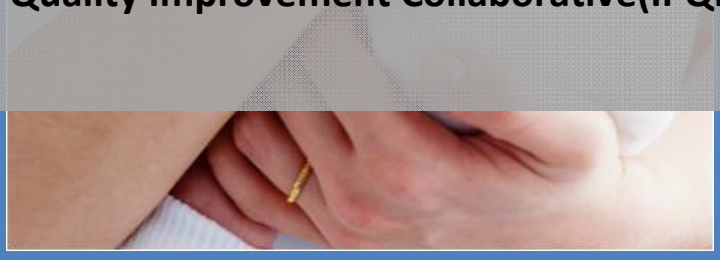
RECOMMENDATIONS TO INCREASE THE USE OF PROGESTERONE TO PREVENT PREMATURITY

Indiana Perinatal Quality Improvement Collaborative(IPQIC)



Endorsed by the IPQIC Governing Council

June 2015

Recommendations to Increase the Use of Progesterone to Prevent Prematurity

Aim

The aim of the Progesterone to Prevent Prematurity (P3) subcommittee is to ensure 100% of eligible women receive progesterone to prevent a recurrent premature birth.

Subcommittee Participants

The following individuals were involved in the development of the recommendations:

Name	Agency	Role
Robert Baker, MD-CoChair	Managed Health Services	Vice President for Medical Affairs
Brennan Fitzpatrick, MD	The Women's Hospital	Director, High Risk Obstetric Services
Lori Grimm, RN	The Women's Hospital Deaconess Health System	Manager, Quality and Patient Safety
Kendra Ham	Indiana State Dept of Health	MCH Epidemiologist
Dawn Kackley	Terre Haute Regional Hospital	Clinical Coordinator, Women & Children's Services
Joseph Landwehr, MD-CoChair	IU Health Ball Memorial	Perinatologist
Minjoo Morlan, MSW	IN March of Dimes	Associate Director, Program Services
Daniel Sunkel, MD	Women's Clinic	Obstetrician-Gynecologist
Erin Walsh	Family and Social Services Administration	Office of Medicaid Policy and Planning
Kristi Williams, PharmD	Union Hospital	Director of Maternal and Child Services

Overview

Preterm birth is the leading cause for infant morbidity and mortality in Indiana and in the United States. Premature delivery affects 11.4% of the births in the US. Preterm births account for 50% of the pregnancy cost as estimated by Medicaid data, largely coming from the costs associated with neonatal admissions.(MHPA) In Indiana, according to data from 2011-2013, 8.7-9.0% of all preterm births were a second preterm birth. If progesterone could prevent 30-40% of all the recurrent preterm births, 220 preterm births in 2011, 209

preterm births in 2012 and 215 preterm births in 2013 could have been eliminated (644 preterm births over 3 years). Among Indiana mothers who had a history of a previous preterm birth, 29-33% gave birth to a second preterm birth (ISDH, MCH). (ISDH, MCH) March of Dimes has estimated each preterm birth on the average cost $54,000 per NICU admission. This would lead to a potential savings of $11.9 million in 2011 and $11.2 million in 2012. This does not take into account the long term costs and the emotional toll that is placed on the families and society of infant deaths and of surviving premature infants with ongoing physical and developmental problems.

Since only 8-10% of the preterm births in Indiana were recurrent preterm births, this does not address the other 7600 preterm deliveries in 2011 or the other 7300 preterm deliveries in 2012. In order to make a significant impact on preventing a preterm delivery, therefore, a screening strategy for identifying asymptomatic women at risk for preterm delivery must be devised. *Iams et al* and *Hassan et al* have described universal cervical length screening protocols and treatment options. These studies and protocols estimate a 30% reduction in preterm birth in these otherwise asymptomatic women which could eliminate 450-500 premature births in Indiana yearly. This translates into huge savings both monetarily and in the prevented morbidity and mortality of these newborns.

As the subcommittee was evaluating the most effective strategy to tackle the daunting task to reduce the number of premature births in Indiana, it became very evident that the strategy should take place in phases. The resources are not readily available to approach all issues simultaneously; therefore, we divided the long term strategy into two major phases:

Phase 1 – Identify women with a prior preterm birth and place them on 17 alpha-hydroxyprogesterone caproate (17-P) injections per well published protocols. To facilitate this strategy, the barriers that are facing the patients and the medical practitioners need to be identified and minimized. The goal of the committee is to develop a strategy that will facilitate the ease of access to 17P for all parties. Phase 1 will be the area for the recommendations presented in this document.

Phase 2 – Develop a screening protocol that identifies the women who are highest risk for a preterm delivery, both low and high risk groups. The current screening protocols recommend universal cervical length screening, which poses a challenge from both an access standpoint and cost/benefit analysis. Women who meet the short cervical length criteria would then be placed on vaginal progesterone if they have not had a previous preterm birth. These recommendations will be addressed at a later date as Phase 2.

New Professional Society Practice Guidelines

Below is a summary of recent practice guidelines from the American Congress of Obstetricians and Gynecologists (ACOG). (American College of Obstetrics and Gynecology)

Progesterone strongly recommended:

- 17-P for singleton pregnancies with a prior spontaneous preterm singleton birth, regardless of cervical length. Preterm birth is defined as less than 36 6/7 weeks.

Progesterone not recommended:

- Singleton without a prior spontaneous preterm singleton birth with an unknown or normal cervical length
- Multiple gestations regardless of cervical length
- Symptomatic pregnancies (preterm labor or preterm premature rupture of membranes), regardless of cervical length

Barriers to the Use of 17P

The subcommittee discussed barriers to the use of 17P and observed they fit in the following categories:

Payment:

- Multiple prior authorization mechanisms dependent on the member's Medicaid or commercial insurance;
- Home based injection providers not familiar to the medical practitioner, e.g., use of Alere Home Health Services;
- Practitioner not directly reimbursed for the service and has additional paperwork; and
- Office visits for injection require the medication to be stocked and consume office space and time.

Administrative:

- Additional paperwork;
- Different policies and processes by the various health plans, Medicaid and commercial, specifically regarding coverage of brand-name Makena or compounded 17-P; and
- Insurer requirement for prior approval can be very onerous; it is unclear why prior approval is needed since this is the only recognized intervention and it is unlikely it is being used by patients for whom it is not indicated.

Practitioner:

- May not be convinced that 17-P or intravaginal progesterone is effective;

- Aware, but no sense of urgency;
- Women may present for care outside of recommended timeframes;
- May not be aware of 16-24 week entry or continuation to 36+ weeks; and
- Confusion over use of Makena vs. compounded 17-p.

Patient:

- Requires home injections or self-administered injections;
- Late entry into prenatal care;
- Lost to follow-up, not clear if restarting progesterone is helpful;
- Not aware that treatment is available –does not demand treatment;
- May not self-identify as having given a previous preterm birth if new to the practice; and
- Transportation to practitioner's office or clinic.

Examples from Other States of 17-P Interventions

The subcommittee reviewed what some other states have done to increase the use of 17-P to reduce their preterm delivery rates and thus reduce their perinatal morbidity and mortality rates. The following states have developed programs utilizing different strategies.

Louisiana

The state developed a program to help the clinicians with the ordering process. In order to reduce the often time-consuming and cumbersome use of pre-authorization forms and the referral process, Louisiana developed a website called the 17P Louisiana Resource Center Website, www.17pla.org. From this website the ordering process, billing process and referral process are easily accessible. Information about the preterm birth initiative and outcomes are presented.

North Carolina

North Carolina took a different approach and put 17-P therapy within a broader program called the Pregnancy Medical Home Program. The goal of this program was to improve access and the quality of prenatal care to all pregnant women. All pregnant women are screened for their preterm delivery risks and then appropriate therapy is initiated through the program. Their website can be accessed through the following link: http://www.communitycarenc.com/population-management/pregnancy-home/.

Ohio

The Ohio Perinatal Quality Collaborative (OPQC) has developed a statewide progesterone quality improvement project and has streamlined the access to services. Their website is

https://www.opqc.net/projects/progesterone. Their strategy involves enrolling physicians and clinics into their project provider network. These locations are then listed on the website as providers of 17-P and the patients would obtain therapy through these approved centers. All offices and clinics are encouraged to enroll in their program and become an "approved" center. The centers in return are charged with helping the OPQC obtain accurate records and outcome data. The approved Centers then collect data on their enrollment of patients to receive progesterone therapy and have an easy on-line form they can fill out to report the barriers they encounter in trying to obtain or administer the progesterone to the patients.

South Carolina

South Carolina has the South Carolina Birth Outcome Initiative. Their website is https://www.scdhhs.gov/organizations/boi. From this website providers will access the Universal 17-P authorization form. It is part of their Progesterone Outreach Program; one of the major objectives of the Birth Outcomes Initiative is to make access to 17-P "hassle free."

Expanding the Progesterone Strategy

A recent Issue Brief from Medicaid Health Plans of America (MHPA)Center for Best Practices (available at http://www.mhpa.org/Education_Resources/MHPA_Center_for_Best_Practices/MHPA_Best_Practices_Compendia/) (Medicaid Health Plans of America) summarized action steps for Medicaid health plans wanting to accelerate evidence-based use of progesterone to prevent preterm birth. These steps may be helpful in Indiana:

Improve early identification of pregnant mothers

One of the biggest challenges to improvement of all Perinatal outcomes is early entry in to prenatal care. Access to early prenatal care will ensure early identification of patients at risk for a preterm birth through both history and cervical length screening strategies. Submission of a timely Notification of Pregnancy (NOP) would identify the patients at risk and would allow assignment of a case manager to coordinate the appropriate services for the patient. Initiating 17-P therapy prior to 20 weeks improves its efficacy. Ideal initiation of therapy begins weekly at 16 weeks of gestation.

Ensuring adequate obstetric history

Reminding providers to identify the patients at risk for preterm delivery and to initiate therapy at the appropriate gestational age is crucial for the success of the program.

Referral to high risk case management in a timely manner can ensure the patients have access to the appropriate treatment.

Improve use of 17-P

Under utilization of 17-P is still the major concern. 17-P is covered by all major insurers, the difficulty arises in the manner in which the progesterone is obtained and administered. Some companies cover home therapy which is both convenient for the patient and ensures compliance as well. Minimizing the barriers to the referral process is crucial to the program's success.

Improve patient adherence to therapy

Patient compliance always presents a challenge for clinicians. Convenience helps ensure compliance in many circumstances. Home therapy is ideal for many reasons but some of the major benefits include patient convenience, patient satisfaction and patient compliance.

Evaluate Cost-Benefit Analysis

Identifying and treating patients for preterm birth has been shown to be cost-effective in many studies. (Jennifer I. Bailit) The use of 17-OHP has been associated with a potential $2 billion opportunity. (Joanne Armstrong)When evaluating costs MHPA recommends the following issues should be considered:

- Cost of covered screening modalities
- Projected utilization of screening over time
- Expected numbers of high risk patients identified and treated
- Potential reductions in preterm birth rates
- Estimated reductions in maternal and newborn medical services, especially NICU admissions
- Estimated reduction in long-term medical and other costs on the basis of fewer modalities

Quality Improvement Strategies

The focus of efforts to improve practices to prevent preterm birth may include:

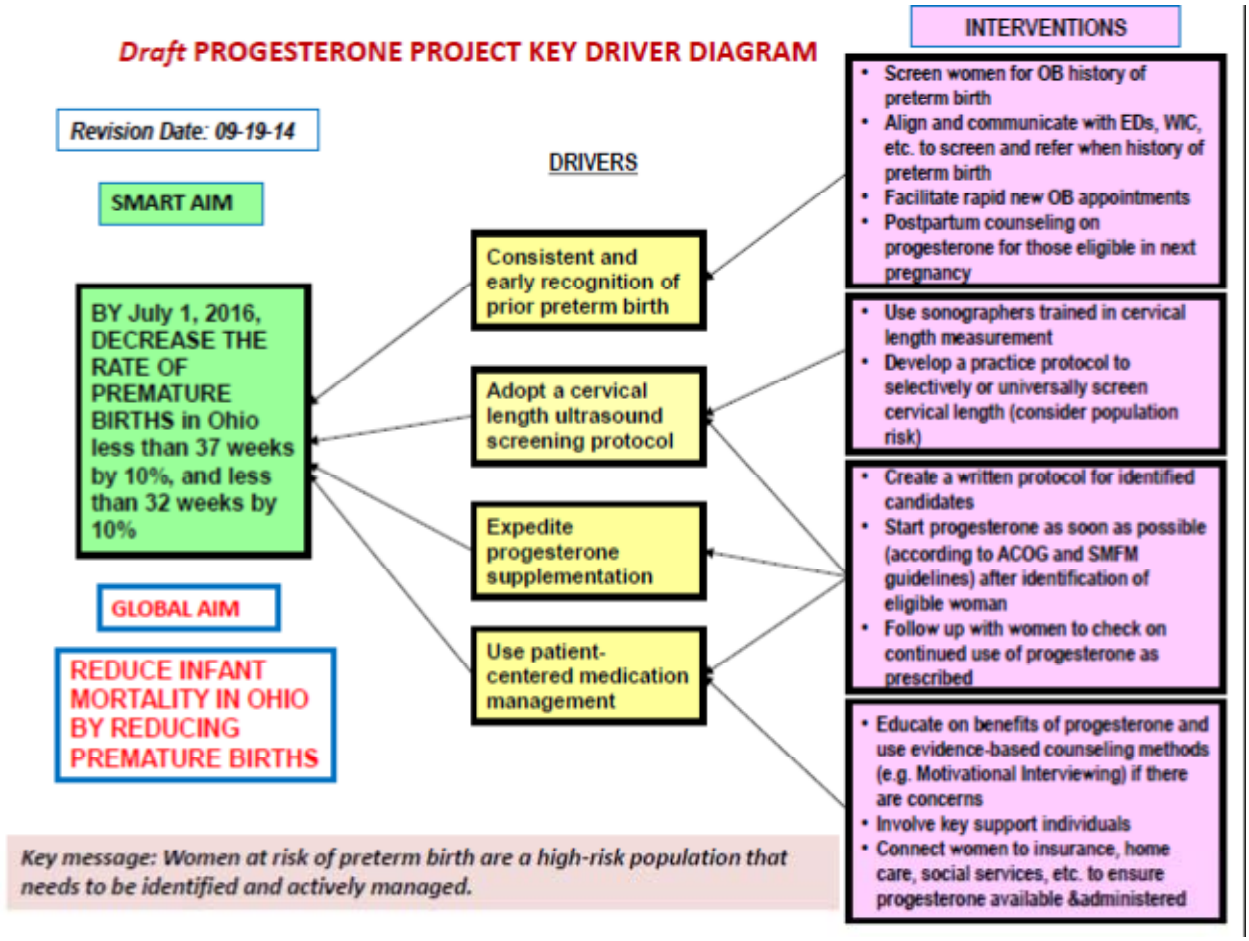
- Improve the Risk Screening and utilization of progesterone therapy into our prenatal care programs
- Improve the consistency in the physician screening process

- Address the formulary gaps in the available forms of progesterone, an example would be Makena versus compounded 17-P
- Engage ALL pregnant women into early prenatal care and screening programs
- Secure executive buy-in
- Use project managers and a cross-functional team
- Develop clinical algorithms
- Review and update policies, processes and provider information
- Establish metrics to track, uptake and evaluate impact on outcomes and costs
- Alert clinicians and build momentum for change
- Empower patients
- Maximize case management utilization and effectiveness
- Promote greater awareness of evidence based recommendations

Recommendations

The subcommittee believes there should be an initial phase and the aim of that phase should be to ensure 100% of eligible women receive progesterone to prevent a recurrent premature birth. Ideally this phase should be conducted in primary obstetric providers' offices as a quality improvement project. When a Perinatal Learning Collaborative with a rapid response data system is developed in Indiana, increasing the use of progesterone to prevent prematurity, as was instituted in Ohio, would be an ideal Quality Improvement Project.

The Figure below shows how the Ohio Perinatal Quality Collaborative approached increasing the use of Progesterone to prevent prematurity. The key driver diagram can be found at https://opqc.net/projects/progesterone%20joining



In the interim, the subcommittee recommends developing tools to assist obstetric providers and pregnant women in receiving 17OH progesterone as needed.

- The first step is to identify ALL pregnant women with a prior preterm singleton birth delivered at less than 37 weeks gestation and not induced for a medical indication. There needs to be earlier and more consistent recognition of risk. Potential interventions include:
  - Use a prompting system(such as a checklist) at the first OB visit to screen for history of spontaneous preterm birth (SPTB)
  - Use systems that allow for fast-track of the first prenatal visit for women with a history of SPTB
  - Provide early dating ultrasounds routinely to pregnant women
- Once these patients are identified the next step is to expedite the initiation of weekly 17-P injections. Elimination of the barriers to access 17-P will be imperative to the success of the program.
  - The subcommittee recommends the development of a unified prior authorization process among all Indiana health insurers similar to the one Medicaid uses now.

    - In addition there should be a unified process for 17P distribution.
- The development of a unified prior authorization process and unified distribution process will require continued work by the members of this subcommittee and representatives of commercial health insurance providers. The use of the OPQC provider survey on Barriers To Efficient Administration of Progesterone to Prevent Preterm Birth (Injectable 17-OHPC and Vaginal Products may be helpful to bring the group together. This survey is available at https://opqc.net/projects/progesterone%20data%20collection%20forms
- Case management is an effective management strategy and is available through current Medicaid Managed Care Entities. Use of the member's managed care plan, if applicable, can smooth the path to authorization approval. All MCEs strongly promote use of 17-P. Use may be simplified by the use of the grid similar to that attached in Appendix A. Cooperation from commercial health insurance companies will be necessary for complete information on the grid.
- The subcommittee recommends in the long term using Birth Certificate data to monitor the use of 17P in eligible women annually. However, this would require some changes in the way data is collected:
    - There must be accurate information on the birth certificate about a previous preterm birth.
    - The section of medical procedures during pregnancy would need to be revised to specifically include use of 17P
- The subcommittee recommends that quality measurement of the use of 17P for eligible women be done at the hospital level.
    - The metric would be the percentage of eligible women who receive 17P to prevent a recurrent SPTB.
    - The gestational age at initiation of therapy should also be recorded.
    - An outcome measure would be the average gestational age of babies of eligible mothers who received 17P and those eligible who did not receive 17P.
    - These metrics could be used as for measurement of the effectiveness of a quality program at the hospital level.
    - The metrics could also be used as a quality indicator for physician re-credentialing decisions.
    - The measures could also be used to demonstrate meaningful use of electronic health records.
- As Indiana develops Coordinated Perinatal Systems of Care, the subcommittee recommends that Obstetric Perinatal Centers include the appropriate use of 17P to prevent recurrent SPTB as a training topic and a quality assurance measure to be used with hospitals in their systems.

- The subcommittee recommends that the IPQIC Education Committee prepare materials for medical practitioners and consumers to promote the use of 17P to prevent recurrent SPTB.
    - Patient Education materials are available (e.g., http://www.marchofdimes.org/pregnancy/progesterone-treatment-to-prevent-preterm-birth.aspx) and should be widely distributed especially to women who have had one preterm birth.
    - Medical practitioner materials including an Inpatient Prematurity Form, Outpatient Progesterone Candidate Form, Outpatient Data Collection Form, Outpatient Enrollment Log Sample, and an Outpatient Monthly Site Profile Sample are available on the OPQC Progesterone Project site at https://opqc.net/projects/progesterone%20data%20collection%20forms
    - Use of 17P to prevent recurrent spontaneous preterm birth should be integrated with all preconception, interconception, and early prenatal care educational materials and tools.

Conclusion

Indiana must integrate the use of 17 P to prevent recurrent spontaneous preterm birth into guidelines for preconception, interconception and early prenatal care. Prompting clinicians on the importance of and providing tools to assist with the identification of patients with a prior spontaneous preterm birth should be obtainable with minimal effort and cost. Disparity of care and clinician resistance should be evaluated and eliminated. With the plethora of available literature supporting the effectiveness and safety of weekly 17-P injections, clinician non-acceptance should not be tolerated. The use of 17-P in all eligible patients is the standard of care.

Enrollment in treatment and acquisition of 17-P may prove more challenging but should also be an obtainable goal. Universal coverage by all insurance plans in Indiana, whether private or public, should be expected. Elimination of barriers to access 17P will require further work of IPQIC, Indiana Medicaid and Indiana commercial insurance providers. Monitoring the use of progesterone to prevent premature births with the use of vital records will require changes to the Indiana birth certificate. In the interim and for quality improvement purposes, the subcommittee recommends that hospitals use metrics to increase the use of progesterone among eligible women in their obstetrics programs. In addition, the measurement of the appropriate use of progesterone to prevent preterm births should be used by the developing Indiana Obstetric Perinatal Centers as training topics and quality assurance measures. Educational materials for consumers and tools for medical practitioners are available and this subcommittee requests the help of the IPQIC Education Committee in deciding on effective materials and promoting their dissemination.

Universal cervical screening is a long term goal of this committee but implementation strategies will be deferred to Phase 2. It is the hope of the committee that the screening protocol devised by *Jay Iams et al* may someday be universally implemented. (See algorithm attached in Appendix B)

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Appendix A

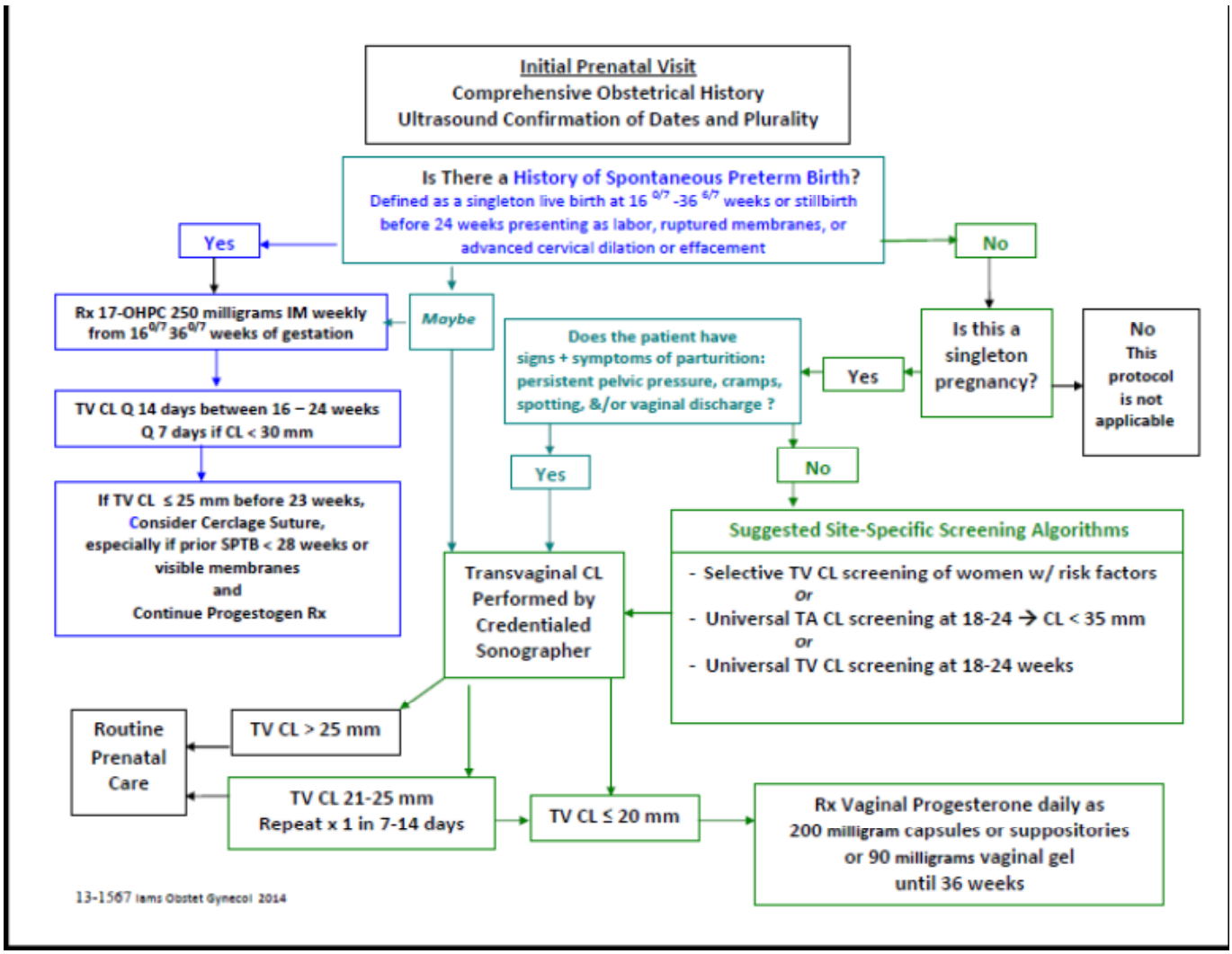
Managed Care Grid

17-P Authorization

Plan	UM Process	UM Contact Info
State of Indiana	Yes	Phone: 855-577-6317 (Catamaran) Email: PDL@fssa.in.gov Website: https://inm.providerportal.catamaranrx.com/providerportal/faces/PreLogin.jsp
MHS	Yes	Phone: 877-647-4848 Fax: 866-912-4245 Website: http://www.mhsindiana.com/for-providers/provider-forms/
Anthem	Yes	Phone: 866-408-7187 Fax: 800-601-4829 Website: http://www.anthem.com/wps/portal/ahpprovider?content_path=provider/in/f3/s4/t1/pw_ad089349.htm&state=in&rootLevel=2&label=Pharmacy%20Information
MDWise	Yes	Phone: 855-491-0633 Fax: 855-811-9324 Website: http://www.mdwise.org/for-providers/forms/prior-authorization/
Commercial Sample: Aetna	Yes	Phone: 866-503-0857 Fax: 866-267-3277 Website: https://www.aetna.com/health-care-professionals/precertification.html

Appendix B

Iams Algorithm


Initial Prenatal Visit
Comprehensive Obstetrical History
Ultrasound Confirmation of Dates and Plurality
Is There a History of Spontaneous Preterm Birth?
Defined as a singleton live birth at 16 0/7 -36 6/7 weeks or stillbirth before 24 weeks presenting as labor, ruptured membranes, or advanced cervical dilation or effacement
Yes
No
Maybe
Rx 17-OHPC 250 milligrams IM weekly from 16 0/7 36 0/7 weeks of gestation
TV CL Q 14 days between 16 – 24 weeks
Q 7 days if CL < 30 mm
If TV CL ≤ 25 mm before 23 weeks,
Consider Cerclage Suture,
especially if prior SPTB < 28 weeks or visible membranes
and
Continue Progestogen Rx
Does the patient have signs + symptoms of parturition: persistent pelvic pressure, cramps, spotting, &/or vaginal discharge ?
Yes
No
Is this a singleton pregnancy?
Yes
No
This protocol is not applicable
Suggested Site-Specific Screening Algorithms
- Selective TV CL screening of women w/ risk factors
Or
- Universal TA CL screening at 18-24 → CL < 35 mm
Or
- Universal TV CL screening at 18-24 weeks
Transvaginal CL Performed by Credentialed Sonographer
Routine Prenatal Care
TV CL > 25 mm
TV CL 21-25 mm
Repeat x 1 in 7-14 days
TV CL ≤ 20 mm
Rx Vaginal Progesterone daily as
200 milligram capsules or suppositories
or 90 milligrams vaginal gel
until 36 weeks
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