It is the mission of the High-Risk Pregnancy Program to ensure that every woman in Arkansas at risk of having a complicated pregnancy receives the best possible perinatal care.

Leadership

Curtis Lowery, M.D.,
IDHI Medical Director

Tina L. Benton, R.N.,
IDHI Program Director

Anne Lasowski, MIS, MBA,
Program Administrator,
Episodes of Care,
DMS/DMS Healthcare Improvement Initiative

Tracie Seidl,
IDHI Administrative Services Director

Janet Mann,
Director, Division of Medical Services, AR DHS

Data in this report was captured between July 2019 - June 2020.

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On the Cover:
Stacey Johnson (mother)
Since the spring, 2020, digital health and digital communication have been highlighted like never before. Due to the COVID-19 pandemic, telemedicine specifically has been utilized to provide safe and effective health care. The UAMS Institute for Digital Health & Innovation (IDHI) High-Risk Pregnancy Program (HRPP) is a telemedicine model worldwide, leading institutions for the past 17 years but perhaps now more than ever. A trailblazer for the many telemedicine programs offered through IDHI, the HRPP has been a key player in providing comprehensive maternal care to women across rural Arkansas, offering patient and provider consults, education, guideline development, a 24/7 call center, and case management.

The Perinatal Outcomes Workgroup through Education and Research (POWER) initiative has allowed HRPP to address barriers to implementation of evidence-based practice in Arkansas’ delivering hospitals. In support of this, POWER has been working diligently to lead implementation of obstetrical maternal safety bundles for postpartum hemorrhage and pregnancy-related hypertension in the state. These safety bundles, which bring standardization of care to delivering hospitals in the hopes of reducing maternal morbidity and mortality, have been embraced by most of Arkansas’ 39 delivering hospitals. The 2020 POWER Conference, which shifted to a digital attendance platform due to social distancing, focused on obstetrical emergencies, specifically massive blood loss and hypertensive emergencies in the Delta. Impressively, despite the shift to virtual attendance, the conference saw 93 attendees—as many as it would have any other year.

Additionally, the IDHI Call Center serves as a primary source of referrals to the UAMS Women’s Mental Health Program (WMHP), which offers services to pregnant women with mental health concerns. The WMHP has embraced telemedicine in this time and will continue to do so moving forward, a critical step when mental health and substance abuse issues are escalating.

Although 2020 has proved challenging for us all, I am proud of all that the HRPP has accomplished, not only now, but over the lifetime of the program. We have gained nearly 20 years of valuable telemedicine experience to see us through this trying time, and we will get through it together.

Wishing you all well,

Curtis L. Lowery, M.D.
Director, IDHI High-Risk Pregnancy Program
The IDHI Education Team provides innovative learning opportunities to meet the continuing education needs of busy health care professionals through on-site education, simulation drills, teleconferences, and online training modules. During the COVID-19 pandemic, additional support was offered through livestreamed panel discussions, teleconferences, guidelines and more to communicate the most current information. Through these efforts, continuing education and support was provided to health care professionals in all 75 Arkansas counties.

### Event Topics:
- COVID-19 and Pregnancy: An Update
- IMPACT Arkansas: A Complete Women’s Health Toolkit for Implementation of Access to Care via Telemedicine During the COVID-19 Pandemic
- Novel Coronavirus 2019 (COVID-19) and Pregnancy
- Intrauterine Growth Restriction – Part 1
- Influenza During Pregnancy
- Overview of Bexanolone for Postpartum Depression
- Obstetrical Care of Patients with Spinal Cord Injuries
- Thyroid Disease During Pregnancy
- Intrauterine Growth Restriction – Part 2
- Viral Infections in Pregnancy

### Health Care Provider Statistics:

<table>
<thead>
<tr>
<th>Event Type</th>
<th>Count</th>
</tr>
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<tbody>
<tr>
<td>Attended Live Events</td>
<td>4,193</td>
</tr>
<tr>
<td>Completed Enduring Materials</td>
<td>10,038</td>
</tr>
<tr>
<td>Accessed HRPP Modules</td>
<td>2,532</td>
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<tr>
<td>Total Provider Participants</td>
<td>16,763</td>
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### Continuing Education Activities:

<table>
<thead>
<tr>
<th>Event Type</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIVE Teleconferences and Events</td>
<td>152</td>
</tr>
<tr>
<td>HRPP Educational Modules Live and Archived on LearnOnDemand.org</td>
<td>338</td>
</tr>
<tr>
<td>Other Archived Video or Online Module</td>
<td>472</td>
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<tr>
<td>Total Education Activities</td>
<td>962</td>
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</tbody>
</table>

*Many live events were cancelled due to COVID-19, which affected attendance.*
Top 5 Accessed HRPP Educational Modules:

- COVID-19 and Pregnancy: An Update
- The Hispanic Paradox and Biases
- Perinatal Bereavement
- Breastfeeding Initiation, Evaluation, and Troubleshooting
- IMPACT Arkansas: A Complete Women’s Health Toolkit for Implementation of Access to Care via Telemedicine during the COVID-19 Pandemic

*Many live events were cancelled due to COVID-19, which affected attendance.

5,194 CE Hours Awarded for HRPP Modules

Education/Support Staff

Stanley Ellis, Ed.D.  Cheryl Washington, Ed.D.

Jennifer Davis
Amber Govan
Joann Grace
Kesha James
Kimberly Lamb
Brian Lee
Candace Lewis
Lily Valibaba-Sullivan
Rita Tuggle
Samantha Wilson
The IDHI High-Risk Pregnancy Program (HRPP) offers a variety of educational opportunities for Arkansas nurses and physicians through an abundance of educational platforms, including live sessions, interactive videos, virtual conferencing, and online continuing education modules. This includes national programs such as the Sugar/ Safe, Temperature, Airway, Blood Pressure, Lab, Emotional Support (STABLE) Program; Neonatal Resuscitation Program (NRP); and Association of Women’s Health, Obstetric, and Neonatal Nurses Fetal Heart Monitoring (AWHONN FHM) Program, all taught by certified nurse educators. HRPP also addressed the COVID-19 public health crisis by providing three teleconferences focused on the care of pregnant women during the pandemic.

**Attended Live Events:** 4,193

**Teleconferences Offered**
- ONE Team
- PedsPLACE
- OB/GYN Grand Rounds
- HROB Teleconference

Although the Education Team attempts to have complete attendance numbers each month, the nature of our statewide educational efforts provides a challenge to get 100 percent of these numbers in a month’s timeframe. At the end of each year, we get a summary from the Office of Continuing Education of health care providers attending our events. Our year end totals are larger and depict the accurate numbers. The monthly numbers give an in-room snapshot of attendees and not statewide attendance.

*Many live events were cancelled due to COVID-19 which affected attendance.*
To ensure that high-risk OB health care providers had the information needed to care for patients during the COVID-19 pandemic, the IDHI Education Team used a variety of platforms to disseminate information across the state, including panel discussions, teleconferences, and telemedicine video visit toolkits.

**Statewide Panel Discussions**
The Education Team hosted a series of livestreamed panel discussions featuring the latest information and education about COVID-19. With information changing daily, the teleconferences provided health care professionals with the opportunity to hear the latest news and ask questions of experts from UAMS and the Arkansas Department of Health. The panel discussions were held as special presentations of Connecting Across Professions (CAP), are available on LearnOnDemand.org.

### High-Risk OB Teleconferences
The High-Risk OB (HROB) teleconference for health care providers focused three presentations on COVID-19 specific to the care of pregnant women, which allowed health care professionals around the state to obtain the most current information and resources. The teleconferences are available on LearnOnDemand.org.

<table>
<thead>
<tr>
<th>Presentation</th>
<th>Presenter(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Novel Coronavirus 2019 (COVID-19) and Pregnancy</td>
<td>Julie Whittington, M.D.</td>
</tr>
<tr>
<td>Implementation of Access to Care via Telemedicine during the COVID-19 Pandemic: A Complete Women’s Health Toolkit</td>
<td>Dr. Luann Racher and Dr. Chad Taylor</td>
</tr>
<tr>
<td>Update: Novel Coronavirus 2019 (COVID-19) and Pregnancy</td>
<td>Julie Whittington, M.D.</td>
</tr>
</tbody>
</table>

**Participants:** 191

<table>
<thead>
<tr>
<th>In-Person</th>
<th>Total Participants</th>
<th>Online Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>116</td>
<td>791</td>
<td>675</td>
</tr>
</tbody>
</table>
Telemedicine Video Toolkits

Provider and patient step-by-step instructional guides and videos for seven telemedicine modalities were developed and published for both providers (LearnOnDemand.org) and patients (PatientsLearn.org). Guides were developed for MyChart Epic, UAMS e-Link Portal (Visuwell) HealthNow, Cisco Meeting, FaceTime, Google Hangouts, Skype, and Zoom. These guides, a response to temporary changes in federal laws governing telehealth/telemedicine, were developed to assist health care providers with a quick implementation of telemedicine to care for their patient population and to help patients prepare for the use of telehealth/telemedicine.

Digital Health Tip of the Day

- Created to assist providers new to telehealth or telemedicine
- Created to assist with COVID-19 pandemic
- Published and archived on IDHI website
- Distributed to UAMS staff via daily newsletter from UAMS Communications and Marketing

“As the COVID-19 situation continues to evolve in Arkansas and around the world, I hope the online education opportunities through UAMS can continue in the coming weeks and months.”

COVID-19 Panel Discussion Participant
The Angels guidelines are an integral part of the High-Risk Pregnancy Program’s effort to offer obstetrical and neonatal education to providers, binding maternal-fetal medicine and neonatology to rural areas through technology. A freely accessible, mobile-friendly website was specifically developed for obstetrical and neonatal guidelines, increasing access to evidenced-based practices for both urban and rural health care providers. The intent of the guidelines is to promote best practices in health care delivery for Arkansas’ women and babies, based on scientific evidence, national standards, and expert consensus. For busy health care providers today, the guidelines website makes it easy to stay abreast of updates in practice.

Since 2003, guideline development has been a collaborative effort between more than 200 expert Arkansas authors from multiple disciplines, Arkansas reviewers, and out-of-state physician peer reviewers. Annually reviewed and updated by content experts, 169 obstetrical and neonatal guidelines can be freely accessed 24/7 from a computer or mobile device at angelsguidelines.com.

Over 2,500 health care providers utilize this resource. Arkansas providers are encouraged to assist with guideline development and improvement by registering on the site and submitting comments and suggestions.

Quick Facts About the ANGELS Guidelines

- Promote best practices for health care delivery in Arkansas based on scientific evidence and consensus

- Offer essential, readily-accessible, well-organized clinical information as references for practicing physicians and advanced health care providers

- Serve as a quick reference and local resource in the office or hospital in an easy-to-navigate, mobile-friendly format that is available anytime, anywhere
**HRPP Outreach Efforts**

- Presented guidelines to **1,843** attendees, including physicians, advanced health care providers, and students via symposiums, teleconferences and in-person or virtual classes. Additionally, updated neonatal guidelines were announced at a weekly pediatric teleconference.

- Provided guideline website information directly to providers in **30** counties during on-site training and an additional **124** health care providers from **22** counties during two statewide nursing leadership conferences.

- Distributed guideline information to **898** Arkansas health care providers, delivering hospitals, County Health Units, and Regional Program providers.

- Developed and published an article, “Telemedicine and Distance Learning for OB/GYN Provider Education”, in the national medical journal, Obstetrics and Gynecology Clinics of North America, which included a narrative about the Angels guidelines as an example of distance learning.

**HRPP Guidelines Access**

- Website page views: **23,636**

- First-time Arkansas health care professional visitors: **258**

- Guidelines have been accessed by registrants from **67 of 75** Arkansas counties.

- While the guidelines are developed to support Arkansas’ health care providers, there are registrants from **48** states and D.C. plus **34** countries.

- Most frequently viewed guidelines include: Hypertensive Disorders of Pregnancy, Diabetes in Pregnancy, and Preterm Labor.

- Provided weekly guideline updates through the High-Risk Obstetrics, PedsPLACE, and selected ONE Team teleconferences with email promotion to **1,392** combined attendees.

- Collaborated with UAMS Regional Campuses, Arkansas Department of Health, Arkansas Foundation for Medical Care, and UAMS Physician Relations to include guideline information in their communications to providers.
OB Simulation

The Outreach Education Team is comprised of specialists in both obstetrics and neonatal intensive care who travel across Arkansas to provide obstetrical simulation drills. These drills educate various health care providers regarding the management of low-frequency, high-risk obstetric and neonatal emergencies.

During the reporting period, the team presented 12 simulations at six hospitals that provide obstetric services and one outpatient emergency service. The method of simulation varied by facility, from unannounced ‘ambush’ type simulations to scheduled simulations. This year also included research conducted by Julie Whittington, M.D. and the POWER team. This research focused on disparities not only in delivering hospitals but also in hospitals without OB services. At each facility, the simulation was conducted with a high-fidelity manikin in an actual patient room using the facility’s equipment. This educational scenario enabled participants to use the resources available and provided a platform to evaluate the facility’s preparedness for such emergencies. Through this research opportunity, hospitals were able to identify their unique strengths and weaknesses.

Patient safety bundles help address emergency obstetrical situations. In working towards implementation of safety bundles for postpartum hemorrhage and severe hypertension in pregnancy, emphasis was placed on identifying areas that needed attention, such as timely recognition of emergency situations (e.g. severe blood loss or hypertensive crisis) and adherence to recommended algorithms. For more information, call 501-526-6206 or email Shari Drakes, B.S.N., R.N. at SKDrakes@uams.edu.
Hospitals Visited:
- Arkansas Methodist Medical Center Paragould (two visits)
- Delta Memorial Hospital Dumas (three visits)
- Helena Regional Medical Center (three visits)
- Bradley County Medical Center Warren (two visits)
- Magnolia Regional Medical Center
- Medical Center of South Arkansas El Dorado

Health Care Provider Statistics

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>M.D.s (OB/GYN, Family Practice, Emergency Medicine)</td>
<td>16</td>
</tr>
<tr>
<td>Nurses (C.R.N.A., A.P.R.N., C.N.M., R.N., L.P.N.)</td>
<td>62</td>
</tr>
<tr>
<td>Other Medical Professionals (Paramedic, Emergency Medical Technician, Respiratory Therapist, Scrub Tech, Nursing Tech, Nursing Student)</td>
<td>24</td>
</tr>
</tbody>
</table>
Since 1996, The STABLE Program™ has been assisting facilities in the U.S. and Canada to improve neonatal outcomes through its evidenced-based educational program. The use of a mnemonic (S: sugar, T: temperature, A: airway, B: blood pressure, L: lab work, & E: emotional support) optimizes learning, retention, and recall of information. The program is designed to follow the ABC’s of neonatal resuscitation, providing a standardized method of treatment for common issues related to illness, anomalies, and prematurity.

The UAMS IDHI offers STABLE as part of its High-Risk Pregnancy Outreach. Facilitator/Instructor Tina Pennington MNSc, RNC-NIC, who has been teaching the STABLE curriculum since 2006, brings a wealth of clinical expertise and knowledge to every class she teaches. Because many of the classes are taught via interactive video from the Little Rock campus, Tina was able to continue teaching throughout the COVID-19 isolation period.

For more information, call 501-686-7576 or email Tina Pennington MNSc, RNC-NIC at PenningtonTinaC@uams.edu.

“Everything was explained well and reviewed thoroughly.”
What began as a request from the UAMS NICU to assist with a single educational class has grown into one of IDHI’s most attended regular outreach events. Baby Boot Camp grew from a single class into a three-part series designed as an orientation tool for new nurses or a refresher course for experienced nurses and those preparing to sit for the R.N. Neonatal Certification Class. Using the conceptual framework of Bloom’s taxonomy, the course was designed to start with the basics for the novice nurse and advance through intermediate care to advanced nursing care for the infant.

For more information, call 501-686-7576 or email Tina Pennington MNSc, RNC-NIC at PenningtonTinaC@uams.edu.

Part 2:  Infantry Training–Intermediate Care was held live and IAV on Aug. 26, 2019 in the Shorey conference room. There were a total of 70 attendees: 12 in-person, 59 IAV.

Participating Medical Facilities

- CHI St. Vincent’s Hot Springs
- Drew Memorial Health System
- Magnolia Regional Medical Center
- Medical Center of South Arkansas El Dorado
- Mena Regional Health Center
- Mercy Hospital Rogers
- Northeast Arkansas Baptist Memorial Hospital
- Ouachita County Medical Center
- Saline Memorial Hospital
- Washington Regional Medical Center
- UAMS

Part 3:  Special OPS Trainings–RNC-NIC Certification Test Review and Advanced NICU Care was held live and IAV on Jan. 31, 2020. There were a total of 37 attendees: 15 in-person, 22 IAV.

Participating Medical Facilities

- CHI St. Vincent’s Hot Springs
- Drew Memorial Health System
- Washington Regional Medical Center
- UAMS
- Mercy Hospital Fort Smith
- Mercy Hospital Rogers
- Ouachita County Medical Center
Community Outreach Education

Neonatal Resuscitation Program (NRP)

The Neonatal Resuscitation Program® (NRP®) is designed to facilitate the cognitive, technical, and teamwork skills needed to resuscitate and stabilize newborns. Because the need for assistance cannot always be predicted, teams need to be prepared to provide these lifesaving interventions quickly and efficiently at every birth. Following their algorithm, participants can learn to make the evaluations and decisions needed for proper lifesaving actions.

NRP utilizes a blended learning approach, which includes online testing, online case-based simulations, and hands-on case-based simulation/debriefing that focus on critical leadership, communication, and teamwork skills. The didactic portion of IDHI’s version of NRP, along with an e-Sim exercise, is done at students’ own pace online via Healthstream Learning Management System prior to registering for part two. The IDHI team then travels to outside facilities for part two, the simulation portion. This in-situ simulation allows participating teams to be comfortable with their own equipment and test for any internal system issue that might arise. Tina Pennington, MNSc, RNC-NIC, the team facilitator, brings 18 years of NICU resuscitation experience to each of her classes.

For more information, call 501-686-7576 or email Tina Pennington MNSc, RNC-NIC at PenningtonTinaC@uams.edu

 Participating Medical Facilities

- Delta Memorial Hospital
- Baptist Health Medical Center Conway
- Drew Memorial Health System
- Mena Regional Health System
- Helena Regional Medical Center
- Magnolia Regional Medical Center
- UAMS Regional Campuses
- CHI St. Vincent’s Hot Springs
- Helena Regional Medical Center

“One of the things I miss most about being in the NICU is going on the deliveries. My delivery team was well-practiced and worked well together, and I want to instill that attribute into the teams I teach. You can read a book about resuscitation all day, but until they hand you that baby, your heart starts pounding, and your knowledge kicks in, you will never know what an amazing program NRP is.”

Tina Pennington MNSc, RNC-NIC UAMS IDHI Clinical Services Manager

Fetal Monitoring Courses

The POWER outreach education team offers on-site training to ensure that evidence-based education for electronic fetal heart-monitoring is available for frontline staff providing care at delivering hospitals across Arkansas. An online basic fetal heart monitoring course is available at LearnOnDemand.org. This course is geared toward any discipline new to caring for obstetric patients undergoing fetal heart monitoring. Intermediate as well as advanced courses are available. Using curriculum from the Association of Women’s Health, Obstetric, and Neonatal Nurses (AWHONN), hospitals can rest assured that the most current evidence-based recommendations for fetal heart rate monitoring will be provided.

For more information, please call 501-526-6206 or email Shari Drakes, B.S.N., R.N. at SKDrakes@uams.edu

Participants

83

Classes

12

• Delta Memorial Hospital
• Baptist Health Medical Center Conway
• Drew Memorial Health System
• Mena Regional Health System
• Helena Regional Medical Center
• Magnolia Regional Medical Center
• UAMS Regional Campuses
• CHI St. Vincent’s Hot Springs
• Helena Regional Medical Center

Fetal Monitoring Courses
Perinatal Outcomes Workgroup through Education and Research (POWER)

The Arkansas Perinatal Outcomes Workgroup through Education and Research (POWER) Fall Interactive Workshop took place on Nov. 19, 2019 as an IAV meeting. This year’s annual event, designed for hospitals offering obstetric services, focused on perinatal sepsis. The two keynote speakers were Curtis Lowery, M.D, Director for the UAMS Institute for Digital Health & Innovation, and Angie Hunton, MNSc, RNC-OB. Lowery discussed the current status of maternal mortality and morbidity in Arkansas and strategies to address the issues. The information covered included the impact, risk factors, and signs and symptoms of sepsis during the perinatal period. Over the course, attendees were presented with information about the benefits of utilizing the maternal safety bundle framework to standardize and manage septic patient care.

Participating Medical Facilities

- Arkansas Tech University
- Baptist Health Little Rock
- Baptist Health Stuttgart
- Bradley County Medical Center
- Drew Memorial Health System
- North Arkansas Regional Medical Center
- Ouachita County Medical Center
- UAMS
- White River Medical Center
- Willow Creek Women’s Hospital

“Missed seeing everyone and meeting at Petit Jean, but this teleconference was excellent and packed with important information and education! Thank you for so quickly adapting to an online format.”
The POWER Spring Workshop took place on April 27-28, 2020 as an IAV meeting. The Rockefeller Institute near Petit Jean Mountain was the planned location for an in-person workshop, but the emergence of COVID-19 shifted the event to virtual attendance only. This annual event, designed for hospitals offering obstetric services, went on in IAV format with a focus on obstetrical emergencies. This year the POWER team was honored to provide not one but two keynote speakers: Kevin Sexton, M.D. and Julie Whittington, M.D. They covered the following emergency obstetrical topics: Massive Blood Loss and Hypertensive Emergencies in the Delta.

Over the course of the two half-day sessions, attendees were updated on the state of maternity care in Arkansas and on the positive work being done by UAMS and innovative programs across the state. Clinical topics covered included writing policies and the new Joint Commission requirements, neonatal complications, massive blood transfusion, OB ACLS (Obstetric Advanced Life Support), and the need for simulation program development. Curtis Lowery, M.D. spoke to our group about the future of telemedicine. Lowery’s address highlighted the fact that we have seen a large increase in the use of telemedicine as a major component of patient care delivery, especially after the COVID-19 outbreak.

The POWER team demonstrated that turning around a live event and presenting it in an IAV format can be done. However, the transition was not without challenges. Together with the ongoing support of leadership at the Institute for Digital Health & Innovation, a supportive Education Team, and everyone’s willingness to think outside the box, this workshop was a success.
Facilities Represented Attendance

<table>
<thead>
<tr>
<th>4/28/20</th>
<th>Facilities Represented</th>
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<tbody>
<tr>
<td>1</td>
<td>AFMC</td>
<td>3</td>
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<tr>
<td>2</td>
<td>Arkansas Methodist Medical Center</td>
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<tr>
<td>3</td>
<td>Baptist Health Medical Center Conway</td>
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</tr>
<tr>
<td>4</td>
<td>Baptist Health Medical Center Stuttgart</td>
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</tr>
<tr>
<td>5</td>
<td>Baxter Regional Medical Center</td>
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</tr>
<tr>
<td>6</td>
<td>Bradley County Medical Center</td>
<td>1</td>
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<tr>
<td>7</td>
<td>CHI St. Vincent’s Hot Springs</td>
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<td>15</td>
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<tr>
<td>16</td>
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</tbody>
</table>

**Unique Facilities**

- 39
- Unknown 4

**Total Attendees**

- 43

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**Participating Counties**

- Arkansas
- Baxter
- Benton
- Bradley
- Craighead
- Drew
- Faulkner
- Garland
- Greene
- Jefferson
- Johnson
- Ouachita
- Polk
- Pope
- Pulaski
- Saline
- Sebastian
- Union
- Washington
- White

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**Maternal Safety Bundle Outreach**

The POWER Team travels across the state, providing resources to support the implementation of maternal safety bundles in Arkansas’ 39 delivering hospitals. Studies have shown that safety bundle implementation has led to improvements in maternal outcomes and decreases in maternal mortality and morbidity.

The team provides support, educational opportunities, and materials to help hospitals successfully implement and sustain maternal safety bundles. The support is provided in person and through IAV. Through outreach, the likelihood that hospitals will achieve successful implementation and sustain ongoing use of these safety bundles has increased. This year the POWER team reached all delivering hospitals, and the data shows improvements across the board.

**Hospitals participating**

- 39

**Number of visits**

- 98

**M.D.**

- 14

**R.N.**

- 135

**Other**

- 17
The Institute for Digital Health & Innovation (IDHI) Call Center facilitates a high volume of calls. These calls regard scheduling for on-site and digital health clinic appointments, scheduling for physician and nurse practitioner consults, making referrals to the Maternal Fetal Medicine Team, and requesting to transfer patients to UAMS for high-risk obstetrical care.

The extensive OB case management program continues to support and improve the care provided to high-risk obstetrical patients. Patients receive phone calls throughout pregnancy and after delivery that provide disease and condition-specific education as well as reminders for upcoming appointments and tests. Procedures and processes are reviewed to maintain the most up-to-date care. Perinatal bereavement follow up is also an important piece of the case management program.
445 Maternal Transports Arrived
4,564 Discharge Follow-up Calls (ED, L&D Triage and Inpatient)
1,759 Appointment Reminders and Education

363 Provider-to-Provider Consults
298 Emergent Care Visits Avoided with Telephone Triage

6,699 Nurse Triage Calls (women’s health clinics and Arkansas Department of Health)
Telemedicine Network and Clinics

Telemedicine Team

Rosalyn Perkins, MNSc, A.P.R.N.
Brooke Keathley, A.P.R.N.
Jeni Warrior, A.P.R.N.
Stacey Johnson, A.P.R.N.
Not Pictured: Lori Heil, R.D.M.S.

ANGELS Sonographers

Mandi Dixon, R.D.M.S.
Bill Hickey, R.D.M.S.
Lynne Tate, R.D.M.S.
Not Pictured: Lisa Caine, R.D.M.S.
Not Pictured: Lori Heil, R.D.M.S.
Brooke Keathley, A.P.R.N.
Jeni Warrior, A.P.R.N.
Stacey Johnson, A.P.R.N.

Telemedicine Sites

TELEMEDICINE VISITS

2,363
Total Telemedicine Visits

OB Ultrasound: 1,822
HR OB: 87
Fetal Echocardiography: 152
Diabetes: 148
Other: 154

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Telemedicine in the Nursery

Whit Hall, M.D., is a professor of neonatology in the UAMS College of Medicine who leads virtual census rounds three-times-a-week in 26 nursery sites statewide (including UAMS). These rounds include neonatology and subspecialty consultations, coordination of transports and back transports, follow up on neonatal and maternal transports, collaboration, and education.

138 UAMS Signed-On and Led Telenursery Virtual Rounds

494 Telenursery Rounds Census Participants Between All Sites

294 Back Transports from UAMS to Referring Hospital (not including transfer decisions made outside of telenursery rounds)
The Women’s Mental Health Program (WMHP) at the Psychiatric Research Institute provides comprehensive psychiatric evaluation and medication management for pregnant and postpartum women. Arkansas has one of the highest rates of women exhibiting depressive symptoms during pregnancy in the nation and has also seen a six-fold increase in neonatal abstinence syndrome in the past decade. Mental health issues during pregnancy and the postpartum period contribute to both morbidity and mortality during the perinatal period. The WMHP is the only program in the state to focus primarily on these issues and assist in their psychiatric care from pre-conception through the postpartum period. The program also collaborates with obstetrics, anesthesia, and neonatology to improve obstetrical and neonatal outcomes.

The program is overseen by co-directors, Shona Ray-Griffith, M.D. (outpatient services) and Jessica Coker, M.D. (inpatient services) since 2017. Ray-Griffith has worked closely with the Department of Obstetrics and Gynecology to expand the outpatient practice of the WMHP. With the addition of Hannah Williams, M.D. in 2019, additional appointments are available for women outside of the UAMS Health system. With the challenges health care faced during spring 2020 due to the COVID-19 pandemic, the WMHP quickly embraced telemedicine and continued to address mental health care among mothers while providing effective and safe care. This coming year, the WMHP will continue to expand its ambulatory practice with increased availability of appointments and will leverage telemedicine to its full potential. Additionally, Jessica Coker, M.D. became medical director of the Women’s Inpatient Unit at the UAMS Psychiatric Research Institute in September 2019, allowing the WMHP to provide inpatient psychiatric service for acute conditions and in-hospital consultations at UAMS.

The IDHI Call Center serves as a primary source of referrals to the Women’s Mental Health Program (WMHP), including services provided for pregnant women with mental health issues with or without substance-use disorders. Within the WMHP, mothers who require psychotropics or those misusing/abusing illicit drugs receive comprehensive evaluations and individualized treatment plans, which include a risk/benefit analysis of treatment options; medication management; group and individual therapy; and treatment planning for management through delivery and the postpartum period. Inpatient psychiatric services are also available for individuals who need acute management of psychiatric illnesses and detoxification from drugs.
The Women’s Mental Health Program continues to expand to meet the needs of the pregnant and postpartum women in Arkansas. Over the past year, the program’s services have grown to include inpatient treatment of women with psychiatric disorders. In addition to expanding outpatient clinical capacity, we are also striving to meet the rural needs of the state by including telemedicine options. By providing evidenced-based care, we aim to provide high-quality care and excellent service to our patients as well as other providers who enlist our help.

Shona Ray-Griffith, M.D.

Primary Goals of Women’s Mental Health Program/Perinatal Opiate Project

- Improve the mental health of pregnant and postpartum women across the state
- Improve access to care for pregnant women with mental illness, both with and without substance use disorders
- Reduce obstetrical and neonatal complications
- Develop evidence-based guidelines for the management of psychiatric disorders

Women’s Mental health
- Jessica Coker, M.D., psychiatrist
- Shona Ray-Griffith, M.D., psychiatrist
- Hannah Williams, M.D., psychiatrist
- Bettina Knight, R.N., program manager
- Amber Thomas, research assistant
- Caroline Brown, research technician
- Tojuana Greenlaw, peer support specialist
Diabetes Care in Pregnancy

The UAMS Obstetrical Center for Management of Hyperglycemia in Pregnancy has been accredited by the American Association of Diabetes Educators (AADE) since December 2014. This certification ensures that the diabetes education provided complies with comprehensive national standards. In the last 12-month reporting period, 279 women with diabetes were seen at the University Women’s Clinic: 8% with type 1 diabetes, 36% with type 2 diabetes, and 56% with gestational diabetes.

Telemedicine Consultations
Patients can receive individualized diabetes education via telemedicine if time or travel restrictions prohibit a drive to UAMS. This option for co-management ensures that patients receive the same high-quality care available in a face-to-face setting. Since 2015, telemedicine diabetes consultations have been delivered via interactive video to patients at several distant sites, including county health departments and regional health centers. To find out how patients can access diabetes education via telemedicine, please contact the HRPP at 1-866-273-3835.

Improved Glycemic Control
Good glycemic control decreases the risks of adverse outcomes for moms and babies. Glycemic control is measured by HbA1c, a lab measurement which provides a three-month “average” blood glucose level. Women with type 1 and type 2 diabetes managed by this program demonstrated improved glycemic control throughout their pregnancies.

<table>
<thead>
<tr>
<th>Type 1 Diabetes</th>
<th>Type 2 Diabetes</th>
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<tbody>
<tr>
<td><strong>Mean 1st trimester AIC</strong></td>
<td><strong>Mean 2nd trimester AIC</strong></td>
</tr>
<tr>
<td>9%</td>
<td>7.5%</td>
</tr>
<tr>
<td>8.4%</td>
<td>6.9%</td>
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Web-based Instruction on Nutrition (WIN)
The WIN program is an online, self-directed curriculum designed by the UAMS Obstetrical Diabetes Care Team which includes a maternal-fetal-medicine specialist, a clinical pharmacist and two registered dietitians. The program covers topics such as gestational diabetes diagnosis and first steps (Module 1), management of diabetes in pregnancy (Module 2), and prevention of type 2 diabetes mellitus after delivery (Module 3). WIN utilizes videos, self-paced slides, interactive activities, and a closed-captioning option to engage online learners. The concepts address target blood glucose goals for pregnancy, managing blood glucose with diet and medications, carbohydrate counting, recommended carbohydrate goals for meals and snacks, portion sizes and label reading and exercise guidelines. In addition, downloadable PDFs listing portion sizes for various food groups are available. An “Ask the Expert” click-on option allows each user to contact a Certified Diabetes Educator (CDE) with nutrition questions or website problems via email. In the spring of 2019, the registration process was streamlined to make the site more user-friendly. This course can be used in place of a conventional face-to-face diabetes class, or as a supplement and/or review of traditional education methods.

OB Diabetes/Nutrition Education
- Nafisa Dajani, M.D., Program Director
- Denise Ragland, PharmD, C.D.E., Program Coordinator
- Brooke Keathley, A.P.R.N., C.D.E.
- Andrea Tappe, R.D., L.D., C.D.E.
- Laura Sanders, M.S., R.D., L.D.
Case Management

Arkansas Reproductive Genetics Team

Not Pictured:
Sarah Green, M.S., C.G.C.
Lindsay Ouzts, M.S.
Jordan Foster, M.S.

AFDM Team

Maternal-Fetal Medicine Team

Maternal-Fetal Medicine Fellows:
Abigail Ramseyer, DO FACOG
Megan Pagan, M.D.
Julie Whittington, M.D.

Maternal-Fetal Medicine Team:
Curtis Lowery M.D.
Dawn Hughes M.D.
Nafisa Dajani M.D.
Pat Magann M.D.
Paul Wendel M.D.
Adam Sandlin M.D.
Arkansas Fetal Diagnosis and Management (AFDM)

Arkansas Fetal Diagnosis and Management (AFDM) is a program that includes a multidisciplinary team of maternal fetal medicine specialists, neonatologists, genetic counselors, nurses, and other pediatric subspecialties at Arkansas Children’s Hospital. This program was developed for pregnant women and their families who have been given a diagnosis of a fetus with a known congenital anomaly, genetic abnormality, or chromosomal abnormality. AFDM was designed to provide coordinated, compassionate, and evidenced-based care for pregnancy and newborn cases complicated by congenital birth defects or genetic disease. The team meets regularly to discuss individualized care plans for each patient, and staff are notified of scheduled deliveries with proposed plans of care. Follow-up information is provided to referring physicians.

Centralized Antenatal Monitoring Project (CAMP) enables pregnant, high-risk patients near delivery to stay within proximity of UAMS, which offers access to maternal fetal medicine specialists, neonatologists, and a neonatal intensive care nursery.
A Patient’s Story

Left to right: Jasmine, Leighanna, Robert, Captain
At 31 years old, after trying to get pregnant for many years, Leighanna Schooley found out she was pregnant. This came in the middle of other medical issues the soon-to-be mother was trying to rectify, namely pre-cancerous cells discovered on her cervix. She was actually scheduled to have a procedure the week she discovered she was pregnant.

During the 16th week of the pregnancy, Leighanna’s OB doctor in Mountain Home conducted an ultrasound and noticed the baby had talipes equinovarus or clubfoot. With this discovery and her ongoing complications with her cervix, Leighanna was referred to the UAMS High-Risk Pregnancy Program (HRPP) with the closest satellite site located in Fayetteville. Her HROB telehealth appointment was in November, 2019. The plan was to have continuous appointments to monitor the baby and mother’s health, but Leighanna unexpectedly went into labor a few weeks later on December 11, 2019. Clinicians were able to stop the labor at the local hospital, but when she went into labor again the next day, Leighanna was airlifted to Baptist Health Hospital in Little Rock where her daughter, Jasmine, was born on December 13, 2019. Jasmine was born at 2:04 PM, weighed only 2.4 lbs, and was 12 1/2 inches long.

Following Jasmine’s birth, Leighanna was able to have the pre-cancerous procedure. Jasmine was able to go home from the hospital when she was three months old.

“It’s (telemedicine) actually a great thing…especially with the pandemic because everything is shut down and people are having such a hard time getting into hospitals.”
To evaluate the UAMS High-Risk Pregnancy Program (HRPP) and determine its effect on Arkansas mothers, babies, and the healthcare system, the Evaluation and Research Team has created a linked database of Medicaid claims, birth certificate records, and hospital discharge records. Available date ranges for data was expanded. For infants, data is now available up to the first half of SFY 2017, and for mothers, data is now available through to the first half of SFY 2019. This data was used to update the dashboard of standard metrics, and trends were analyzed from two years prior to the implementation of the program through 16 years of its operation. In addition, the team created and delivered online standardized satisfaction surveys to patients who had received high-risk obstetrics consults over telehealth during their pregnancies through HRPP. Patient satisfaction was assessed between July 2019 and May 2020 as a quality indicator of HRPP telehealth services.

The infant mortality rate in Arkansas’ Medicaid-covered population decreased in the years since HRPP’s implementation, with a downward trend across years. Although the rate had increased slightly in recent years, another downtick was found in SFY 2017: a rate of 6.3 per 1000 live births. The team also tracked preterm deliveries that occur in hospitals with the neonatal intensive care units (NICUs) these fragile babies need. The plot shows a general increase in the portion of deliveries in NICU hospitals since HRPP began. In SFY 2017, NICU delivery levels increased to more than 70% for preterm babies born before 33 weeks of pregnancy and about 60% for preterm babies born between 33 and 36 weeks of pregnancy.

The rate of postpartum complications in Medicaid deliveries decreased significantly three years following the implementation of the program, with the lower rate maintained for the next six years before the spike in SFY 2014. Since then, the rate has been stable at around 6% each year up to the first half of SFY 2019. The team identified postpartum hemorrhage as the primary reason, with more than 40% of the total complications attributed to this in both SFY 2018 and 2019. In response to this issue, POWER (Perinatal Outcomes Workgroup through Education and Research) continues to work with hospital teams to address barriers to evidence-based practice and to decrease maternal morbidity and mortality in Arkansas through implementation of maternal safety bundles.
In the effort to determine patient satisfaction, the team collected 110 completed surveys from patients who received telehealth consults. Patients highly rated telehealth providers and visits. Additionally, 96% of respondents were happy with their telehealth appointments. About 95% of respondents stated that their telehealth providers usually or always explained things in a way that they understood. About 87% of the respondents agreed that scheduling the telehealth appointment was easy. The most frequently indicated reasons why the respondents like telehealth services were that they were not required “to travel to the telehealth appointment” (60%) and “they did not have to find someone to take care of their kid(s)” (11%). Telehealth services allow patients to receive care nearby their home. About 50% of the respondents traveled less than 30 miles to attend the telehealth appointments, and more than 60% of the respondents would have traveled more than 70 miles if there were no telehealth services available. The cost savings because of a shorter travel time were quite varied across the respondents, but on average, self-reported saving per visit is $75 to $150. In conclusion, telehealth services are well-received, convenient, and contribute to cost savings for patients due to lower travel costs, less need for childcare, and reduced absences from work.
<table>
<thead>
<tr>
<th>Evaluation and Research</th>
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<table>
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<tr>
<th>Telehealth made it easier for me to see doctor or other specialists</th>
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<tr>
<td><strong>n (%)</strong></td>
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<td>-----------</td>
</tr>
<tr>
<td>Agree</td>
</tr>
<tr>
<td>Undecided or Do not Know</td>
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<tr>
<td>Disagree</td>
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<table>
<thead>
<tr>
<th>Telehealth saved me time traveling to a hospital or specialist clinic</th>
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<tr>
<td><strong>n (%)</strong></td>
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<tr>
<td>Agree</td>
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<tr>
<td>Undecided or Do not Know</td>
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<tr>
<td>Disagree</td>
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<table>
<thead>
<tr>
<th>I think it is important that Arkansas has a telehealth program like ANGELS to serve pregnant women</th>
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<tr>
<td><strong>n (%)</strong></td>
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<tr>
<td>Agree</td>
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<tr>
<td>Undecided or Do not Know</td>
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<tr>
<td>Disagree</td>
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<table>
<thead>
<tr>
<th>I would be happy to use telehealth again if I needed care from a specialist</th>
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<tr>
<td><strong>n (%)</strong></td>
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<tr>
<td>Agree</td>
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<tr>
<td>Undecided or Do not Know</td>
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<tr>
<td>Disagree</td>
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<table>
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<tr>
<th>Overall, I am satisfied with the ANGELS telehealth system</th>
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<td><strong>n (%)</strong></td>
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<tr>
<td>Agree</td>
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<td>Disagree</td>
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Based on the responses of the 84 providers who have used HRPP services (formerly known as ANGELS) and completed a survey, it appears that the provider community supports HRPP and believes it helps their practices. All of them agreed to the statement: “I would use HRPP services again if needed OR HRPP services are important for the state of Arkansas.” 97.6 percent of providers reported that HRPP services are excellent.
A Provider’s Story

St. Bernards Healthcare was established 120 years ago for the purpose of treating the malaria epidemic that was affecting Northeast Arkansas. Over the years, the organization established new services, locations, and areas of specialty care. The St. Bernards Pregnancy Clinic, where Dr. Stephen Lunde has worked for the past three years, is one of those areas of specialty care. When asked if he’s utilized the UAMS HRPP Program in his practice, Dr. Lunde replied, “Many, many times.”

According to Lunde, many expectant mothers in the area have difficulty finding essential care, and show up to their local hospitals to give birth having no primary care or previous obstetrics oversight. This leads to some serious complications and problems when it comes to labor and delivery. “Our hope is that we can reduce the days that babies spend in the NICU, because they can really go through some serious change when they do that,” says Lunde. The St. Bernards clinic catches all those women who call other clinics and hear: “Well, we don’t accept you’ or ‘We’ll call you’ or ‘We’ll put you on the list.’”

Dr. Lunde estimated about ten percent or more of the clinic’s clientele are referred to the HRPP Program. For many, transportation is a key barrier. They have to pay a friend for a ride or simply don’t have any way to travel. Traveling to Little Rock is “a major venture for most people,” says Lunde, “so they come to us where we can utilize telemedicine.”

When asked about the program, Dr. Lunde says he’s always been “very, very impressed,” and he complimented the HRPP Program staff mentioning their helpfulness and lack of criticism. “They’re very open to giving information over the phone and guidance… It’s been a very positive experience for us.”
The Johnson Family
Welcome: Miles Johnson

Left to right: Owen, Cooper, Trey, Stacey, Miles
Newborn, Miles Johnson
PatientsLearn.org is an educational web portal that offers course modules designed to help patients learn how to manage their illnesses and conditions. The portal offers education on a variety of health topics, including women’s health, high-risk pregnancy, pediatrics, and primary care.

- **2,888** Users
- **38** Interactive Modules and Videos
- **40** Counties in Arkansas Have Registered Users

**Top 3 - Most Accessed Content**

1. Pregnancy & Childbirth Modules & Videos
2. Telemedicine Video Visit Toolkit
3. Diabetes Courses