategies for change.

We seek to change the culture and standards in every birthing facility and so I want to make sure that you're aware of all of these materials and that you have access to them right now today to begin to think about how you can strategize to use them within your own state.

[20:32] So, in 2014 MCHB awarded a four year cooperative agreement with ACOG specifically the Council on Patient Safety to implement this initiative and the reason behind that was just because there really has been minimal support for publishing guidance, working through state and federal budget reductions and we've just had poor channels of communication between many of the maternal mortality review committees, birthing facilities and provider organizations all have which deterred us in that concentrated effort and action to address the findings and really make improvements in the hospitals.

AIM strives to assist birth facilities in the prevention of severe maternal events through adequate assessment of patient risk factors, adequate preparation of staff with training and drills, adequate recognition of a maternal emergency and then rapid escalation of the maternal event.

[21:45] AIM also assists with review in reporting of those events so that the QI measures can be instituted. Through AIM we're able to provide technical assistance and support to eight states with high rates of maternal mortality and severe maternal morbidity.

[21:53] Support is provided to state hospitals and birthing facility staff members to ensure continuous quality improvement and capacity building to reduce maternal mortality and maternal morbidity rates. We really hope to equip every stakeholder with information to significantly reduce severe maternal mortality, severe maternal morbidity and maternal mortality through the implementation of consistent maternity care practices and also by driving QI through the Systems-based Improvement Initiative.

[22:27] So, how are we doing this work? Specifically through six strategies, they're here on the screen, by promoting consistent messaging through partner organizations, by engaging with birthing facilities, by engaging with state public health and perinatal associations, by providing tools and technical assistance for self-evaluation and QI planning, we assist with step-by-step implementation training and then also by collecting real-time data to promote QI improvement.

[23:01] Today I want to focus in on strategy number four, tools and resources and specifically talk about the maternal health safety bundles.

[23:09] So, what is a maternal health safety bundle? Well, in general it's a resource of best practices. A bundle is structured in a way of improving processes of care and patient outcomes, it's really basically a straightforward set of evidence-based practices that when performed collectively and reliably have been proven to improve patient outcomes.

The maternal health safety bundles that are available through the AIM Program address these four components, readiness, recognition, response and reporting.

[23:44] So, through this cooperative agreement we've created a set of safety bundles that are free and available to the public and I'll provide you with a link to access those documents. There is also information available on a fact sheet that's available for download in the slide presentation pod.

So, some of the maternal health safety bundles that are currently available address obstetric hemorrhage, severe hypertension, maternal VTE prevention, supporting the patient, family and staff after a severe maternal event and then the safe reduction of primary C-Sections.

The AIM Team is also working to finalize several bundles on reducing disparities in maternity care, assisting with postpartum visit and interconception care and just recently they have launched an additional bundle to address obstetric care of patients with an opioid dependency.

[24:41] So, the maternal safety bundles, as I said, are currently being implemented in eight states but in a wider spectrum than that we directly support eight states but these materials are available in any state, any birthing facility can access them and use them and begin to implement them in their own team. So, we are working directly with the state teams and we also have several hospital systems that we're engaged with to engage in those hospitals as well.

[25:13] On this screen you'll see our current AIM states so if your state is listed or if you're adjacent to a state you may want to contact them to learn about implementation and if your state is not listed please feel free to contact us directly so that we can begin to have communication and talk about how AIM might be implemented in your state.

[25:34] If you're interested in learning more or just accessing the information about the maternal health safety bundle it's all available here on the Council for Patient Safety's website and I hope that you will connect with us and the leadership team to learn more about this initiative.

[25:52] I'd like to move very quickly just to give you a very brief update on the Women's Preventive Services Initiative. This five minutes is going to highlight our current activities but the main thing that I'd like to leave you with is that today HRSA has launched an update to the existing Women's Preventive Service Guidelines that information is all available on our website and I do have the links in the slide set so I hope that when we finish this conversation today that you'll access the information to learn more.

[26:26] So, this initiative was recently launched in 2016 to improve adult women's health across the lifespan by engaging a coalition of health professional organizations and patient representatives to recommend updates to the existing Women's Preventive Service Guidelines. Those guidelines have been in existence since 2011.

[26:46] HRSA provided funding to the American College of Obstetricians and Gynecologists over a five year period to recommend updates to the existing recommendations and to make sure we have a comprehensive package of preventive services available to women.

A major component of this initiative is to help and assist with implementation in the clinical setting and also to raise awareness among women across the nation to make sure that they're aware of the services that are currently available to them.

[27:17] The framework for this initiative is there is an overarching advisory panel and the panel provides direct oversight to two committees, the multidisciplinary steering committee is focused on conducting a rigorous evidence view of the site for making updates and recommendations to the package of

preventive services and then again we will begin working with an implementation steering committee in 2017 now that there are updated guidelines to provide this information in the clinical setting.

[27:54] The Women's Preventive Service Initiative has five aims there available on your screen but first and foremost was to just establish a process [28:17] to regularly recommend updates to the package of Women's Preventive Services then to convene a coalition of experts to recommend those updates, to establish a process and then to review and synthesize that information into a package, to recommend those updates to HRSA and then to assist with dissemination and that's step five.

[28:27] For year one, the Women's Preventive Services Team decided to update the eight existing services and they've also added one new preventive service, breast cancer screening for average risk women. You can find information on the evidence review and the final recommendations all on HRSA's website [28:49] and the Women's Preventive Services Initiative website the link is here.

[29:03] At this time I just want to leave you with my e-mail box wellwomancare@hrsa.gov please feel free to reach out if you have any additional questions about the AIM Initiative or the Women's Preventive Service Guidelines I'd be happy to engage with you and I look forward to working with you all in the New Year and Happy Holidays. With that I'd like to turn it back over to Sarah.

Sarah Lifsey

[29:26] Great, thank you so much. Just a reminder to the audience you can submit a question for our speakers online at any time using the questions box on your screen there and after the next speaker at the end of the Q&A we'll also give you a chance to ask a question over the phone, we'll provide instructions at that time. So, I would like to turn to our next and final speaker, Dr. Elliott Main.

Progress of the California Maternal Quality Care Collaborative (slides 51 – 68)

Elliott K. Main, MD – Medical Director - California Maternal Quality Care Collaborative

[29:50] Thank you, Sarah and it is an honor to be speaking to you today on behalf of what we've done in California and now what's going on around the country with the AIM Project. I carry several hats including leading the California Maternal Quality Care Collaborative and Chairing our State Maternal Mortality Review Committee and then working on national committees with both Bill and Kimberly in their respective agencies.

[30:20] What I'm going to talk about today is a bit about CMQCC and how a state can respond and actually put the boots on the ground, if you would, to effect some change. CMQCC, the California Maternal Quality Care Collaborative, is a multidisciplinary, multi-organization collaborative that is really put together under the agency of the State of California with multiple agencies there but with the professional organizations, the hospital associations and key leaders from around the state both from the medical, nursing and public arena.

It is really important to have a broad-based collaborative working on this and other related maternal health issues. This is not something that I, as a physician, can do alone or a hospital can do alone, or even the state department of health can do alone. We really are looking to have a synergy of all these effects of all these agencies and organizations working together.

[31:22] CMQCC is focused on reducing maternal mortality and morbidity. We have a sister agency, CPQCC, that's focused on improving NICU and nursery outcomes. We also have been focused on developing maternal quality measures and then leading large scale quality improvement projects. The importance of data cannot be overstated. We have developed with support from the CDC and others a maternal data center that does rapid cycle data that supports all of these activities.

[31:58] What got our attention in the State of California is a rise in the early 2000s even before some of the issues that Dr. Callaghan was speaking to at the beginning of this we saw California's rate of maternal mortality rise from seven or eight to 14, 15, 16 at the same time the US was starting to rise a bit. So this got the state to be very interested in starting to review these cases and learn from actual case reviews as opposed to death certificate data [32:42] and we published after reviewing six years of data in 2015 what we learned from actual case reviews.

And first of all we did case ascertainment by linkage of birth and death certificates and found actually a quarter of our deaths in California were not on the...had an "O Code" on the death certificate so they wouldn't have made it in. So, unfortunately, the vital records is a combination of under reporting, which had been recognized before, which is why they started doing the pregnancy checkbox to begin with and now we have perhaps a bit of over recording and the truth is somewhere in the middle.

[33:29] But one of our key findings was that each of the specific causes of maternal mortality should be considered as an individual entity, i.e., the issues around hemorrhage are different from the issues around cardiovascular disease likewise.

[33:44] When we looked specifically at what could be done, where were the improvement opportunities, which is really what our contribution to this discussion was, we looked at provider level contributions, patient level contributions and facility level contributions and we did see a fair number of opportunities when we actually looked at the medical records of these cases for providers to have improved their care, in particular it was around pre-eclampsia and obstetric hemorrhage.

By and large women should not die of hemorrhage in the United States. There are occasional exceptions to that but by and large these are mostly, more than half the time, preventable deaths, likewise pre-eclampsia has a high degree of preventability as well. Most of these were due to, as you see, a delayed response to clinical warning signs or actually ineffective care.

[34:46] When you drill down even further though, this is kind of interesting, we look at maternal mortality which is the red column here and that has a rate of 1-2 per 10,000 births so it's not an overly large number but it is divided into typically in most proportion exams of 10-15% for embolism, 10-15% for infection and likewise for hemorrhage and pre-eclampsia, and cardiovascular disease being a bit higher.

When you look at severe morbidities though, and that can be defined either as Dr. Callaghan suggested either by ICU admissions and multiple transfusions or just by the severe maternal morbidity as defined by the CDC, those are each a log higher so it's 1-2 per 1000 or 1-2 per 100 and now hemorrhage and pre-eclampsia are the dominate forms of morbidity as well as the leading causes of severe maternal morbidity.

[35:52] And they are also large drivers of cost. UCLA's recent study, done here in California, suggested for our Medicaid Agency, Medi-Cal, each hemorrhage and pre-eclampsia cost the State of California 100 million dollars each and every year of maternal and neonatal cost, and, as we were able to document

and others have seen as well, they have high rates of provider quality improvement opportunities that are largely focused on two areas of denial and delay.

[36:40] So, we chose to focus on these for quality improvement efforts in California and these involved developing best practice tool kits, ours there is at the top and we've done a second edition for hemorrhage, we've done them for pre-eclampsia and we have one for cardiovascular disease that's in press, and we've worked with other states who have found similar findings and we have coordinated with New York, Florida, Illinois on all of these and they have now been developed into what is a national patient safety bundle on obstetric hemorrhage and on hypertension illustrated in the middle with the Council of Patient Safety that Kimberly Sherman was talking about with the readiness recognition response and reporting as a national guideline for how to improve care.

[37:32] What we have seen though...what's in the tool kit? So there is not only some examples of hemorrhage response plans but also lists and examples of policies and protocols, and of hemorrhage carts things that you can bring to the bedside, things that really help move things along on in the labor and delivery setting as well as patient education, as well as advice on how to report and follow data.

[38:13] The basic question though as been a bundle is a nice document will it actually change practice and improve care and this is where we spent a lot of time in California is the actual implementation of these kinds of evidence-based products into large scale quality improvement efforts.

[38:35] As I said earlier, having a robust data center is the centerpiece of what we've done in California I think it's critical for all the things that we're undertaking around the country. This involves having the ability to link birth certificate data to patient discharge diagnosis data and adding in some clinical data as needed along the way.

In California we have a very forward looking department of health that's been able to use vital records for quality improvement and so we have access in California to birth certificate data 45 days after the end of every month, similar projects are underway in Florida and in Ohio using vital records for quality improvement. We link these on the fly to discharge diagnosis records and can have pretty robust evidence available for each and every hospital within two months. This has been a big help for driving quality collaboratives in a variety of areas.

[39:45] So, to summarize what we've been doing in California, we had a Task Force that developed tool kits and then run test quality collaboratives with about 30 hospitals each, we ran three of those with hemorrhage and then we've done a statewide, large scale collaborative over the last several years in pre-eclampsia it was about two years after we started with hemorrhage with a similar process with a task force, a tool kit and then a big statewide collaborative that we just have finished up. We're undertaking the same with cardiovascular disease but that involves a lot of outpatient care rather than the inpatient focus that hemorrhage and pre-eclampsia has.

[40:34] What we've seen in our partnership for maternal safety is the interest and willingness of hospitals to engage in this. So, we have 126 hospitals in California that are working together with support from Merck for Mothers. This impacts 264,000 births in California alone and we did this with having mentor teams with a modified IHI model for quality improvement.

[41:07] So, going back to our vital records monitoring we saw that we had a significant rise to begin with and now what's happened in more recent years is that we have gone back down to that 6 or 7 which is in the range actually of most European countries. The debate is as Dr. Callaghan was pointing out is what's happening the rest of the country and whether this 16 or 17 is really now the 22 or is it really

more in the teens. Nonetheless we think even with our enhanced surveillance in California that we're making an impact.

[41:50] We're also seeing how, and this is data that we're about to present at a big medical meeting in January, that the measures of severe maternal morbidity have also declined. As Dr. Callaghan was talking about severe maternal morbidity rising at the same time as maternal mortality was rising as sort of a double check measure, we're seeing severe maternal morbidity particularly among patients who have an obstetric hemorrhage starting to fall and falling by 20% in that population.

[42:33] So, we're very happy with the current state of where we are in California with both maternal mortality and morbidity but I think there are some effective important lessons for an effective large scale quality improvement project that we could share that includes partnering with anybody and everyone that you can look at and this includes public health and clinical medicine working together and national efforts working with state efforts.

Secondly, is sharing the data, having a robust data source available for near real-time quality improvement and that maternal mortality reviews are a critical starter both for agenda setting and for confirming the data in your state.

Lastly, that you have to be prepared to be in this for the long haul. This is not something that will be finished in one year or two years but it should be an ongoing process.

[43:31] I would like to end now and take the questions. I'm going to turn it back over to Sarah. So, thank you for this opportunity.

Questions and Answers (slides 69 – 70)

Sarah Lifsey

[43:44] Great, thank you so much and thanks again to all three of our speakers today it's been a great program and I have already got some questions coming in on the questions pod. As I mentioned at the beginning, we can do questions both online and on the telephone. To post a question online just enter your question in the field in the bottom of the questions box and hit "enter."

[44:09] If you'd like to ask a question over the phone just press *1 to indicate that you have a question and the operator will let us know that there's a question and will indicate to you when it's time for you to ask your question.

[44:19] So, while folks on the phone are joining the queue if they wish to ask a phone question I'm going to start with some of the online questions that have come in and I'm going to start with a question from Ebbie. The question is, and this is for all the speakers:

Is there any effort going on to specify the ICD-10 Code denoting pregnancy-related mortality?

William Callaghan, MD, MPH

[44:43] This is Bill Callaghan; so the codes for...the ICD-10 Codes for maternal mortality are there. They are essentially any code that is...any death that can be coded to Chapter O. It maybe that what the questioner is getting at is there any effort to make those codes more specific. To my knowledge there

are not, if anybody else knows of any efforts, that would be enlightening to me. International classification of diseases is run through the World Health Organization and the codes are truly international. So, do we have more specific codes for deaths like cardiovascular deaths in pregnancy to my knowledge there is nothing on the horizon that says that is going to happen.

Elliott K. Main, MD

[45:44] This is Elliott Main; Dr. Callaghan also mentioned that there has been work that many of us have done with the CDC on transitioning the severe maternal morbidity codes into ICD-10 and that's a project that I believe Bill is now fairly complete and on your website?

William Callaghan, MD, MPH

[46:05] I don't know that they are...yeah, they are on the website now and hopefully there will be a manuscript coming out as well in the coming year.

Elliott K. Main, MD

Great.

Sarah Lifsey

[46:21] Okay. The next question I have is from Rose Marie.

Given that the determinants of maternal mortality are often the same as the determinants of infant mortality do you see closer collaboration between the fetal and infant mortality review and the maternal mortality review as a potential successful strategy?

William Callaghan, MD, MPH

[46:40] Yes, that's been on people's radars for a long time, in fact, I think the very first talk I ever gave when I came to CDC in 2001 was at the National FIMR meeting in DC where we talked about those parallels. There are some pretty substantive differences as well though. The social determinants are very common, the infant deaths obviously happen more commonly than maternal deaths with about 24,000 infant deaths in the country every year and perhaps about 700 maternal deaths every year.

The other thing that's been difficult, and if Dr. Main wants to chime in because he's more on the ground about reviews, is the component of FMIR where there is conversation between the review and the folks that were directly affected. Obviously in maternal death you don't have the opportunity to talk to the woman but you in theory would have the possibility of talking to family. This has been posed over the years but operationally it has been very difficult to get those kinds of conversations off the ground. What we have been told many times, is among other things maternal deaths are often litigation and it's very difficult to engage families in the conversation around what happened. I don't know Dr. Main if you have anything to add to that?

Elliott K. Main, MD

[48:19] Yes, thank you Bill. This is something that our maternal mortality review committee has thought about long and hard. Besides the other barriers that Bill mentioned most of the time maternal mortalities are identified by linkage which can take a year or two to occur and most of the times it gets to the maternal mortality review committees then one, two or even longer years after the event and that has really been a factor dissuading us from trying to go back and talk with key parties in person.

New York State tried to do this for several years where a team would come to a hospital shortly after a maternal death was reported to the state department of health and it was not very effective because of all the emotions involved with a maternal death which are huge and there are a lot of defensiveness in terms of the interviews.

So, there are issues that can be learned by interviews. We have been doing some near miss interviews which are very instructive for healthcare providers to learn how they're being perceived and what the missing elements of the care were and I think that's probably the future is to look more at near misses which happen a lot more frequently than a maternal death which that 1 per 10,000 or 1 in 5,000 births is pretty uncommon and most places won't ever...most small hospital won't ever have one but they will have near misses so that for us poses a major learning opportunity.

Sarah Lifsey

[50:14] Great, thank you. I'd like to ask a question now from Joan and this is to all the speakers:

Can any of the speakers speak on illicit drug overdose maternal deaths, specifically opioids and heroin, how are those being classified?

William Callaghan, MD, MPH

[50:36] This is Dr. Callaghan, again, we're just starting to look at those. What's difficult about it, at least on the national view, is we can begin to count when opioids are involved when it's noted on a death certificate. What we can't get at is when they were involved and it's not noted on a death certificate. So, we think there are false negatives, but given we just now finished looking at the year 2013 and all of the deaths that were submitted to the Pregnancy Mortality Surveillance System and we have taken note of all deaths where there was an opioid either as a direct cause of death or a contributing cause of death and we'll just begin to look at those data.

Will we call them a pregnancy-related death is a whole different question. What we've tended to look at in the past is trying to answer the question, had she not been pregnant would she not have died, and it's going to be difficult to answer that in people who are chronically abusing opioids but at the same time in light of the current epidemic we believe that those deaths need to be accounted for regardless of what we call them. So, it is on our plate to begin to go back and start looking at those deaths and probably generating some kind of national estimate of deaths during or shortly after pregnancy do to opioids as best as we can count them.

Elliott K. Main, MD

[52:28] In California we are actually carefully looking at the deaths from suicide, substance abuse and homicide, and in suicide and substance abuse there are categories that can overlap and preliminary

findings so far, and these are being identified by linkage of birth and death certificates not just by O Codes on death certificates, and what is an interesting finding so far is that the rates of mortality from suicide and substance abuse are actually lower in pregnancy in the first 42 days after delivery then they are at other times in a women's reproductive life.

So, there are some protective pregnancy effects perhaps for those occurrences and then as the months go by after delivery the rates get up higher to the typical non-pregnant population of women and reproductive age groups, which is to say that this is again a national epidemic and a terrible outcome but it does not appear to be happening more often in pregnancy than not and pregnancy does provide the opportunity for women to get into care, to get into rehab, to get into other services that they might not otherwise do so we see that as an important opportunity to have that be part of prenatal care is to really get women into the long-term care that they need.

Sarah Lifsey

[54:10] Okay, great. Kimberly, I'd like to follow-up with you:

Is opioid use and heroin use on the radar for the bureau's National Maternal Health Strategy or either at the state and national level initiatives you described?

Kimberly Sherman, MPH

[54:26] Hi, Sarah, yes, it is. As I mentioned previously the bureau has been working to address this especially through the AIM Program that's our first effort and so we have convened a group of experts to begin developing a maternal health safety bundle specifically to help clinicians provide treatment, assessment and treatment to women with a dependency, women who present with a dependency that information should be available in February in the new year, so again I would just refer everyone to the council's website and we'll definitely send out a release once that safety bundle is available. It's just a first effort but more to come in the future.

Sarah Lifsey

[55:15] Great, thank you. I'd like to next ask a question from Kathy and this is addressed to all the speakers.

Could the speakers comment on the value or possibilities of having women of childbearing age, the consumers, involved in the development of patient safety bundles?

Elliott K. Main, MD

[55:32] This is Elliott Main; I sit on the AIM Project as well as our state projects and we have had patient representatives on all of the bundled development teams as well as good representation from many different specialties and many different approaches. So, you can never have enough but there is representation and involvement on the council itself as well as on the bundles. On the opioid bundle that is going to be coming out in February there are several women engaged in that who have been formerly opioid users and I think that's an important perspective.

Sarah Lifsey

[56:27] Great, thank you. I think I've got time for at least one more question. I'm going to ask...this question is from Megan and it is for Kimberly.

In the beginning of the presentation it was mentioned that the AIM Program has done a lot of the crosswalk between ICD-9 and 10 codes. Is this available and where could this be found?

Kimberly Sherman, MPH

[56:52] That's a good question. I came to the AIM Program rather recently so I don't know if it's available. Elliott would you?

Elliott K. Main, MD

[56:59] This is the project that Dr. Callaghan and I were speaking about earlier which is the severe maternal morbidity crosswalk that is now on the CDC website I believe, if you Google CDC and severe maternal morbidity you'll go there. [57:19] So, I see there's one more comment.

Sarah Lifsey

Great.

Elliott K. Main, MD

[57:25] One more question on there about racial and ethnic disparities.

Sarah Lifsey

Sure.

Elliott K. Main, MD

[57:29] We did not comment on that today for the sake of time but that is important to all three of these organizations who presented here because black women have three to four times higher rates of maternal mortality and two to three times higher rates of severe maternal morbidity than any other racial or ethnic group save Native-Americans and that is a major focus of our project in California and several other projects around the country is to try and reduce that. We don't have good answers yet but there are pilot projects and a safety bundle that's being developed to look at that so I would stay tuned on that but that's of acute interest and need because this is essentially a national shame that African-American women have three to four times higher rates no matter how you count it, no matter where you count it.

Sarah Lifsey

[58:27] Great, thank you for answering that.

I have a question from Susan who wants to know if California consumers have access to this maternal morbidity data by hospital or by any other demographic breakdowns.

Elliott K. Main, MD

[58:47] The maternal morbidity data is a research project currently so it is not a public release data element. Also when you break maternal morbidity down into smaller sizes like hospitals as opposed to states or nations you get into issues of case mix, some hospitals, particularly tertiary hospitals, have higher rates of severe morbidity because they a higher proportion of sick patients who come to those hospitals. So, we haven't yet worked out the right way to risk adjust that for widespread release though that is a piece of work in process here. So, it's not ready for hospital to hospital comparisons that would be ready for overall population comparisons.

Adjourn

Sarah Lifsey

[59:40] Okay, great, well, I think that is actually all the time that we have for discussion today. Answers to any questions that were asked that we didn't get a chance to address during this Q&A period will be posted in writing along with the program archive and that archive will be available on the DataSpeak in the next few weeks you can access it at your convenience.

If you think of any more questions that you want to ask our speakers over the next week you can submit those to us via e-mail using the e-mail address you see on your screen here dataspeak@altarum.org and before you go we'd just like to know that we will be broadcasting more DataSpeak programs in the coming months and announcements about those future DataSpeak programs will be sent out via e-mail to everyone who registered for today's program.

And the last thing is before you log out we would really appreciate it if you took a moment to provide us with feedback on today's program, it's important to us that we have your input on this session and also your thoughts and recommendations for future programs. It's a pretty short survey, if you click on the evaluation link on the screen now it will open up in a new window. All right, today's program is now complete. I want to thank our speakers again and thank everyone for joining us and hope that you have a great afternoon.

About DataSpeak

The MCHB's DataSpeak webinar series is dedicated to the goal of helping MCH practitioners on the Federal, State, and local levels to improve their capacity to gather, analyze, and use data for planning and policymaking. DataSpeak is funded by the Maternal and Child Health Bureau's Office of Epidemiology and Research under the supervision of Jessica Jones, MPH.

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