

Maternal Hypertension Initiative



Friday, January 29, 2020
12:00 PM



Webinar Logistics









- Attendees are automatically muted to reduce background noise
- Please do not put your phone on hold as music will play
- Please enter questions/comments in the “Chat” box
- We have designated times to answer questions
- Slides will be available at www.alpqc.org
- We are now recording



Please type your **name** and the
organization you represent in the chat
box and send to “Everyone”



Agenda

Welcome and Call to Action		12:00 – 12:20
Model for Improvement		12:20 – 12:40
Understanding the Change Package		12:40 – 1:00
Q & A		1:00 – 1:05
Website Overview & Look Ahead		1:05 – 1:10
PDSA Cycles		1:10 – 1:15
Next Steps		1:15 – 1:20
Q & A		1:20 – 1:30



Call to Action: Maternal Hypertension in Alabama

Tammie Yeldell, MPH

Director, MCH Epidemiology Branch, Bureau of Family Health Services

Alabama Department of Public Health

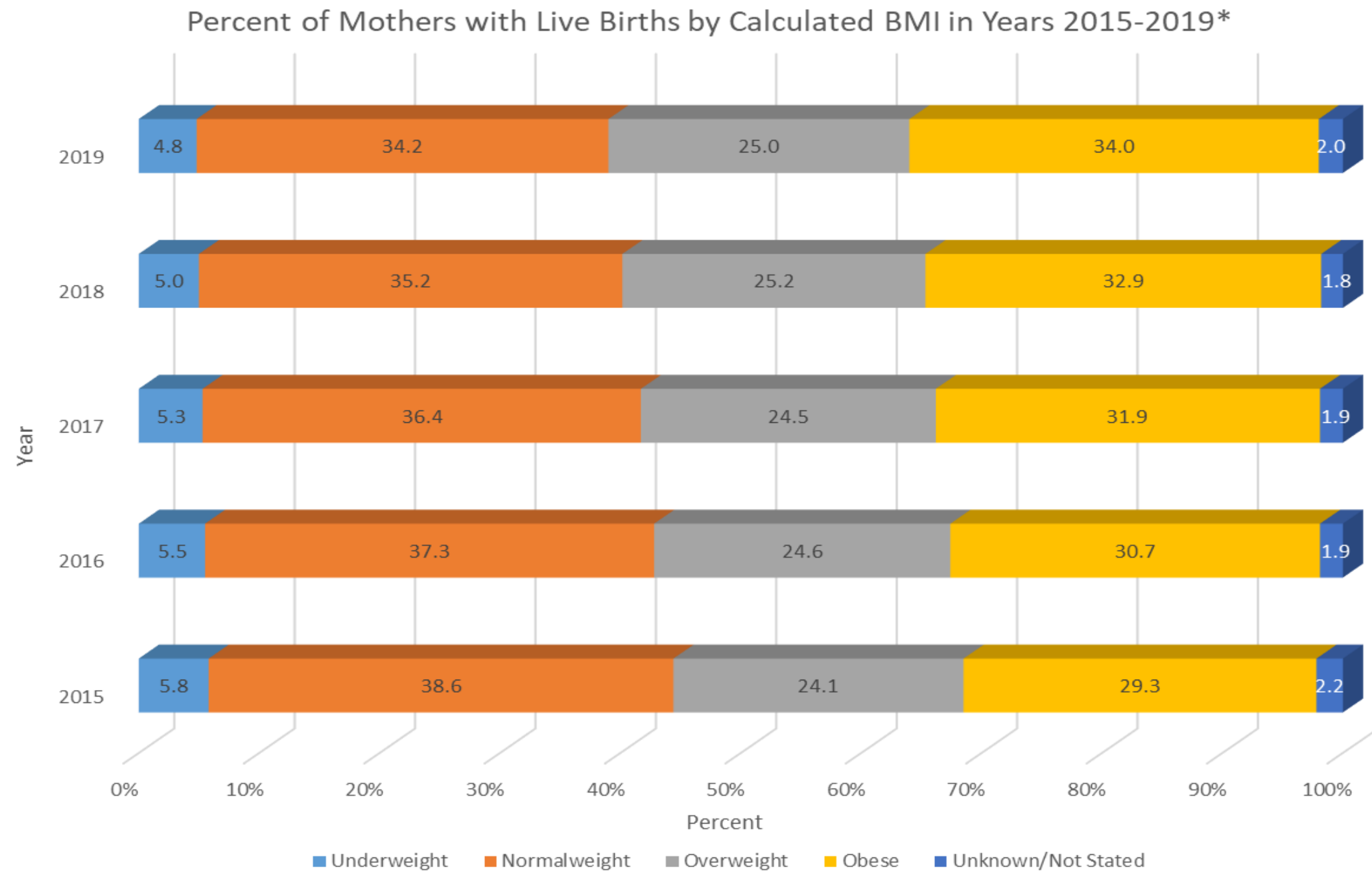


The ALPQC Maternal Hypertension Initiative: Why?

Tammie R. Yeldell, M.P.H.
Maternal and Child Health Epidemiology Branch, Director
Alabama Department of Public Health



Obesity

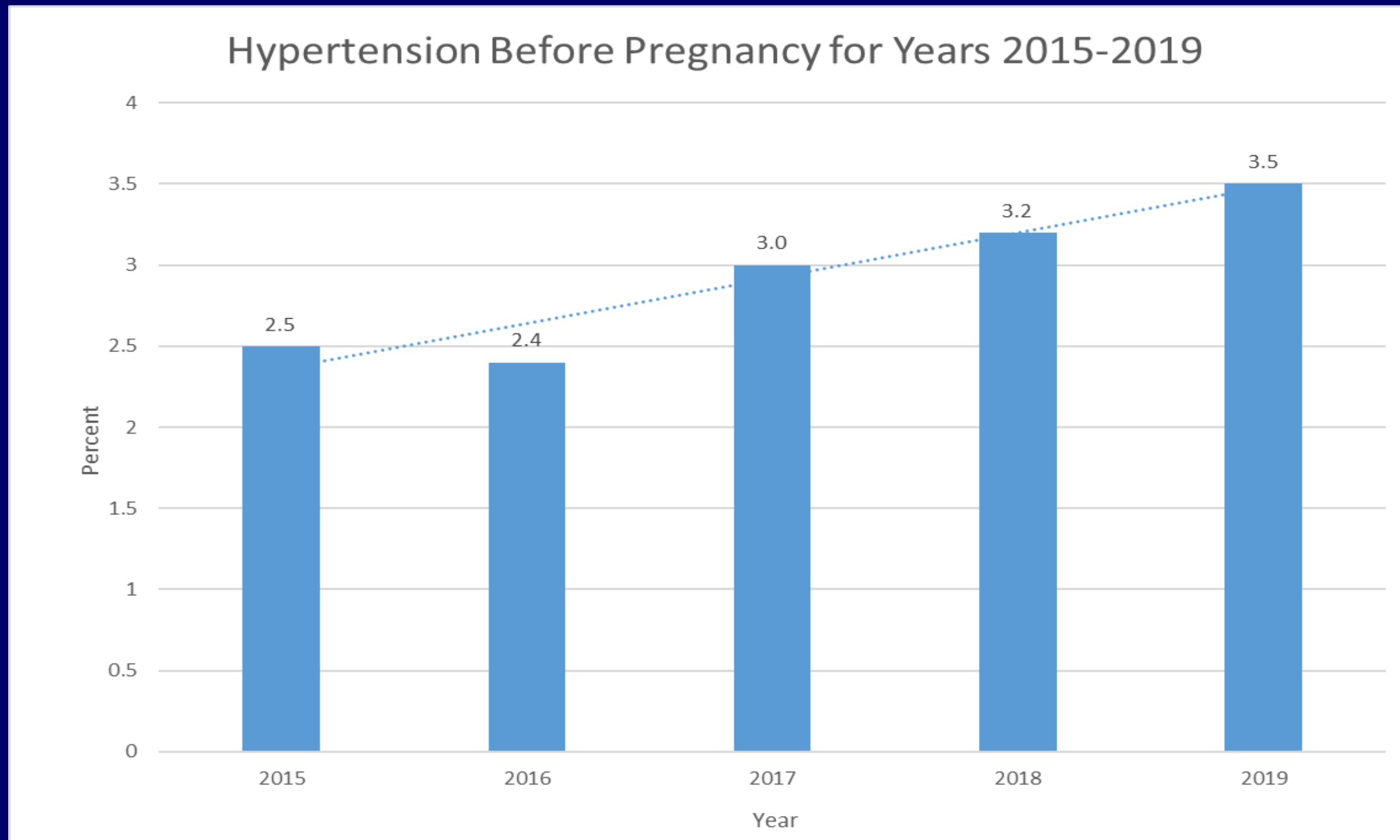


The data for 2019 is preliminary. *The BMI data was calculated on a slightly different scale so there will be marginal differences in numbers.

Note: Compiled by MCH Epidemiology Branch staff and based upon data made available from the Alabama Department of Public Health's Center for Health Statistics.



Pre-pregnancy Hypertension

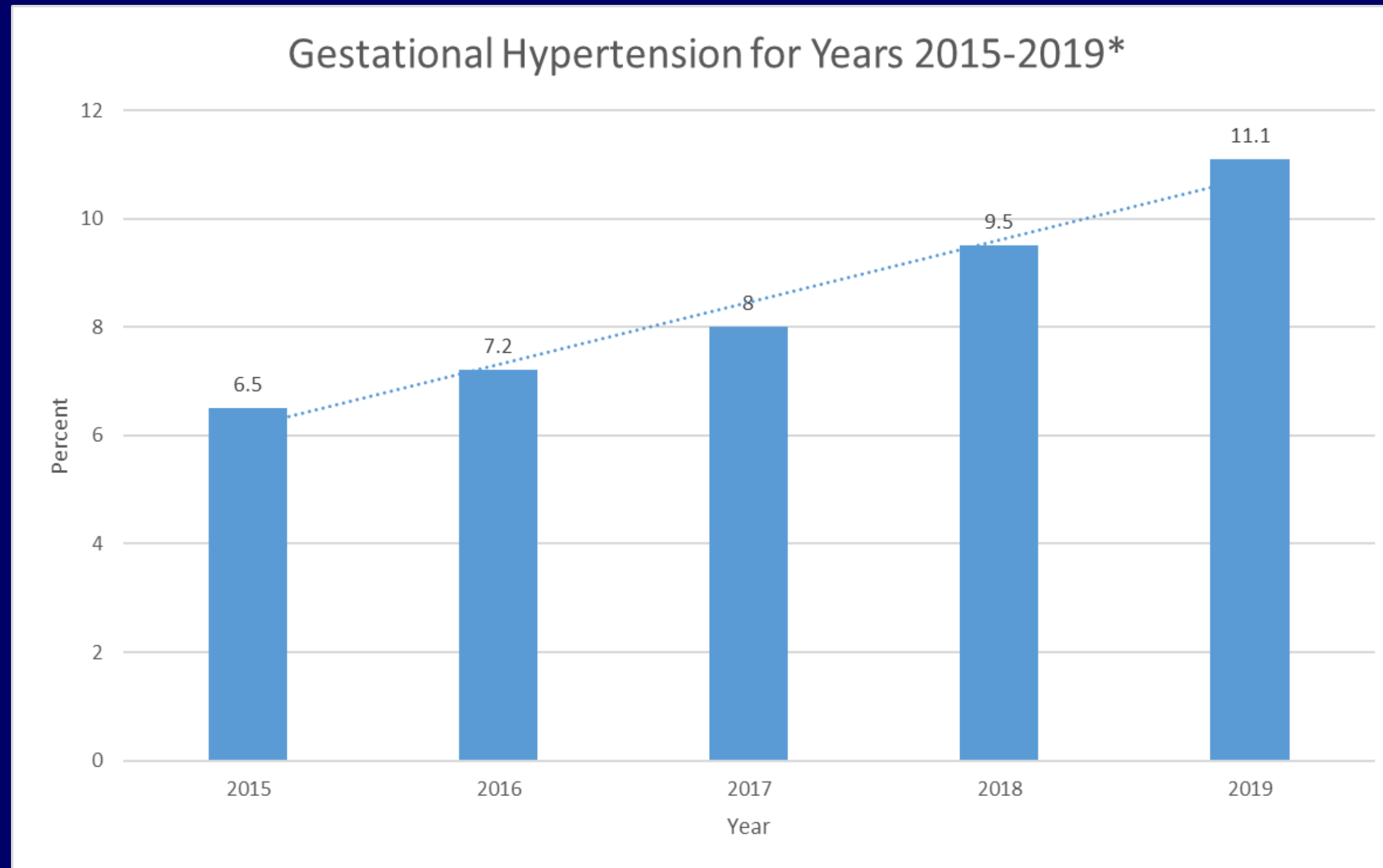


Note: Compiled by MCH Epidemiology Branch staff and based upon data made available from the Alabama Department of Public Health's Center for Health Statistics.

The data for 2019 is preliminary



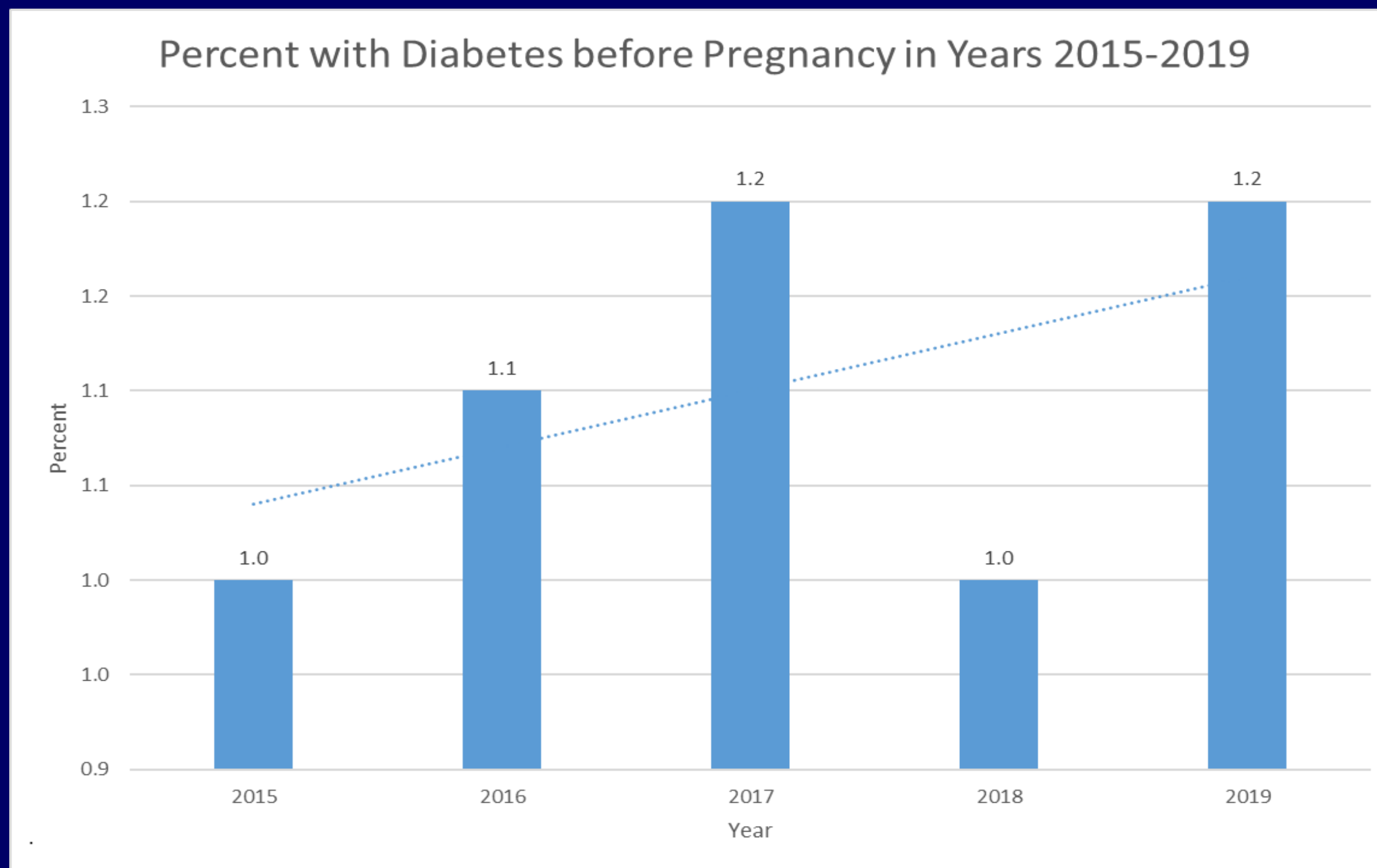
Gestational Hypertension



Note: Compiled by MCH Epidemiology Branch staff and based upon data made available from the Alabama Department of Public Health's Center for Health Statistics.
The data for 2019 is preliminary.

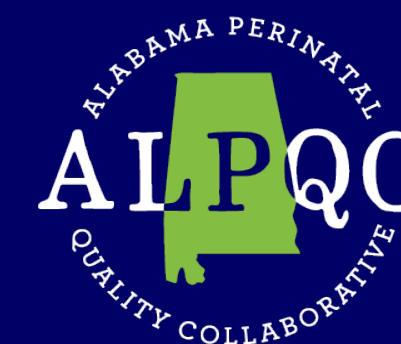


Pre-pregnancy Diabetes

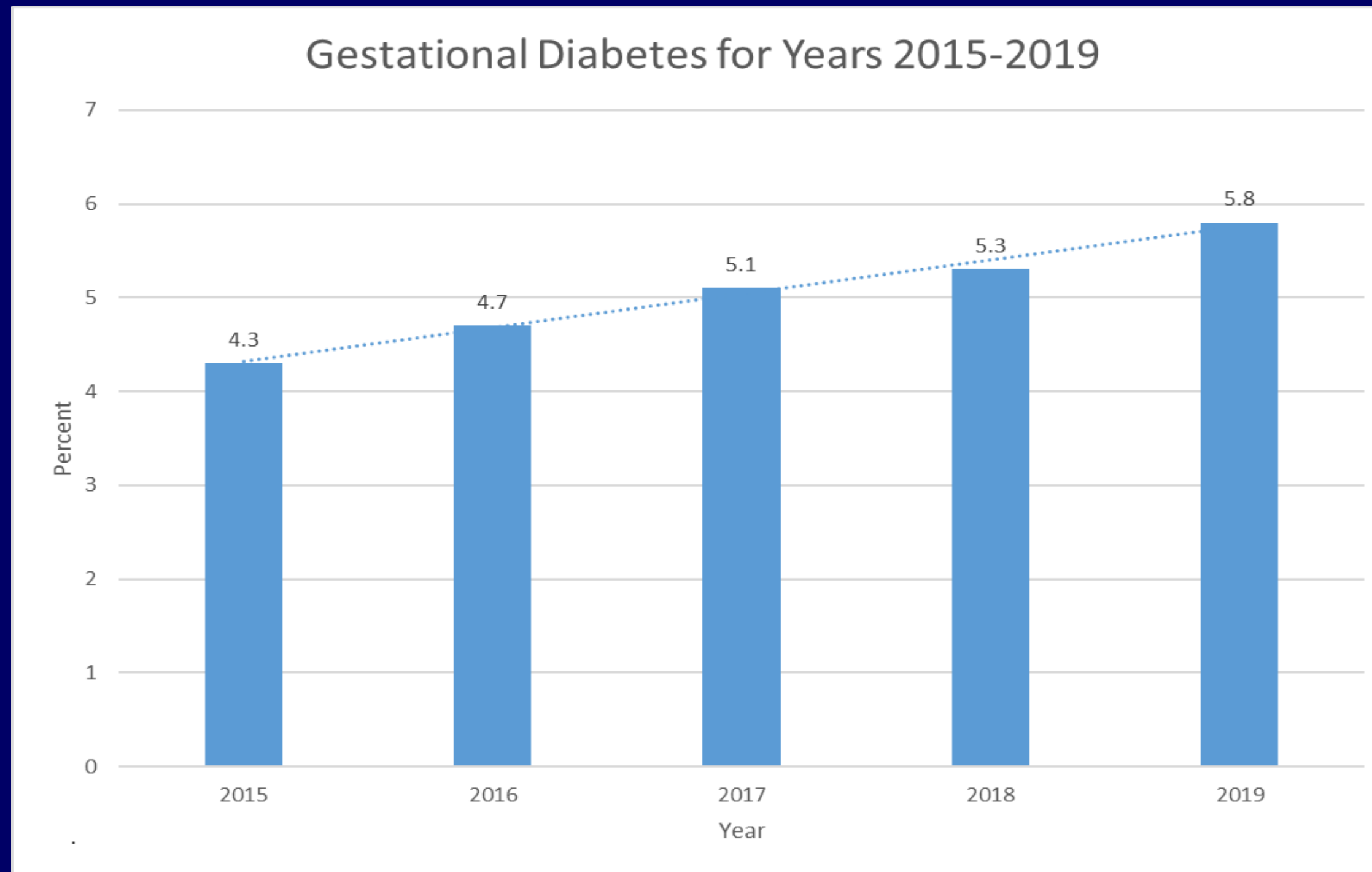


Note: Compiled by MCH Epidemiology Branch staff and based upon data made available from the Alabama Department of Public Health's Center for Health Statistics.

The data for 2019 is preliminary



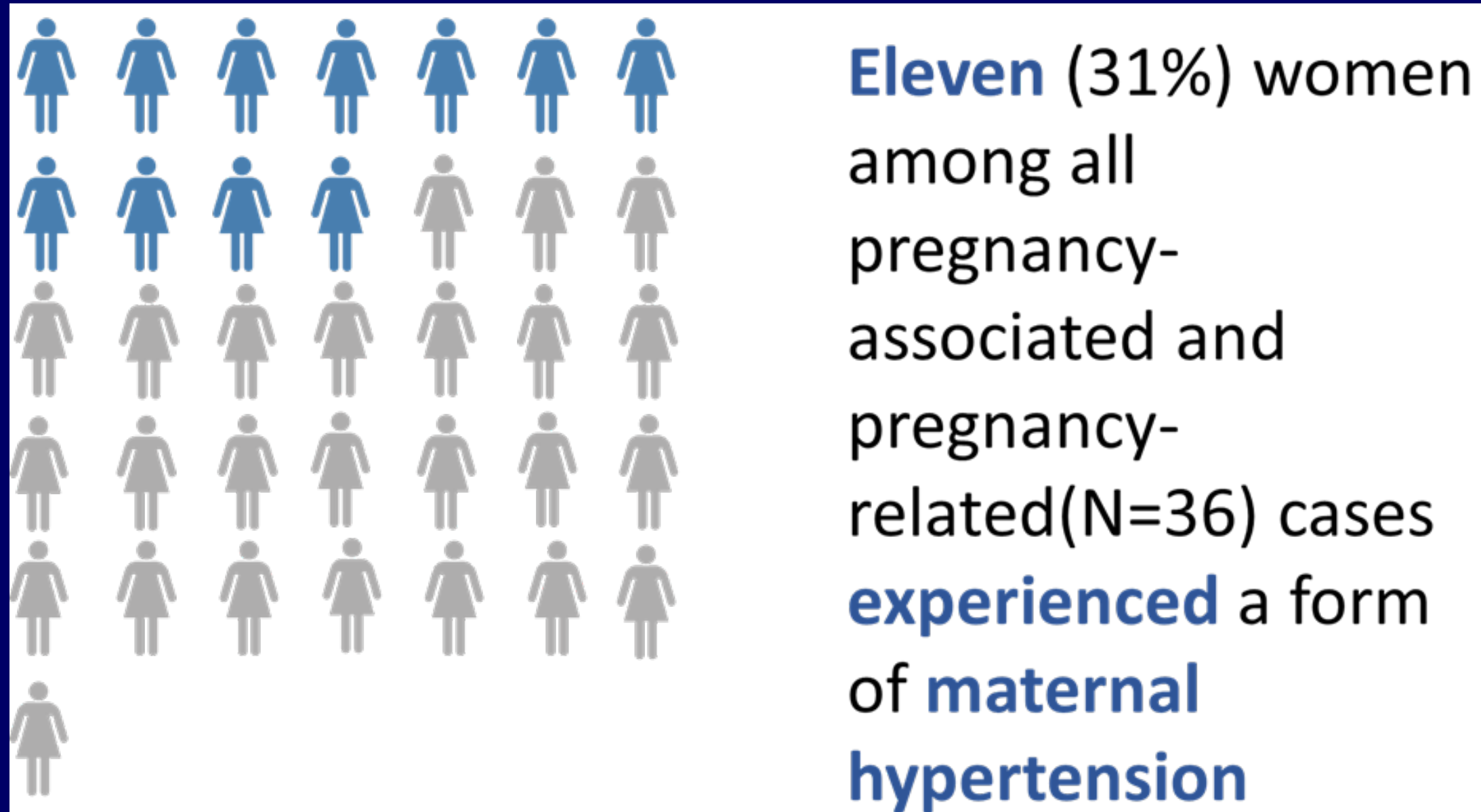
Gestational Diabetes



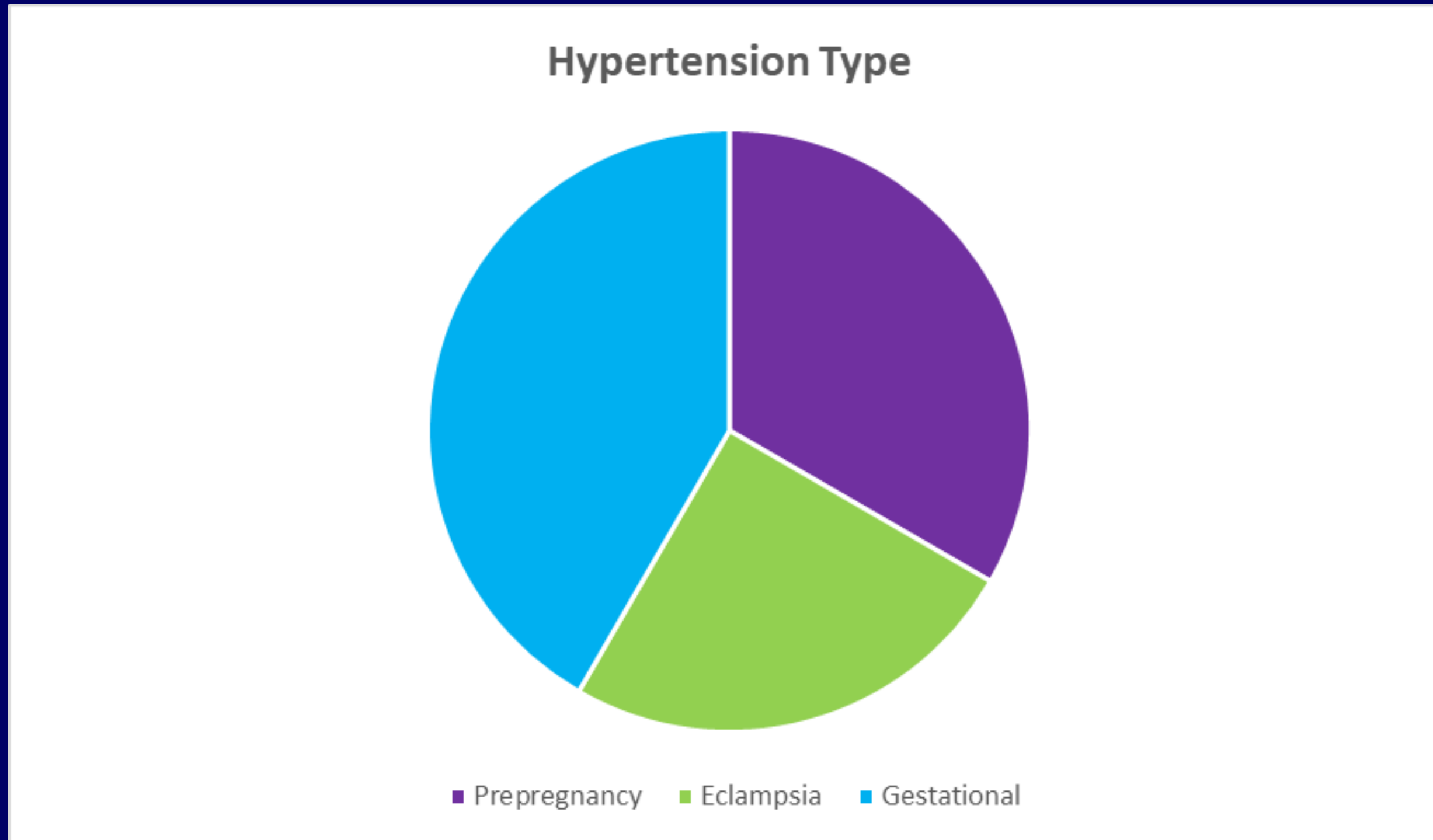
Note: Compiled by MCH Epidemiology Branch staff and based upon data made available from the Alabama Department of Public Health's Center for Health Statistics.
The data for 2019 is preliminary



Alabama Maternal Mortality Review Committee – 2016 Case Review Findings



Proportion of Hypertensive Cases



*Data suppressed in accordance with HIPAA and ADPH guidelines.

**Note: Some women had >1 hypertension type selected.

Characteristics Among the 2016 MMR Hypertensive Cases (N=11)

Characteristic	No. (%)
Pregnancy-Relatedness Pregnancy-Related	7 (63.6)
Race/Ethnicity Non-Hispanic, White	7 (63.6)
Timing of Death 43-365 Days Postpartum	7 (63.6)
Age Group (Years) 30 – 39	6 (54.5)
*Data suppressed in accordance with HIPAA and ADPH guidelines.	

In the know...

☐ Providers

☐ Mothers





Voices of Impact – Irving Family Story

Emily Greenwood
Program Manager
AIM Program



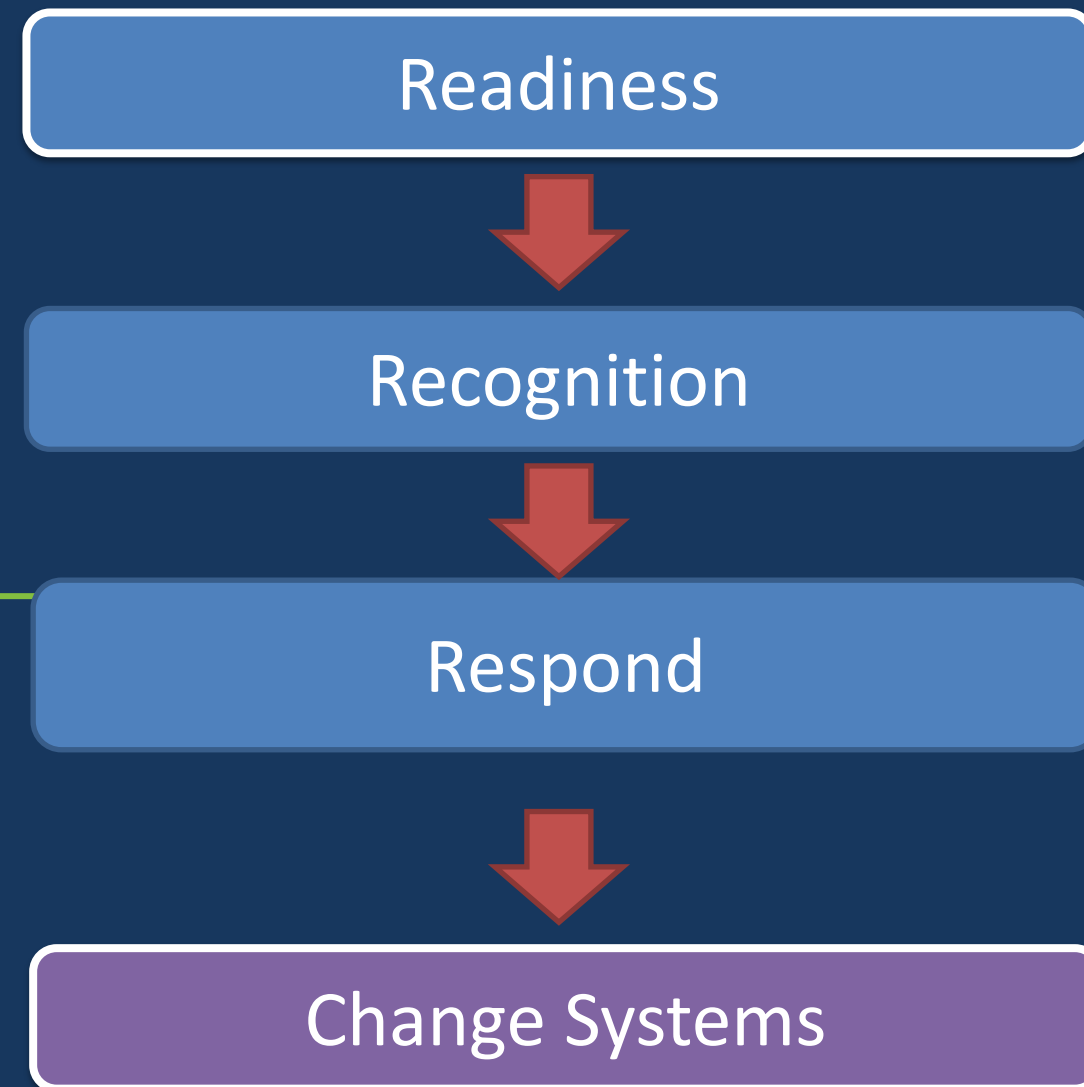
<https://safehealthcareforeverywoman.org/council/voices-of-impact/>





Change Systems: Foster a Culture of Safety and Improvement – Respectful Care

Britta Cedergren, MPH, MPA
Associate Director, Postpartum Care
March of Dimes



Change Systems: Culture of Safety & Improvement



A HEALTH CRISIS IMPACTING WOMEN AND BABIES OF COLOR

Our nation is in the midst of a maternal and infant health crisis, which is particularly devastating for underserved families of color. Deeply entrenched, structural racism is directly and negatively impacting the health of moms and babies of color.

Data show that the U.S. remains among the most dangerous developed nations in the world for childbirth.¹ Over 700 women die each year from pregnancy-related causes, and the CDC reports that 60 percent are preventable.² It is even more dangerous for communities of color:

- Black women are 3 times more likely than White women to die from pregnancy-related causes nationwide.³
- Black babies are more than twice as likely as White babies to die before their first birthdays.⁴
- Women of color are up to 50 percent more likely to give birth prematurely.⁵

Action and Resources

4. Change Systems: Foster a Culture of Safety and Improvement

Respectful Patient Partnership

Establish systems to accurately document patient self-identified race/ethnicity, primary language.
Provide staff-wide education on implicit bias with focus on timely and impactful clinical response. Develop process to support partnership and interaction in patient education (i.e. "teach-back" method)

- [Safety Action Series – Empowering Patients, Improving Outcomes](#)
- [ACOG District II Symposium on Racial Disparities and Implicit Bias in Obstetrical Care](#)
- [March of Dimes A Health Crisis Affecting Women and Babies of Color - Implicit Bias Training](#)
- [Reduction of Peripartum Racial/Ethnic Disparities AIM Bundle & Resources](#)
- [CDC Hear Her Campaign](#)

Systems Learning

Review severe hypertension/preeclampsia cases that meet criteria established by the hospital to evaluate the effectiveness of the care, treatment, and services provided to the patient during the event.

- Establish a culture of huddles for high risk and post-event debriefs to identify successes and opportunities |
- Establish processes for multi-disciplinary review of severe hypertension/eclampsia patients admitted to the ICU
- Monitor outcomes and process metrics

Develop criteria for reviewing severe cases and understanding ways to improve

- [Teamwork and Communication – CMQCC](#)
- [Guide for Engaging Patients and Families in Debriefing – FPQC](#)
- [TeamSTEPPS Team Strategies & Tools to Enhance Performance and Patient Safety: Briefs, Debriefs and Huddles](#)
- [Severe Hypertension-Preeclampsia Debrief Form – CMQCC](#)
- [FPQC Hypertension in Pregnancy Debriefing Guidance, Forms and Tips](#)
- [ILPQC Severe Hypertension Debrief Form](#)
- [Severe Maternal Morbidity Review Guidance & Forms – Council on Patient Safety in Women's Health Care](#)



**HEALTHY
MOMS.
STRONG
BABIES.**



MARCH OF DIMES IMPLICIT BIAS TRAINING: BREAKING THROUGH BIAS IN MATERNITY CARE



HEALTH EQUITY FOR MOMS AND BABIES

The U.S. faces a maternal and infant health crisis. It remains among the most dangerous developed nations for childbirth, with significant ethnic and racial disparities existing in health care. To improve health outcomes for moms and babies, health care systems must address threats to good health. Research shows one potential threat is **implicit bias**—the attitudes and stereotypes that affect an individual’s understanding, actions and decisions in an unconscious manner.

March of Dimes supports investments nationally and locally to reduce disparities in maternal and infant health. As part of this work, we offer Implicit Bias Training to increase awareness and stimulate action to address implicit bias in maternity care settings.

TRAINING OPPORTUNITIES

March of Dimes’ Implicit Bias Training, called “Breaking Through Bias in Maternity Care,” is a unique in-person or virtual learning experience that provides authentic, compelling content for health care providers caring for women before, during and after pregnancy. Training alone won’t lead to immediate improvements in racial and ethnic disparities, but it can provide health care providers with important insights to recognize and remedy implicit bias. These actions can result in improved patient-provider communication, overall patient experience and quality of care, and a culture shift across committed organizations towards the broader goal of achieving equity for all moms and babies.

The training includes **4 key components:**

- 1. Overview of implicit bias and personal assessment**
- 2. Historical overview of structural racism in the U.S.**
- 3. Strategies to mitigate racial bias in maternity care**
- 4. Building a culture of equity within an organization**



Change Systems Measures

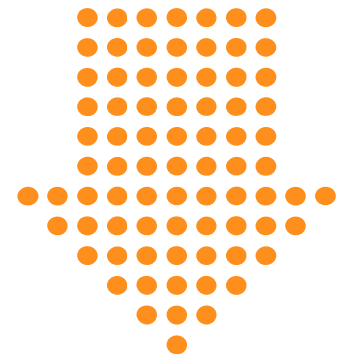
Measure Type	Measure	Measure Frequency
Outcome	Severe Maternal Morbidity (SMM)	Monthly (Quarterly by Race/Ethnicity)
Outcome	SMM (excluding transfusion codes)	Monthly (Quarterly by Race/Ethnicity)
Outcome	SMM among Preeclampsia Cases	Monthly (Quarterly by Race/Ethnicity)
Outcome	SMM among Preeclampsia Cases (excluding transfusion codes)	Monthly (Quarterly by Race/Ethnicity)



AIM

ALLIANCE FOR INNOVATION ON MATERNAL HEALTH

AIM's Primary Objective

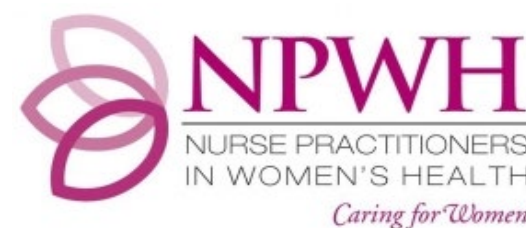
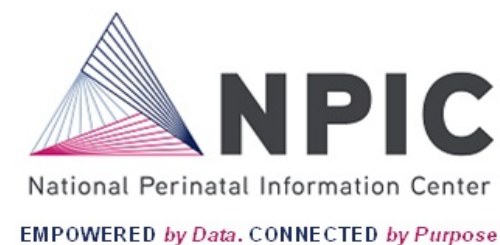


Reduce preventable maternal deaths and severe maternal morbidity (SMM) in the United States.

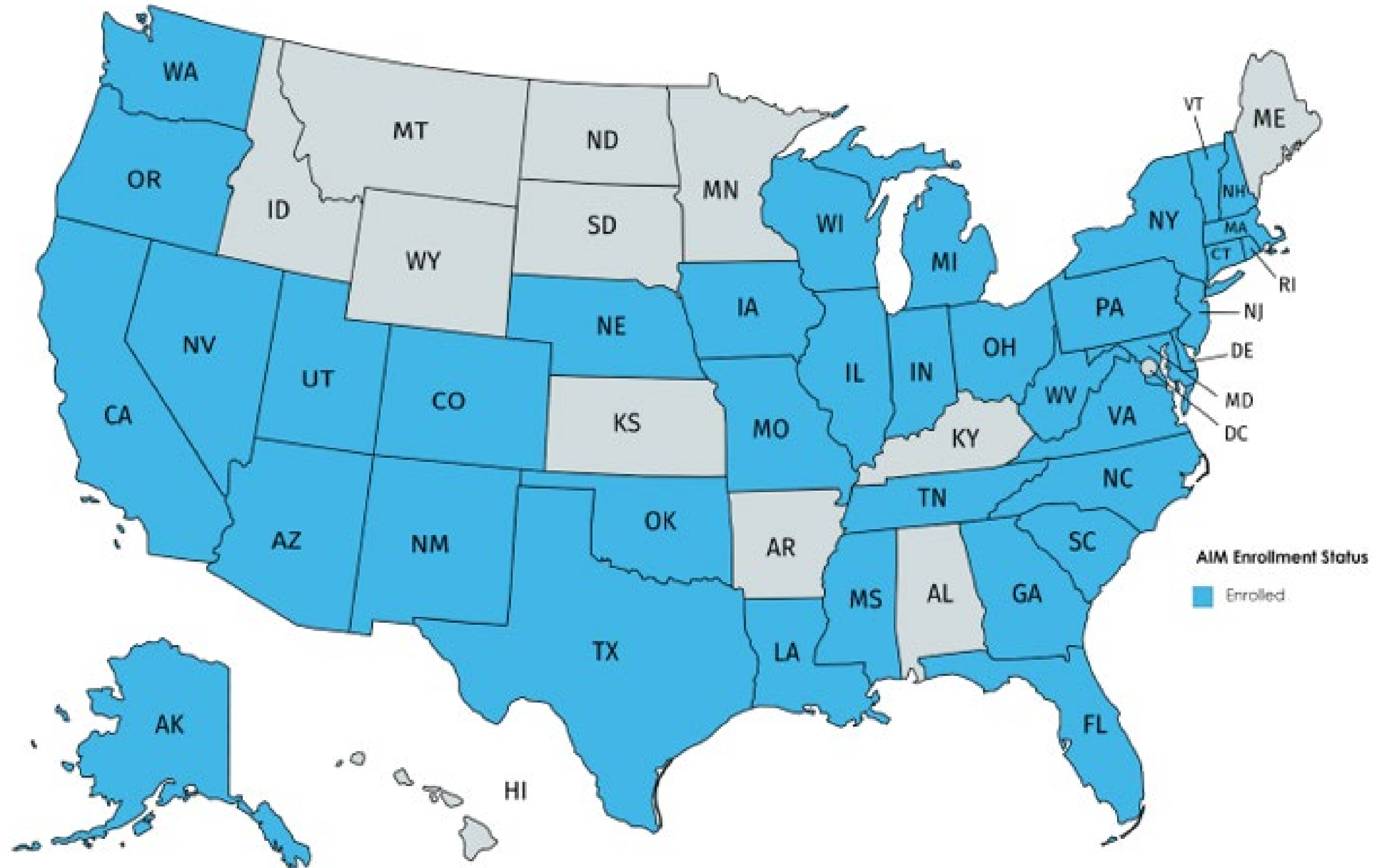
By:

- Promoting safe care for every U.S. birth.
- Engaging multidisciplinary partners at the national, state and hospital levels.
- Developing and providing tools for implementation of evidence-based patient safety bundles.
- Utilizing data-driven quality improvement strategies.
- Aligning existing efforts and disseminating evidence-based resources.

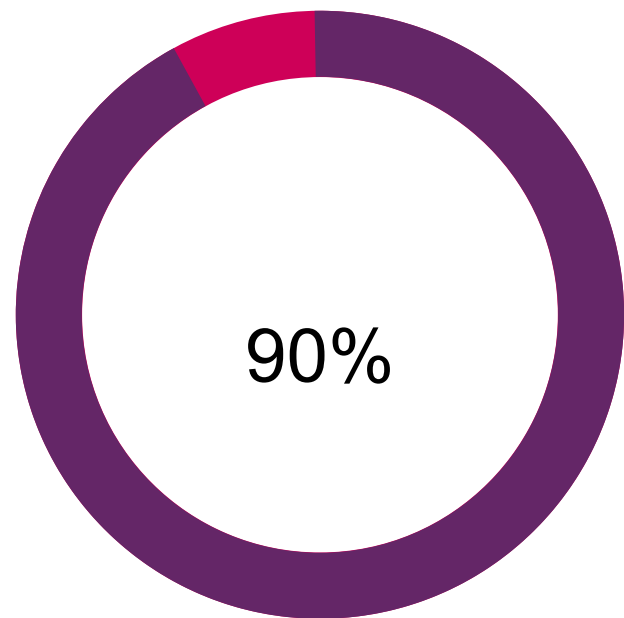
AIM Partners



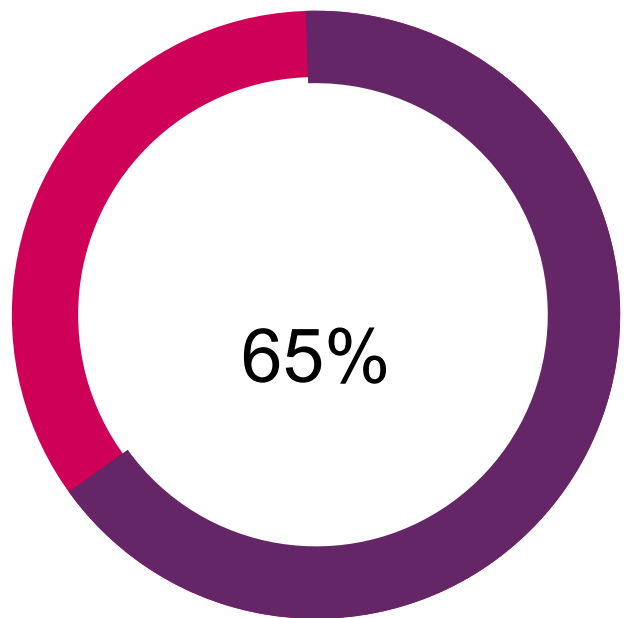
AIM States



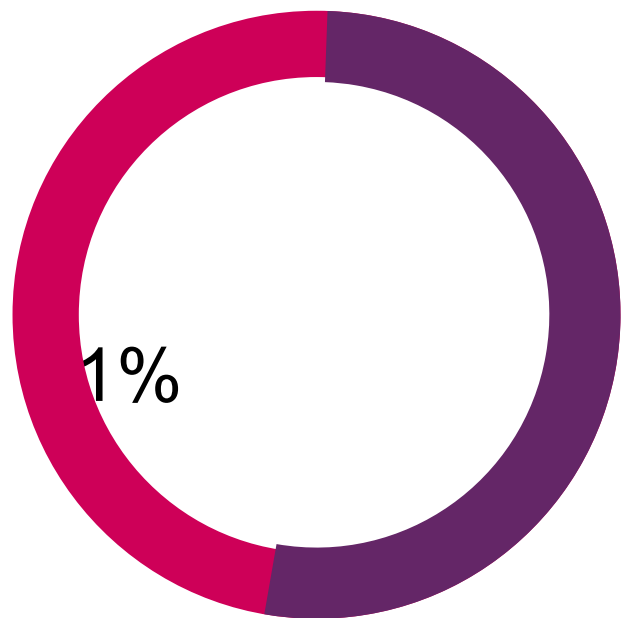
AIM By the Numbers



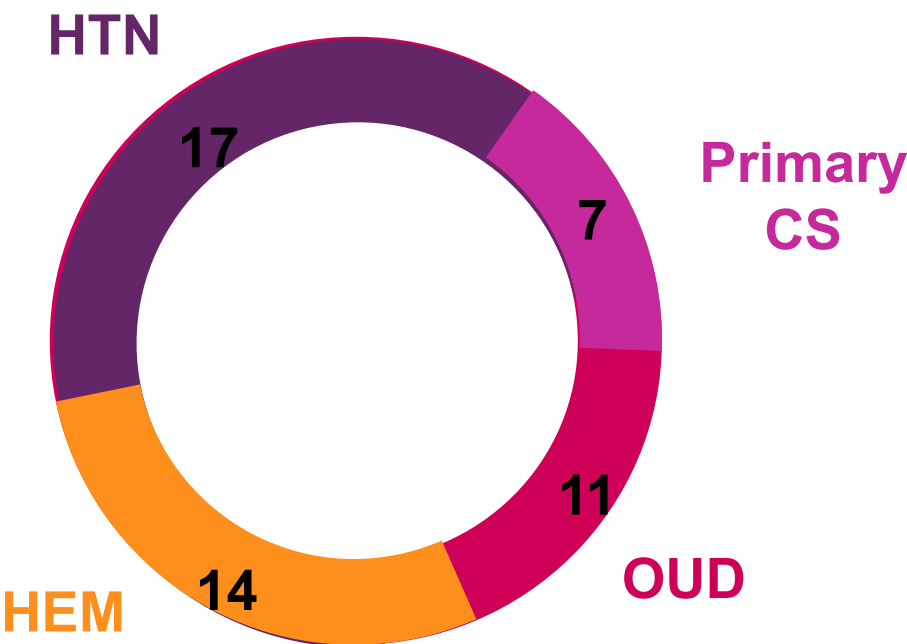
% U.S. States Engaged in AIM



% U.S. States Enrolled in AIM



% U.S. States Implementing a Bundle with AIM



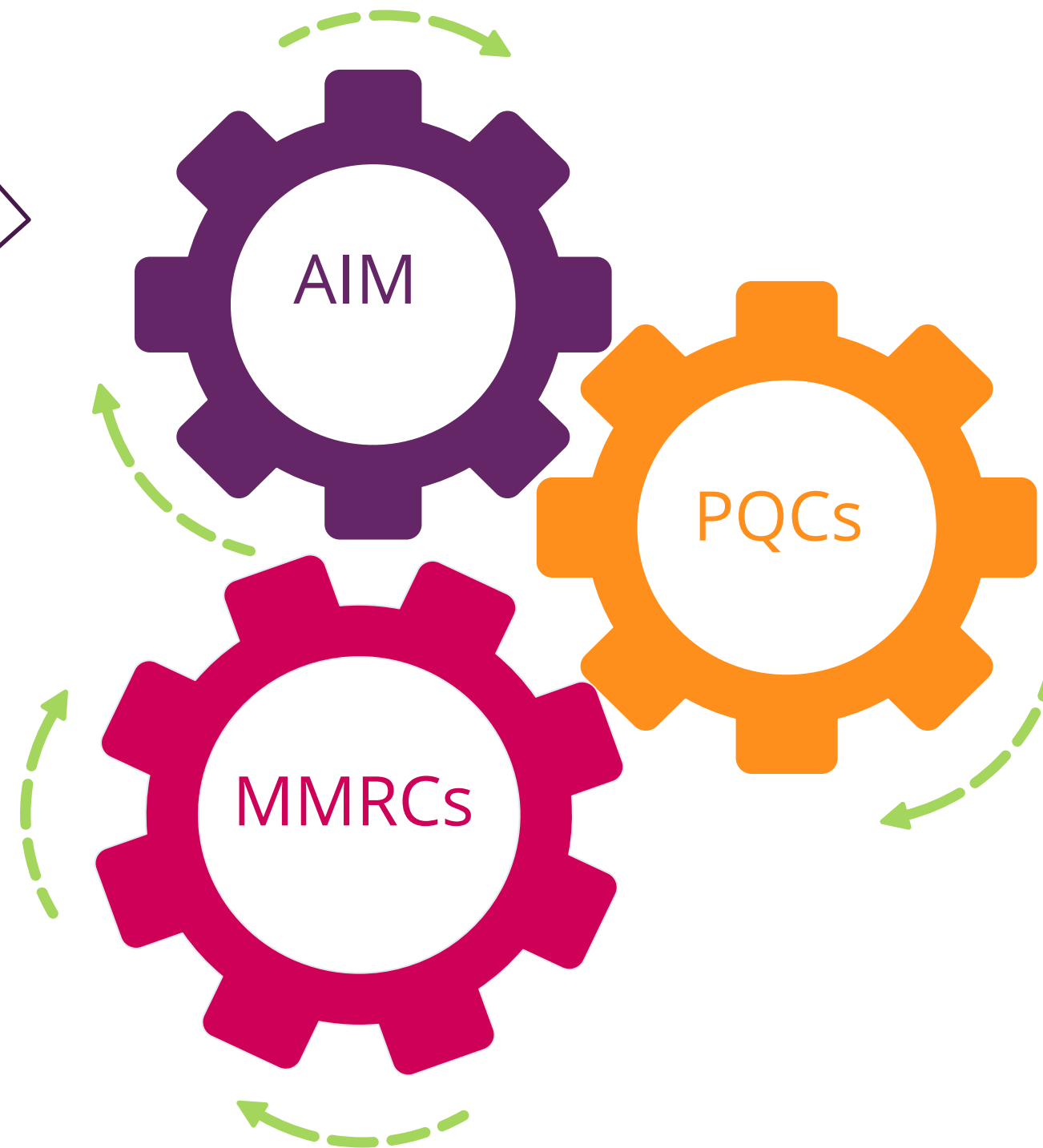
AIM Bundle Implementation

***Multiple states are implementing more than one*

Critical Collaborations

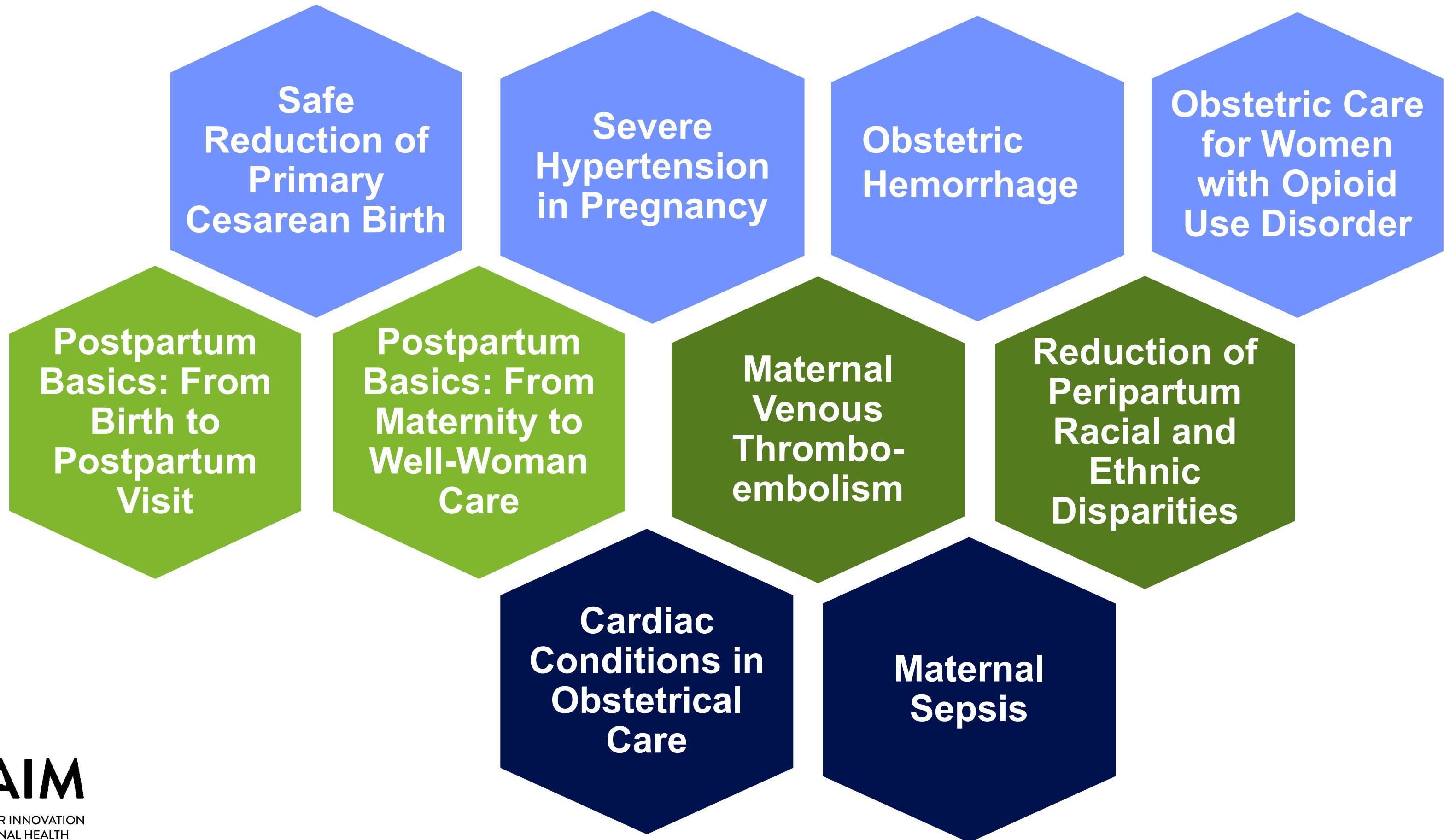
Alliance for Innovation on Maternal Health moves established guidelines into practice with a standard approach to improve safety in care

Maternal Mortality Review Committees conduct detailed reviews for complete and comprehensive data on maternal deaths to prioritize statewide prevention efforts

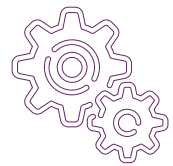


Perinatal Quality Collaboratives mobilize state or multi-state networks to implement clinical quality improvement efforts and improve care for mothers and babies

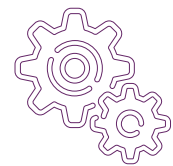
AIM Patient Safety Bundles



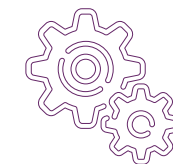
Why an AIM Data Center?



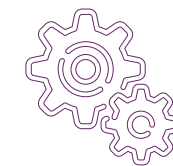
Supports data-driven quality improvement



Benchmark metrics against “like” hospitals and stratifies outcomes by patient demographics



Allows for comparison across state collaboratives



Tracks bundle implementation and SMM rates overtime

3/27/2021

What is in the AIM Data Portal?



Outcome Measures

- Calculated and submitted on behalf of hospitals by collaborative administrators
- Data primarily sourced from hospital discharge and birth certificate data



Structure and Process Measures

- Data collected by participating facilities and submitted by hospital administrators
- Based on AIM Data Collection Plan



Data from other AIM state teams

- Provides collaborative-wide data for all metrics provided by all states
- Allowing for improved benchmarking

Thank you!



ALLIANCE FOR INNOVATION
ON MATERNAL HEALTH

This program is supported by a cooperative agreement with the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) under grant number UC4MC28042, Alliance for Innovation on Maternal Health. This information or content and conclusions are those of the author and should not be construed as the official position or policy of, nor should any endorsements be inferred by HRSA, HHS or the U.S. Government.



Model for Improvement

Sam Gentle, MD

Assistant Professor of Neonatology

Department Pediatrics

UAB Medicine

Neonatal Lead, ALPQC



Sustainable Improvement



Subject Matter Knowledge

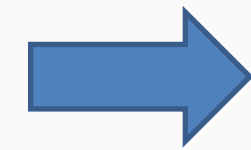
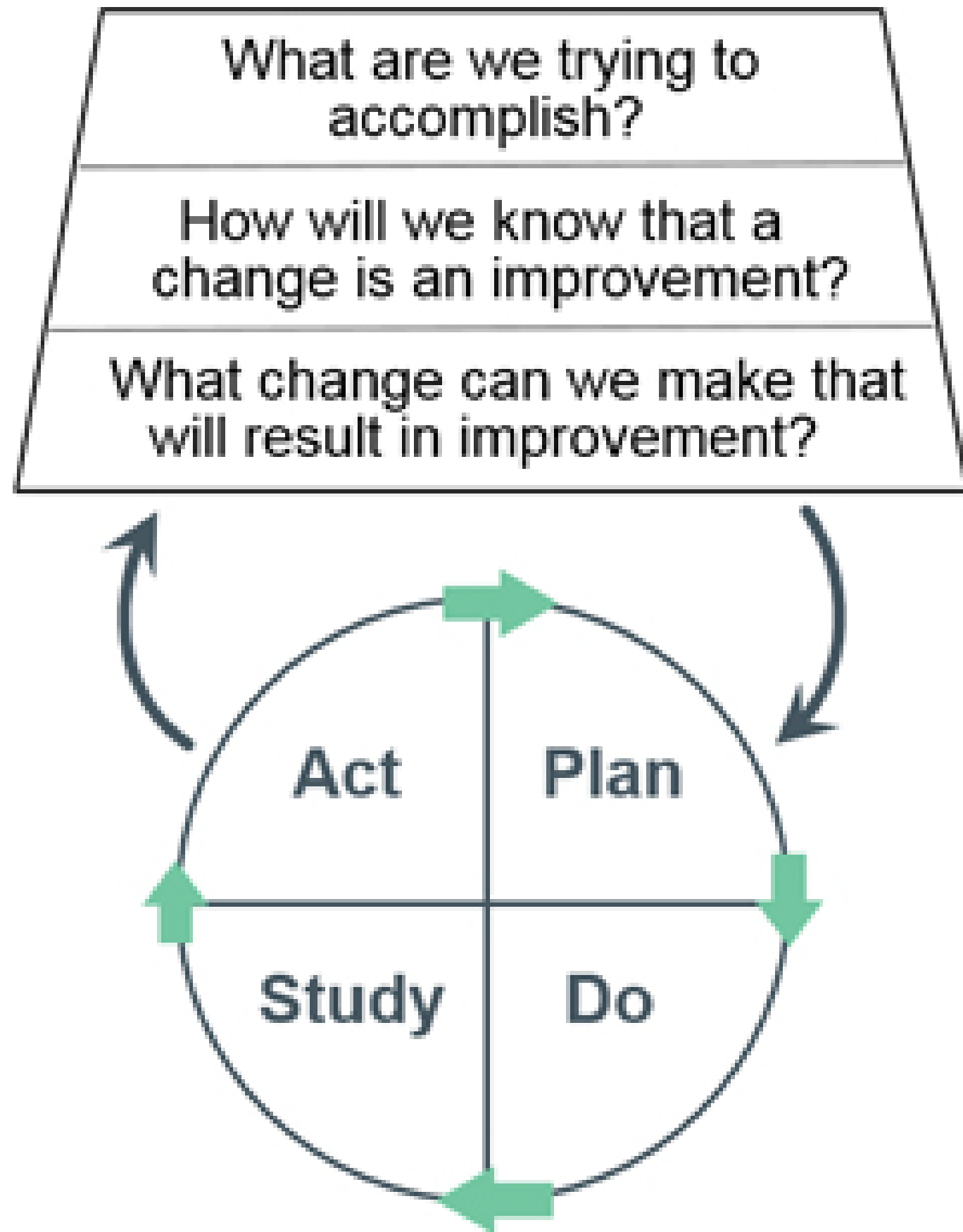
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Knowledge for Improvement

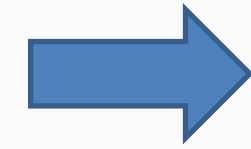


Operationalizing the Model

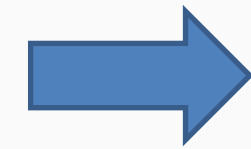
Model for Improvement



Setting your SMART aim



Measurement Strategy



Key Driver Diagram ->
Change Package



Testing Changes via PDCA
cycles

SMART AIM Statement



Specific (clearly stated)

Measurable (measurable numeric goals)

Actionable (within control/influence)

Relevant (aligned with organization)

Time bound (specific time frame)



Measurement Strategy

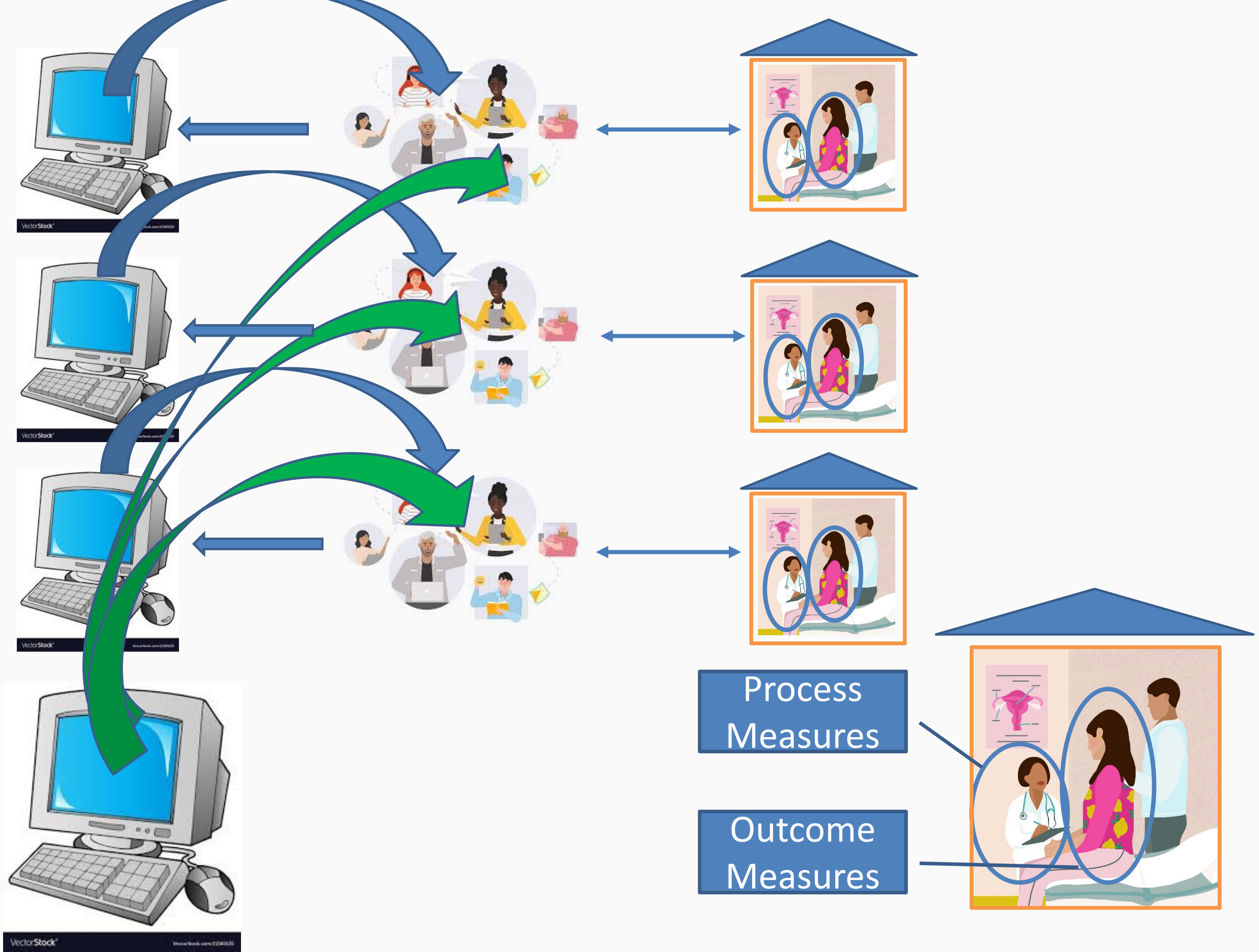


- Reflect the aim statement
- Guide improvement and test changes
- Purpose is to enhance learning, NOT judgement
- Measures do have limitations
- Makes improvement goal oriented



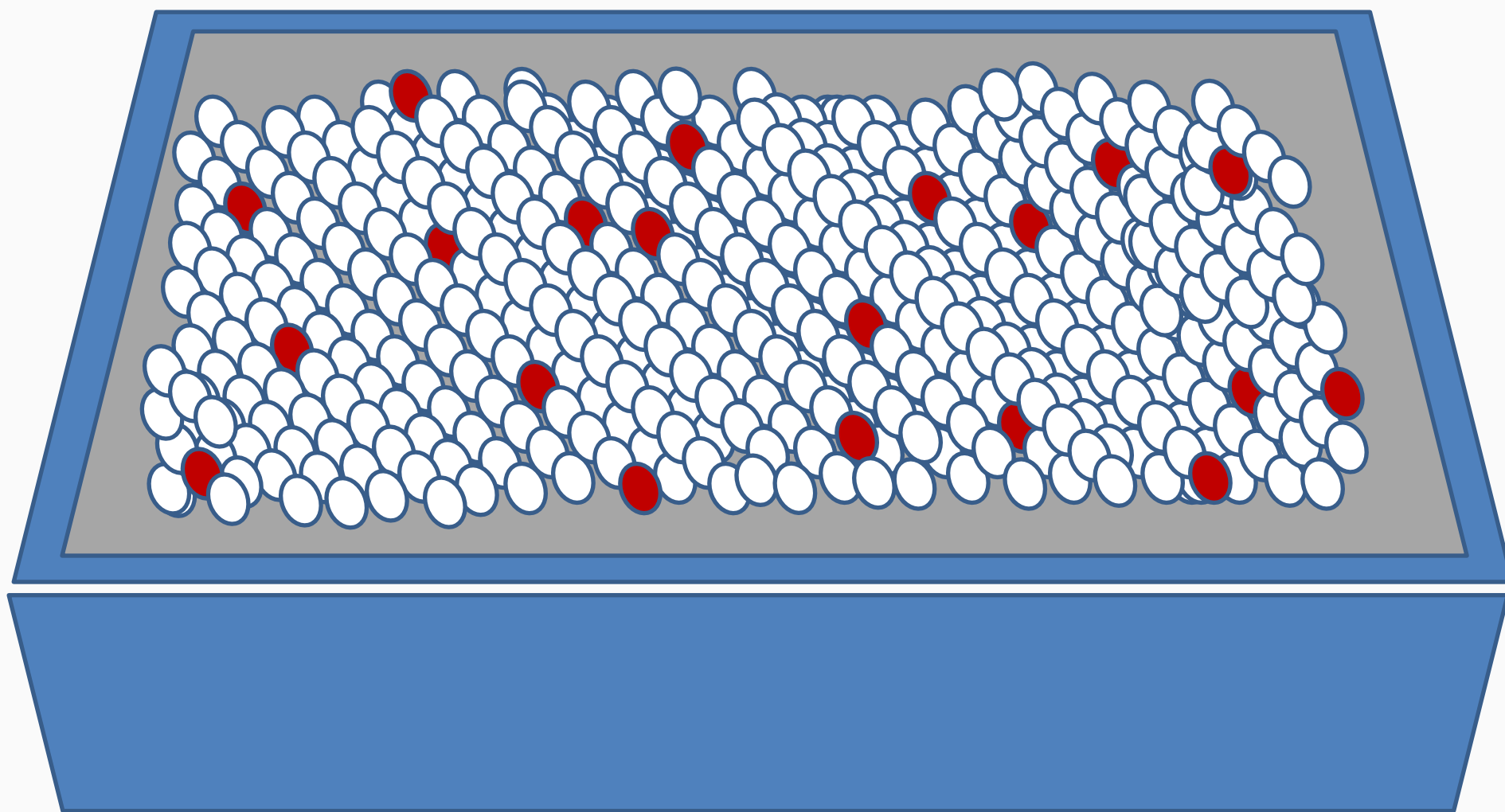
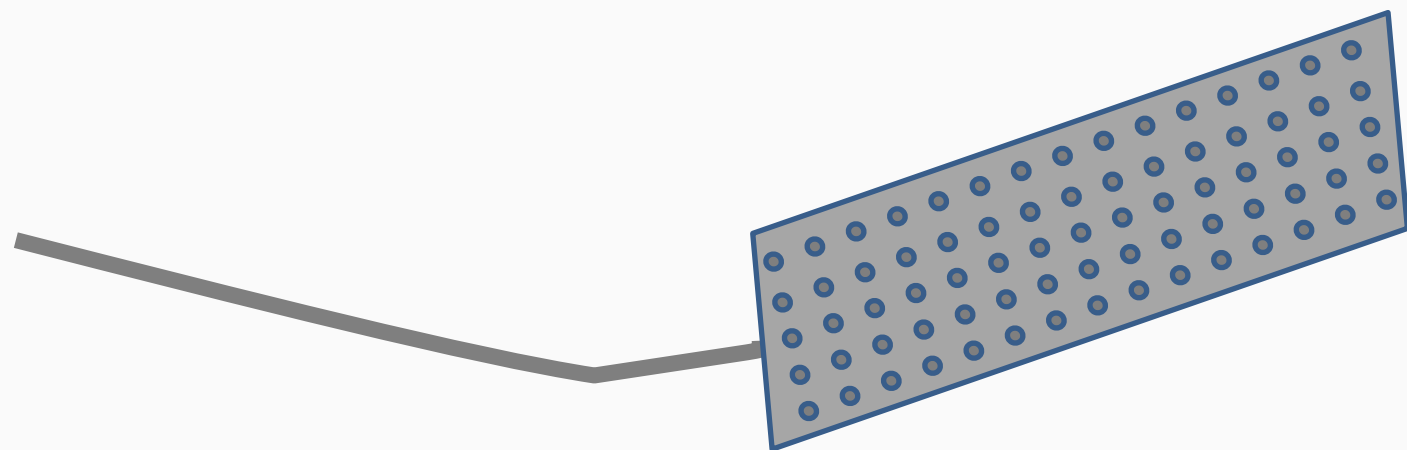
Types of Measures

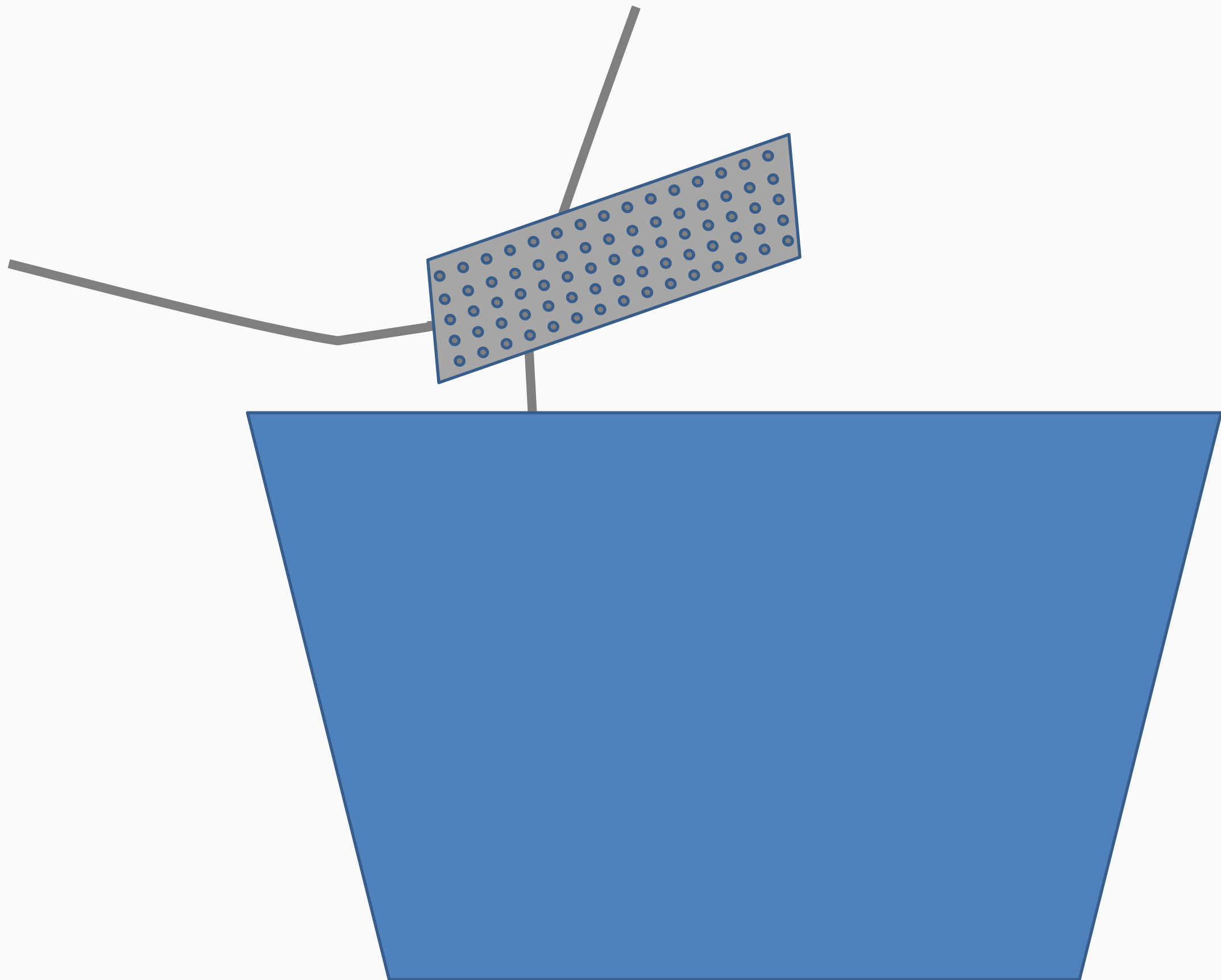
- **Outcome Measures**
 - Results – system level performance
- **Process Measures**
 - Inform changes to the system
- **Structural Measures**
 - Checkpoint for hospitals' progress
- **Balancing Measures**
 - Are changes causing new problems in the system?



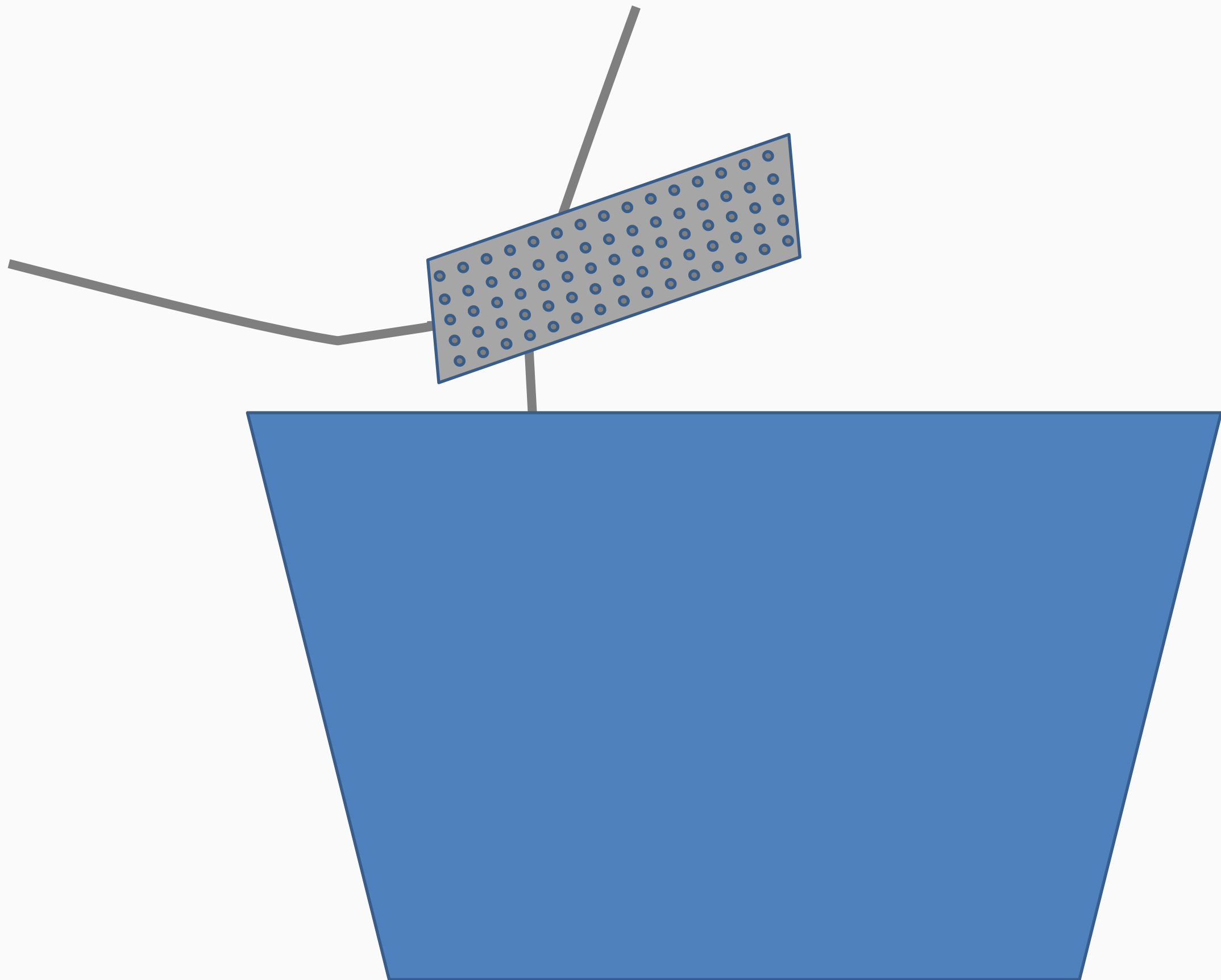
Red Bead Experiment



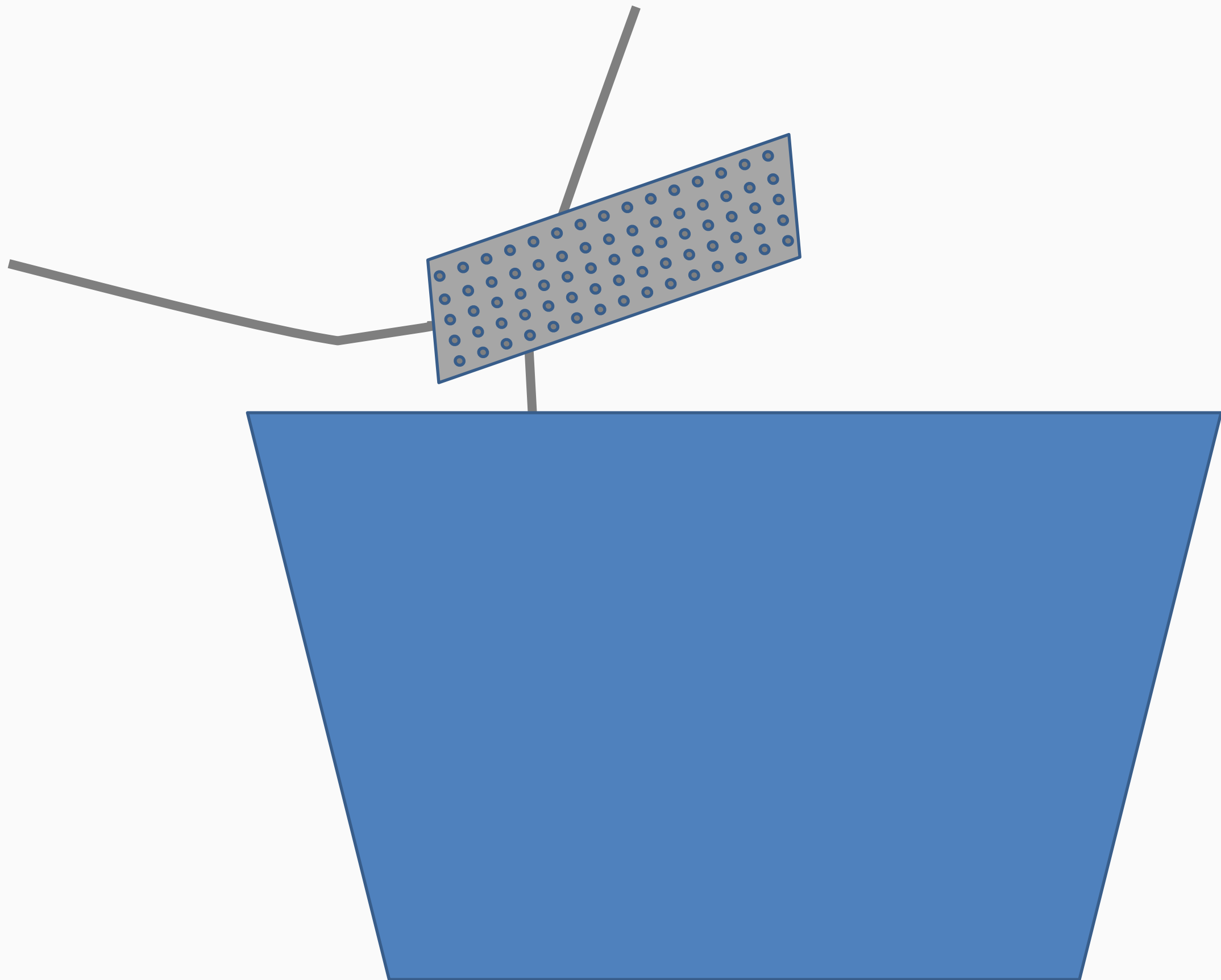




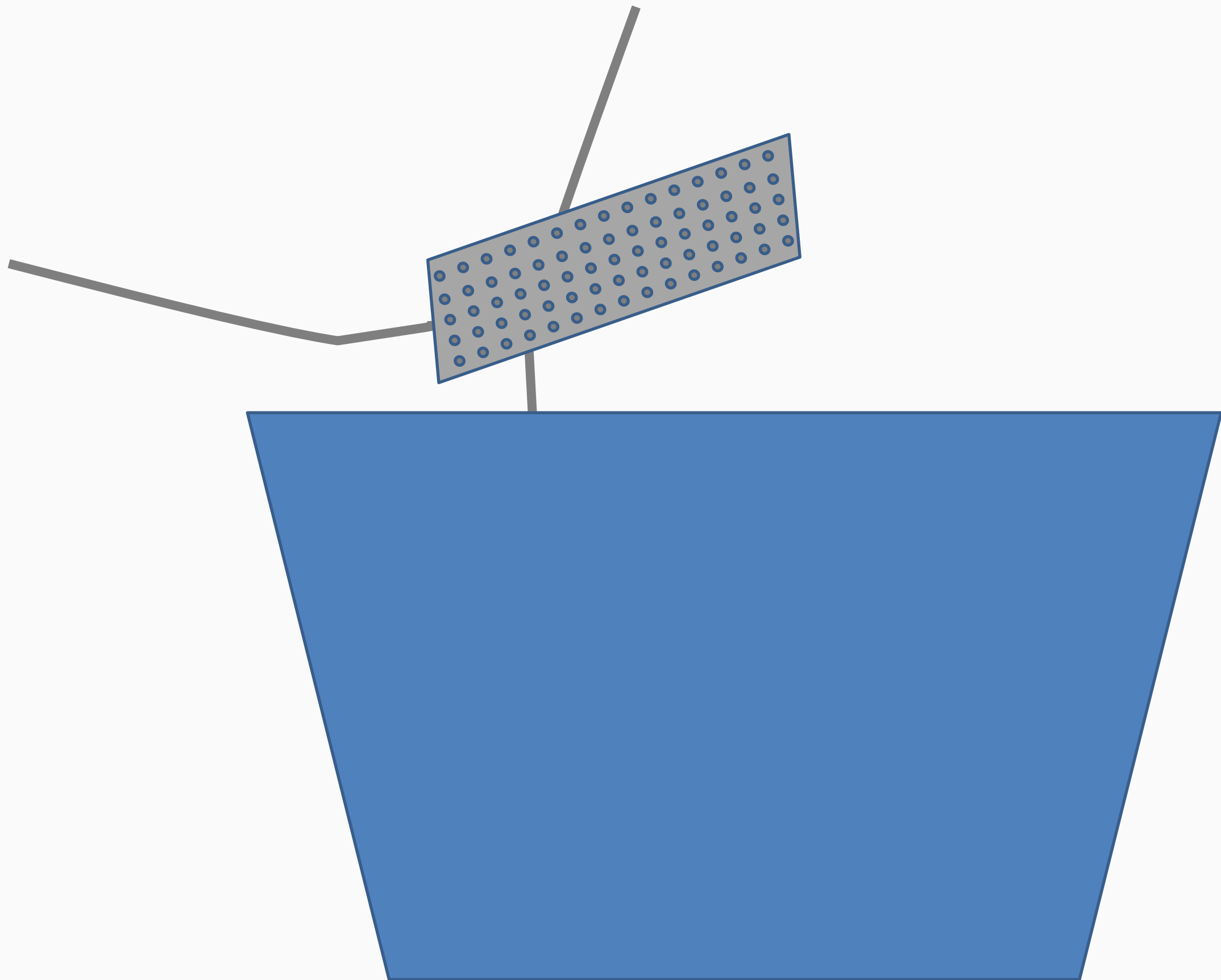
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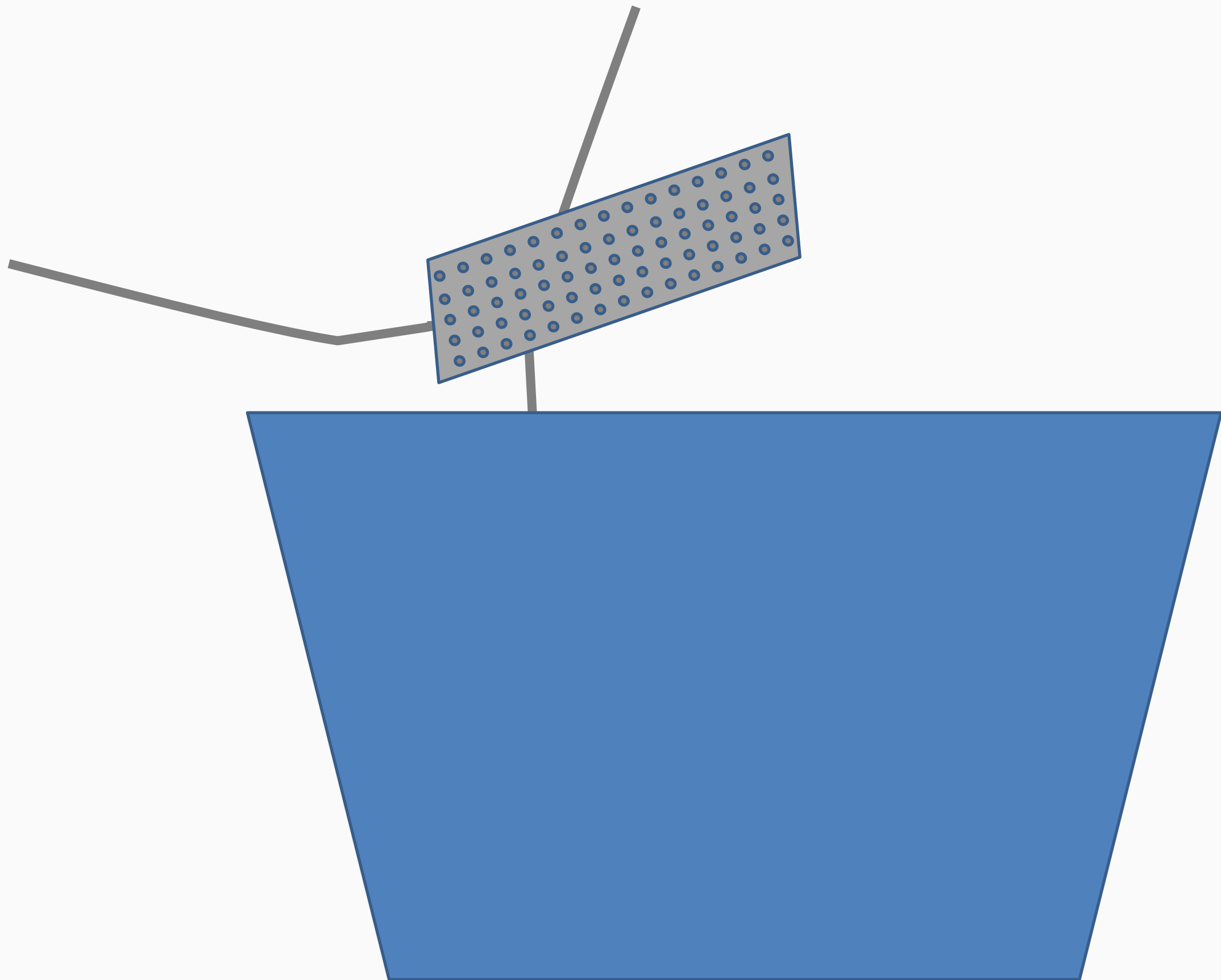
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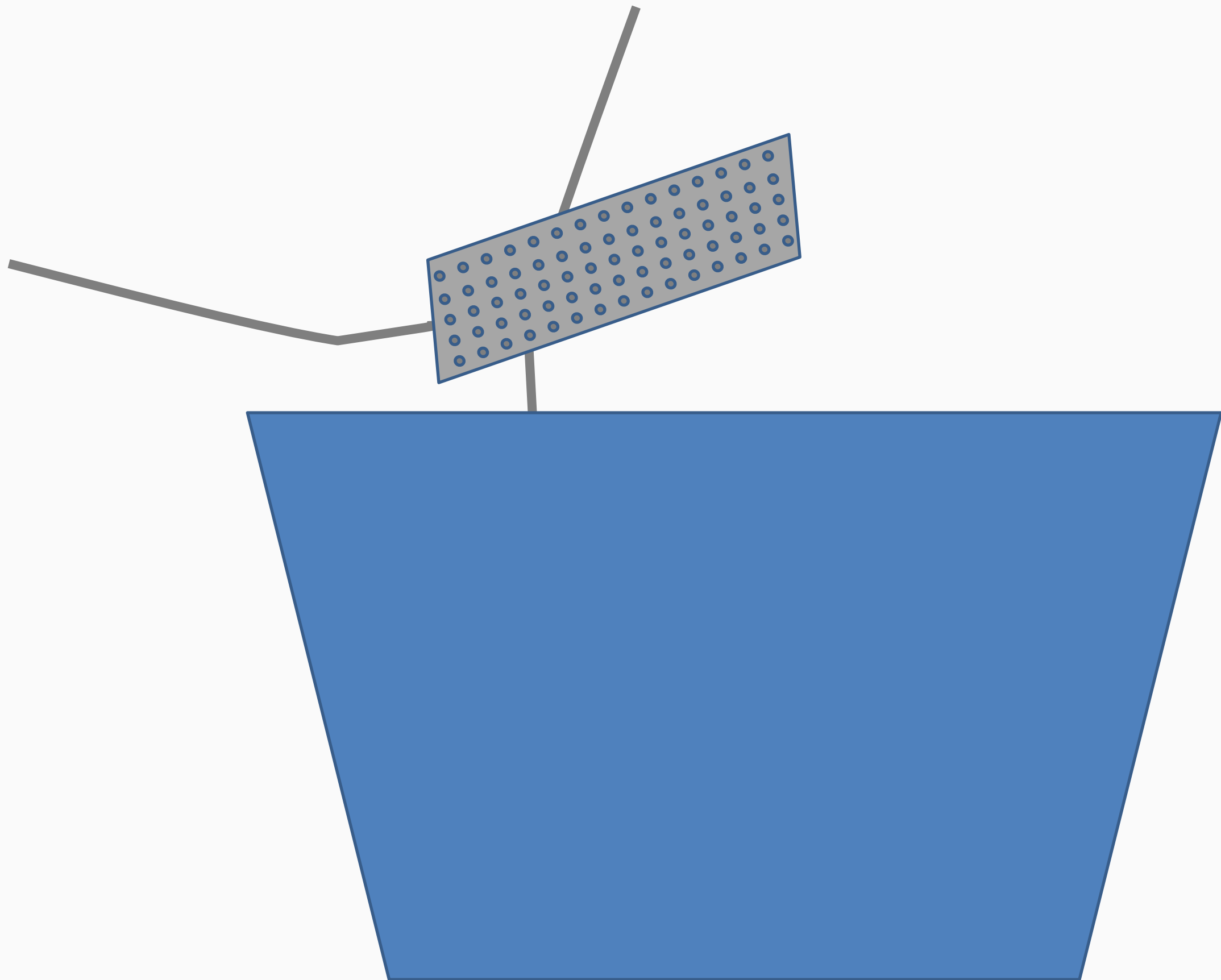
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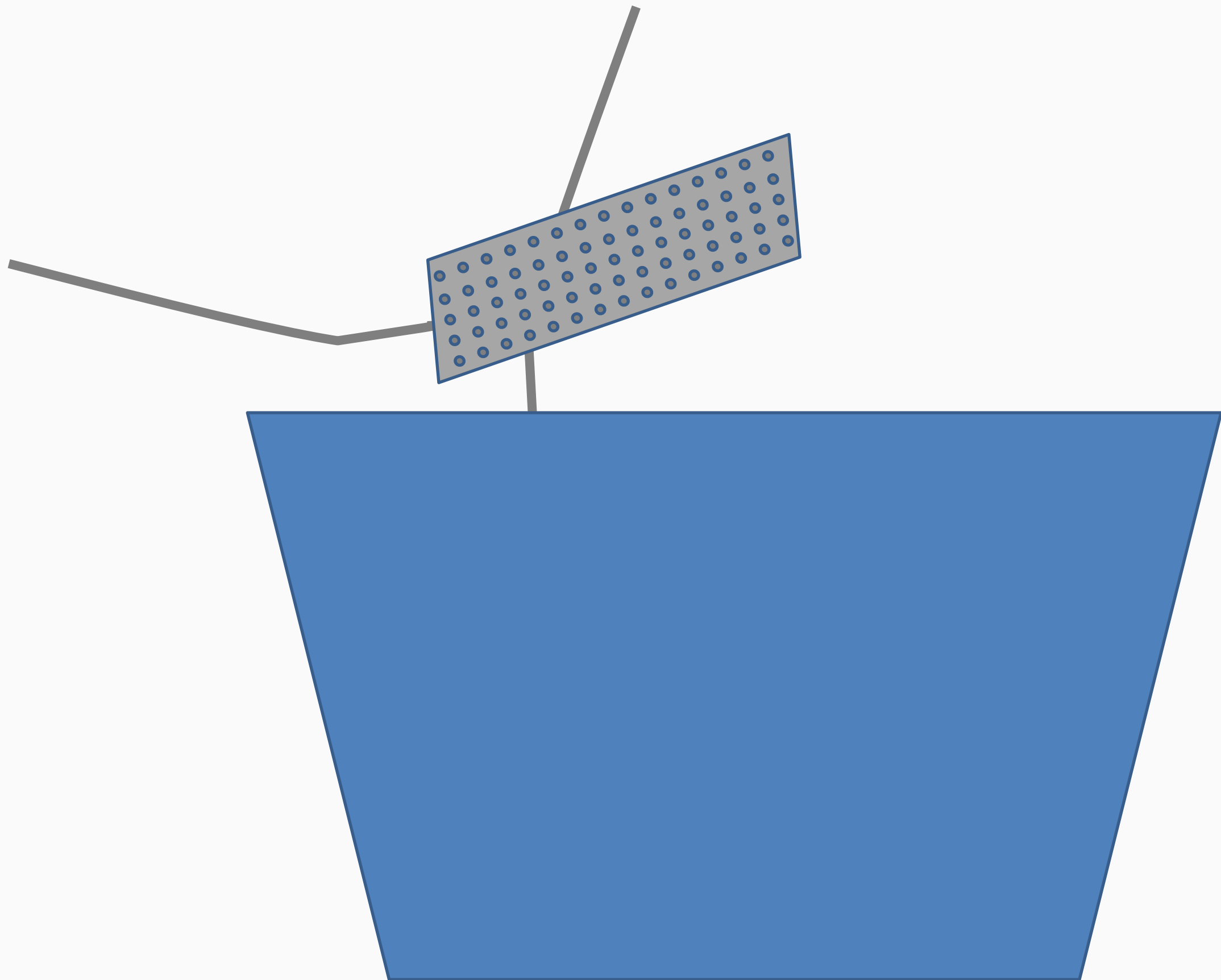
News flash Worker #3!
You're promoted!



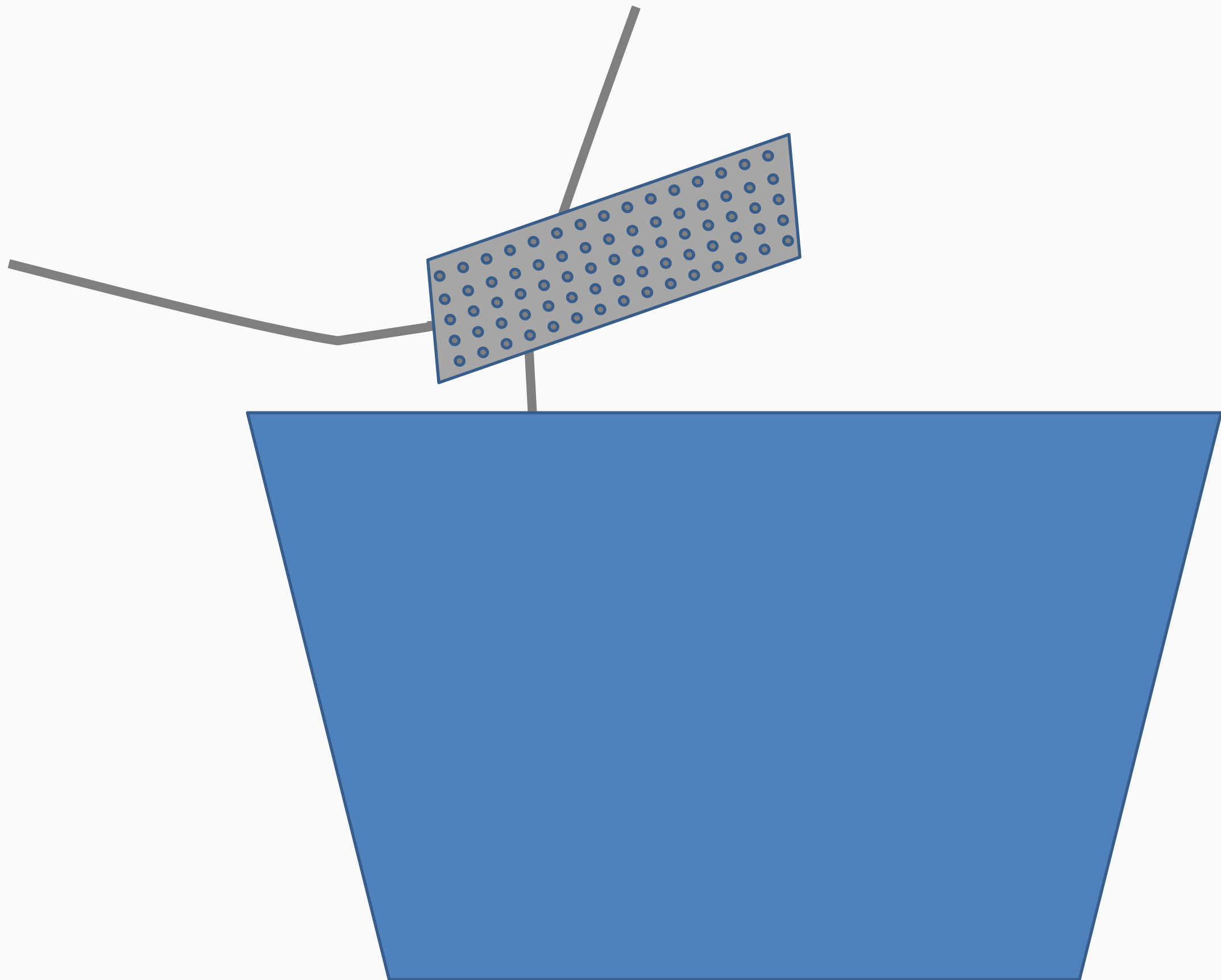
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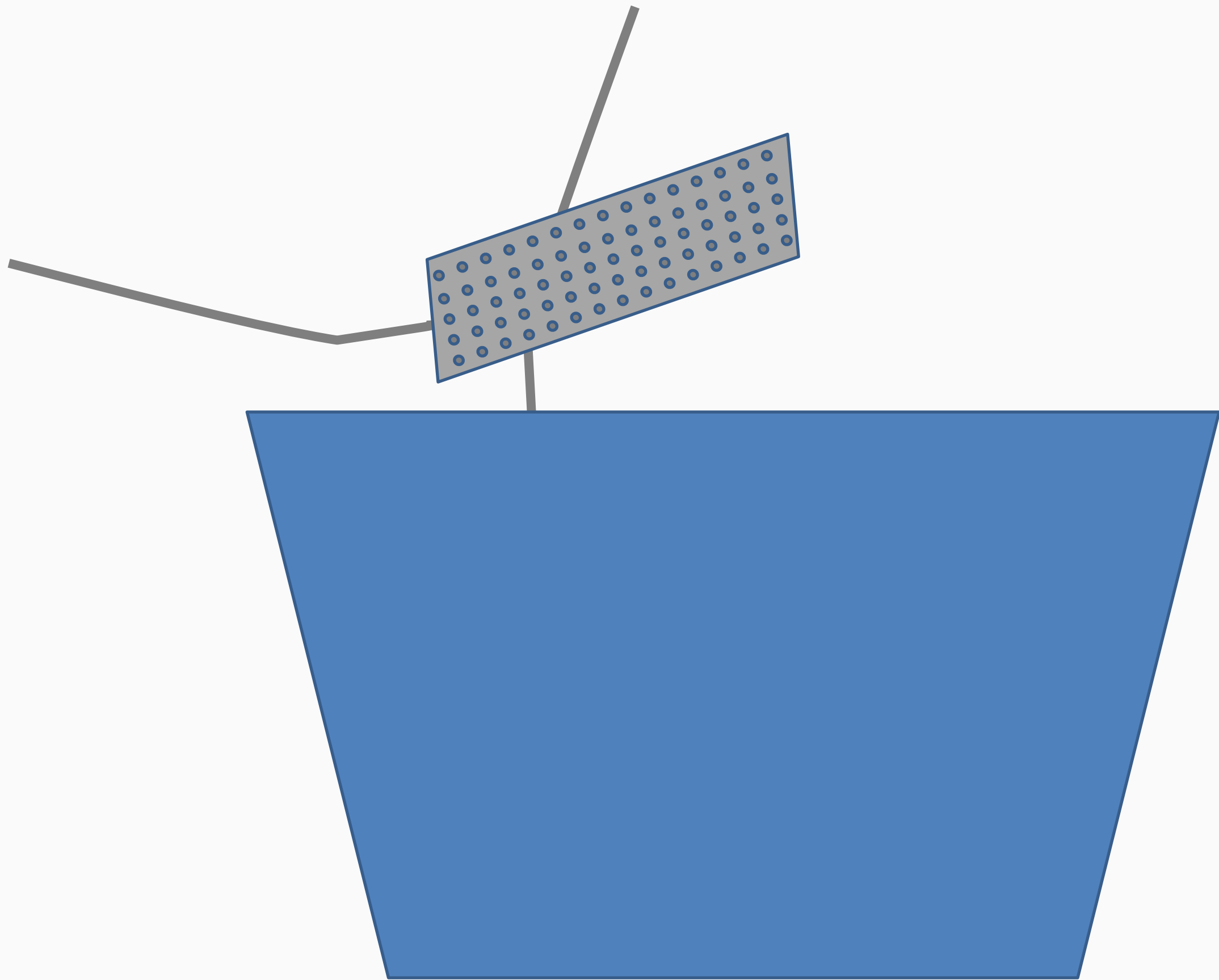
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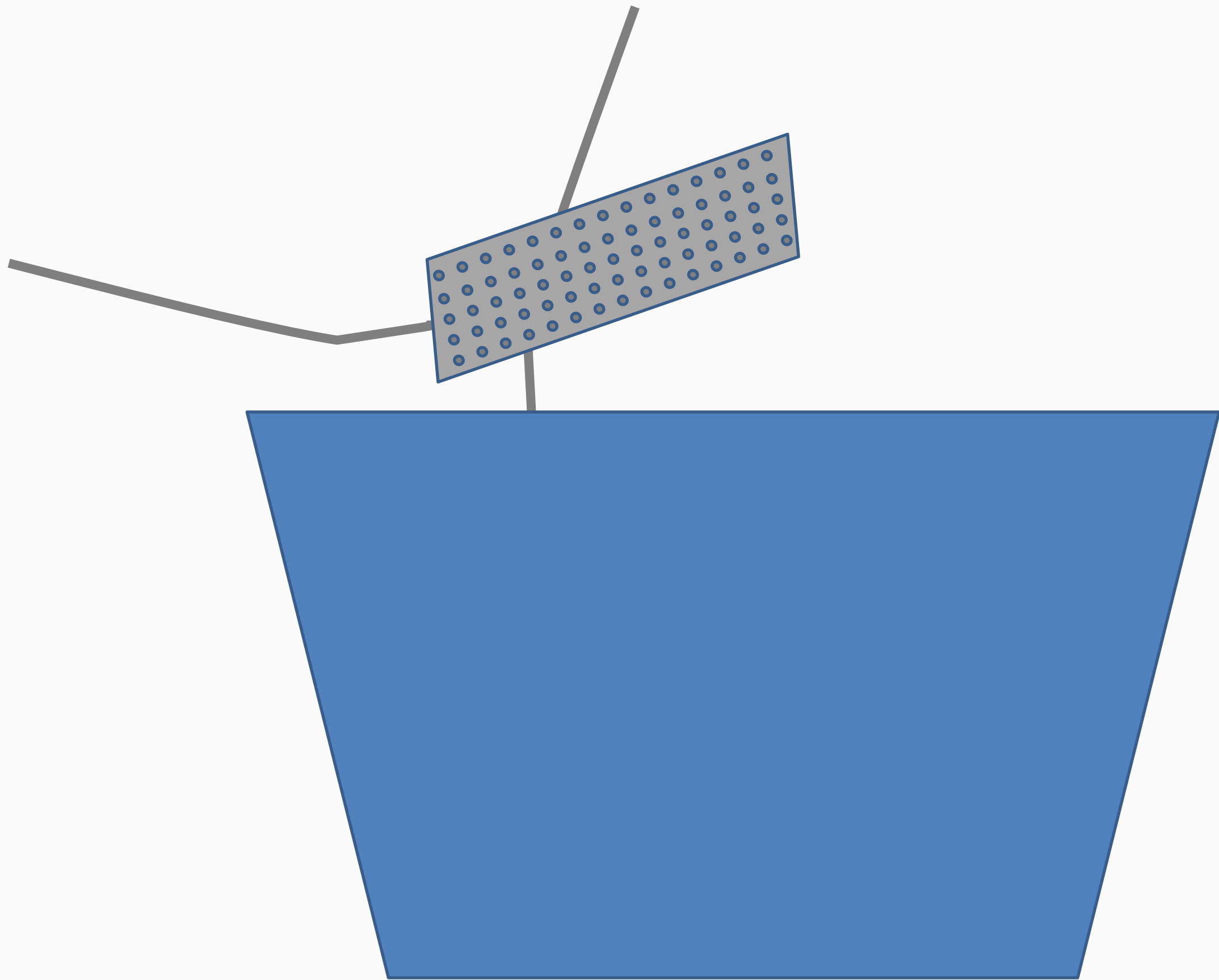
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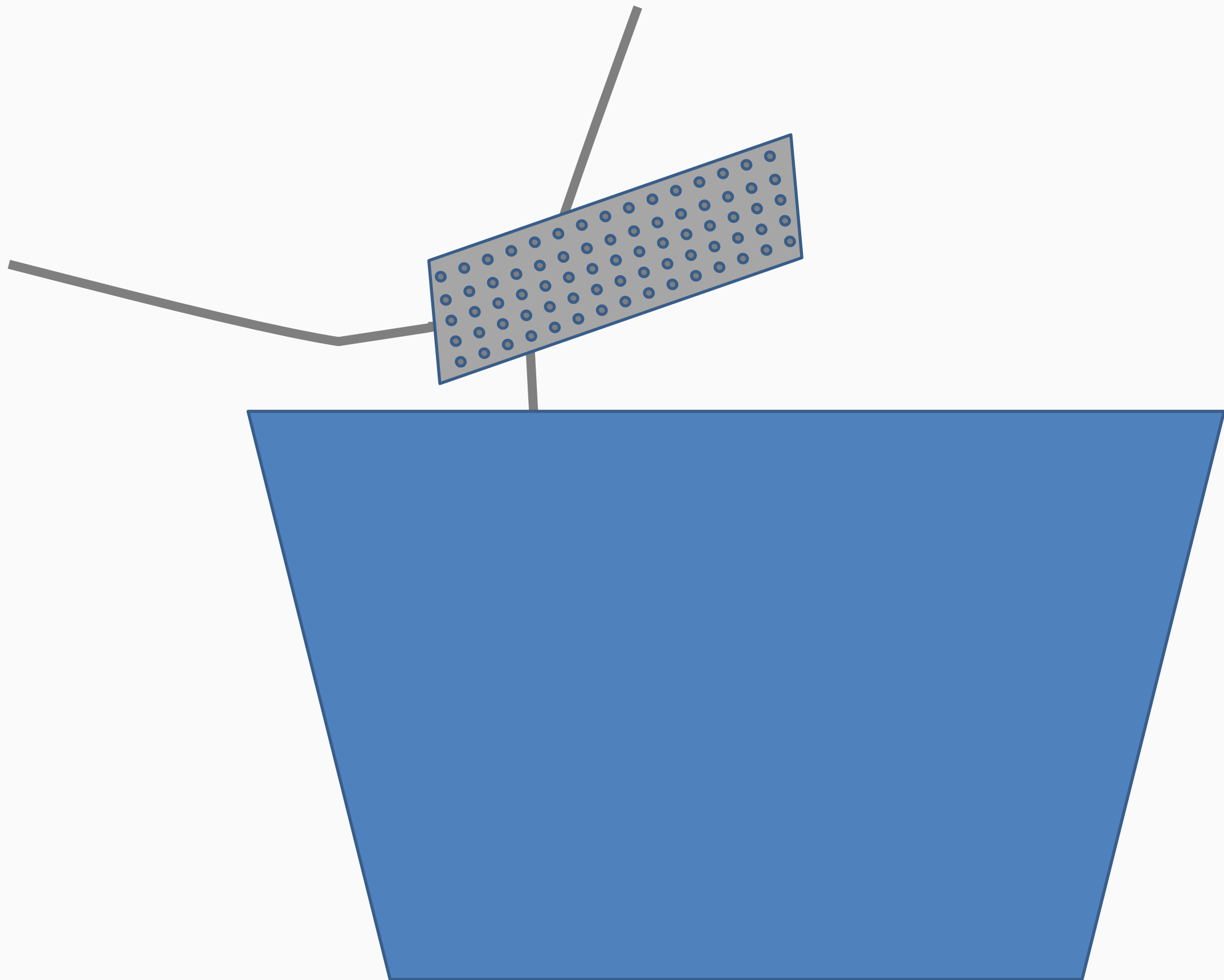
ZERO DEFECTS!!!



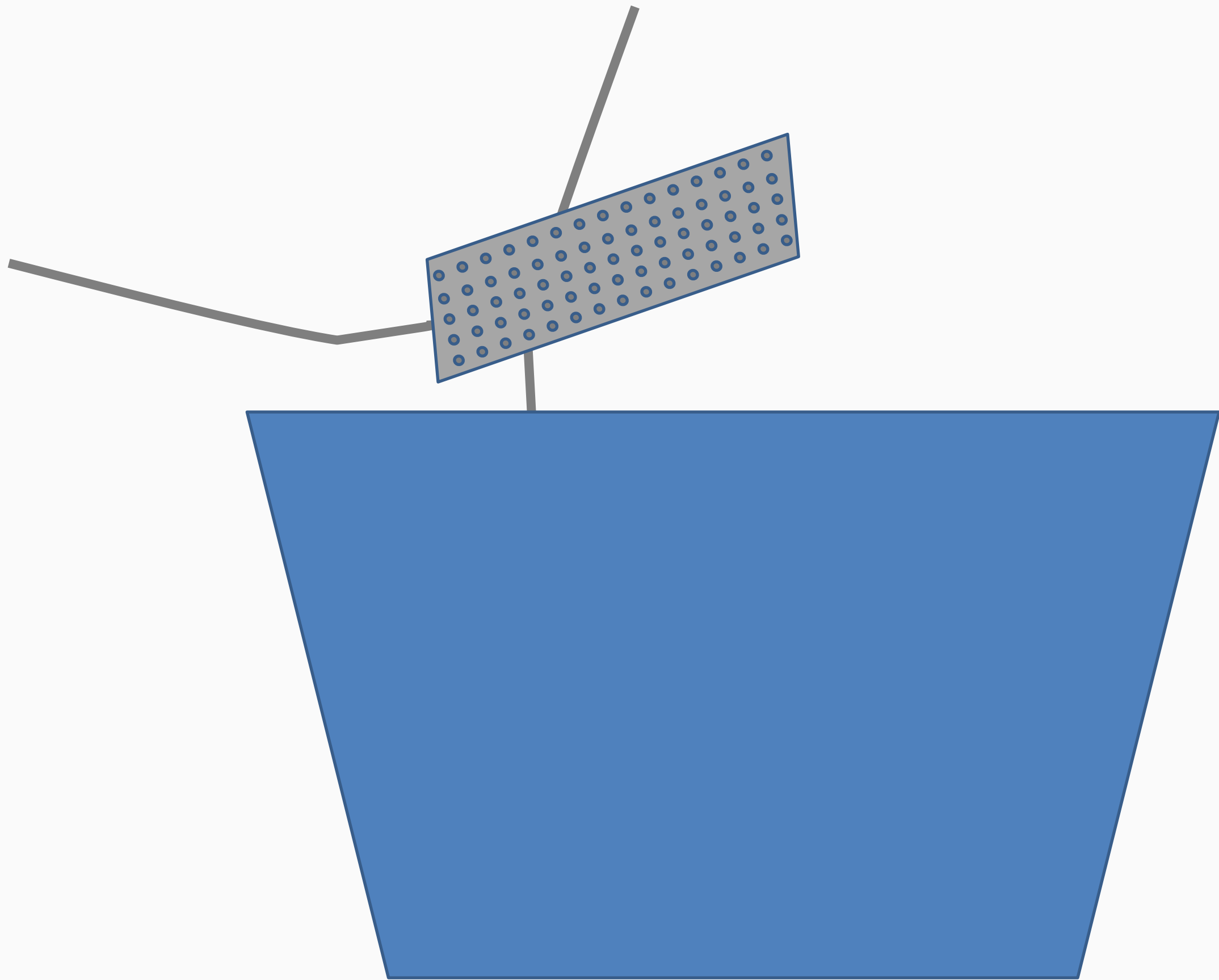
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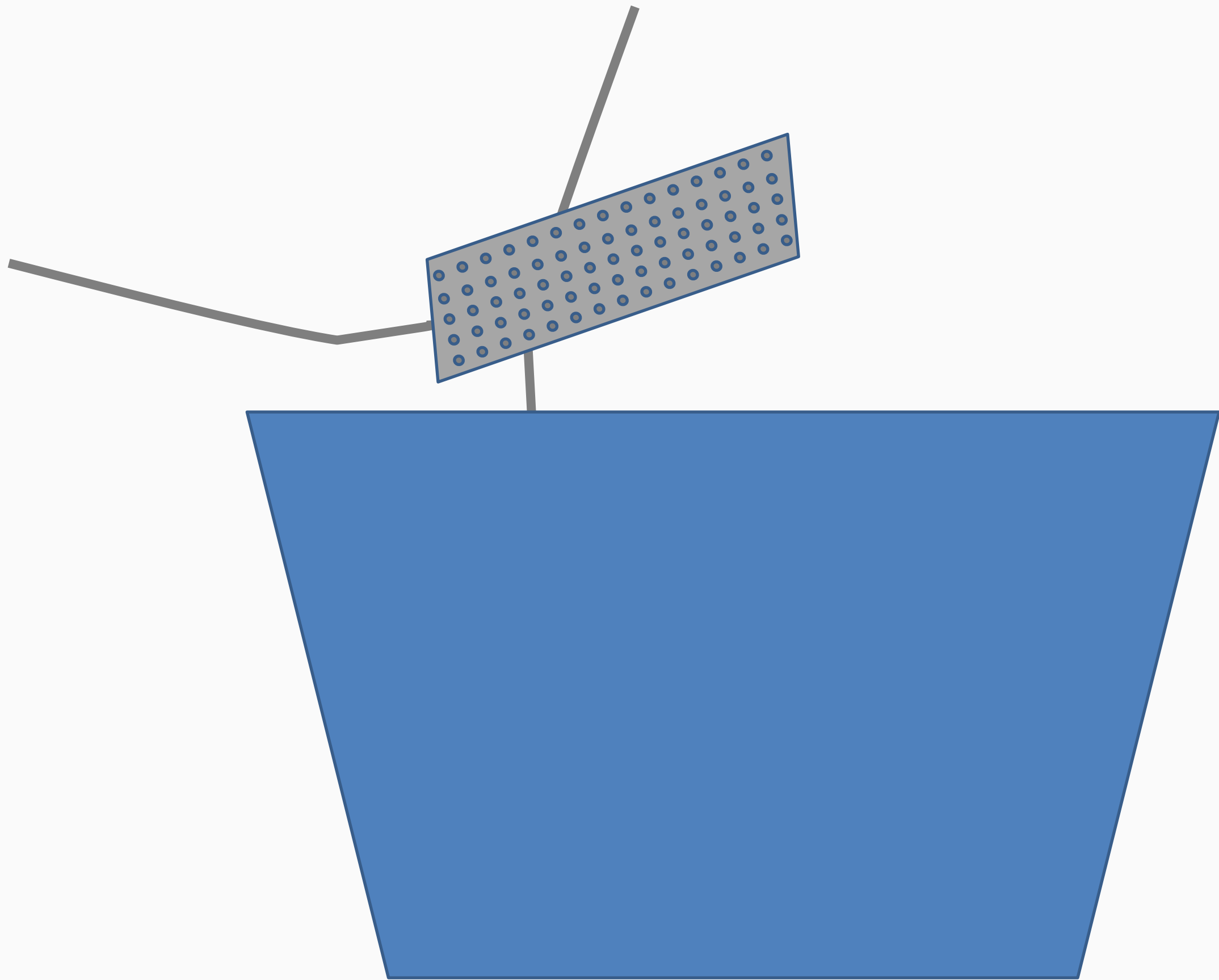


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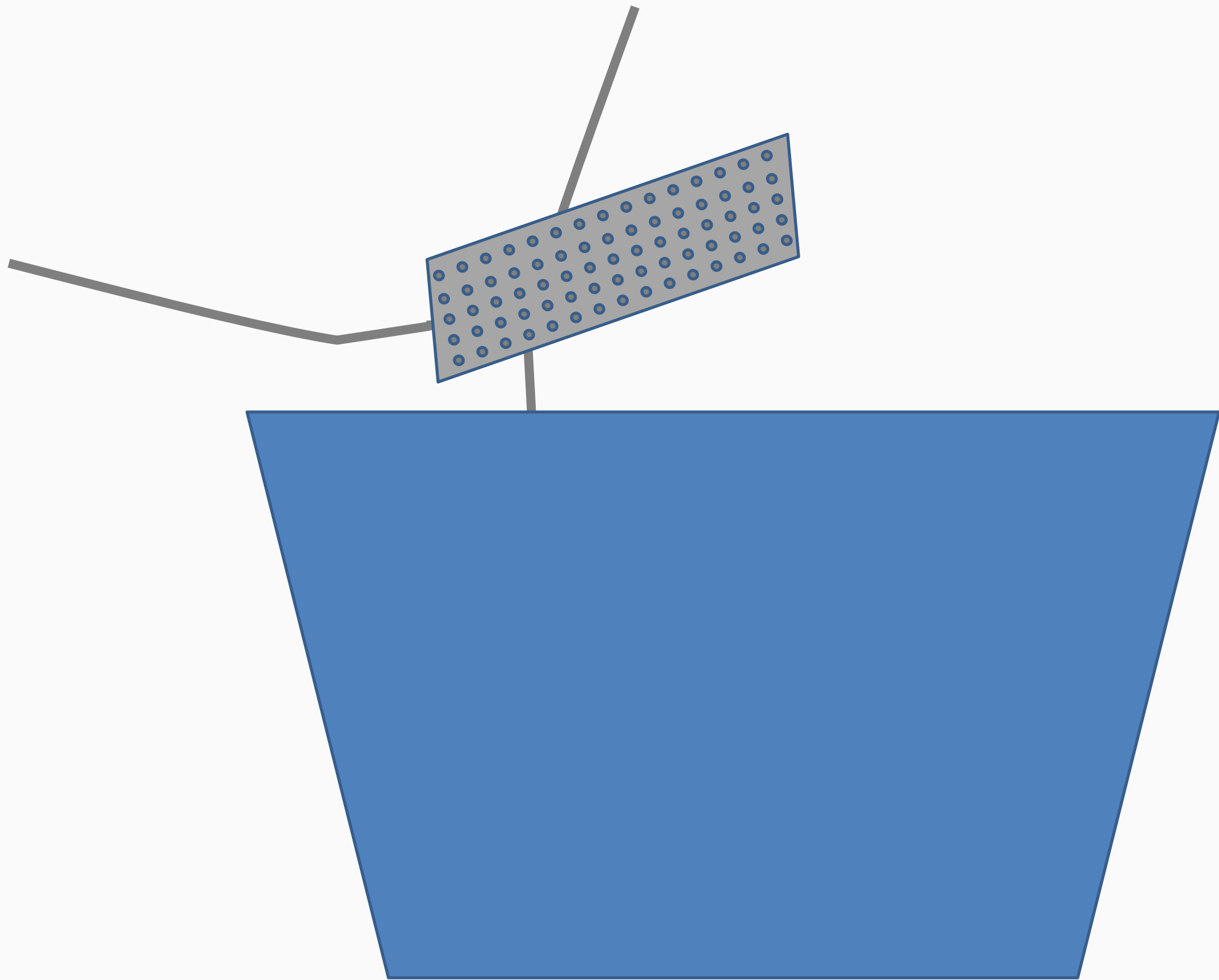


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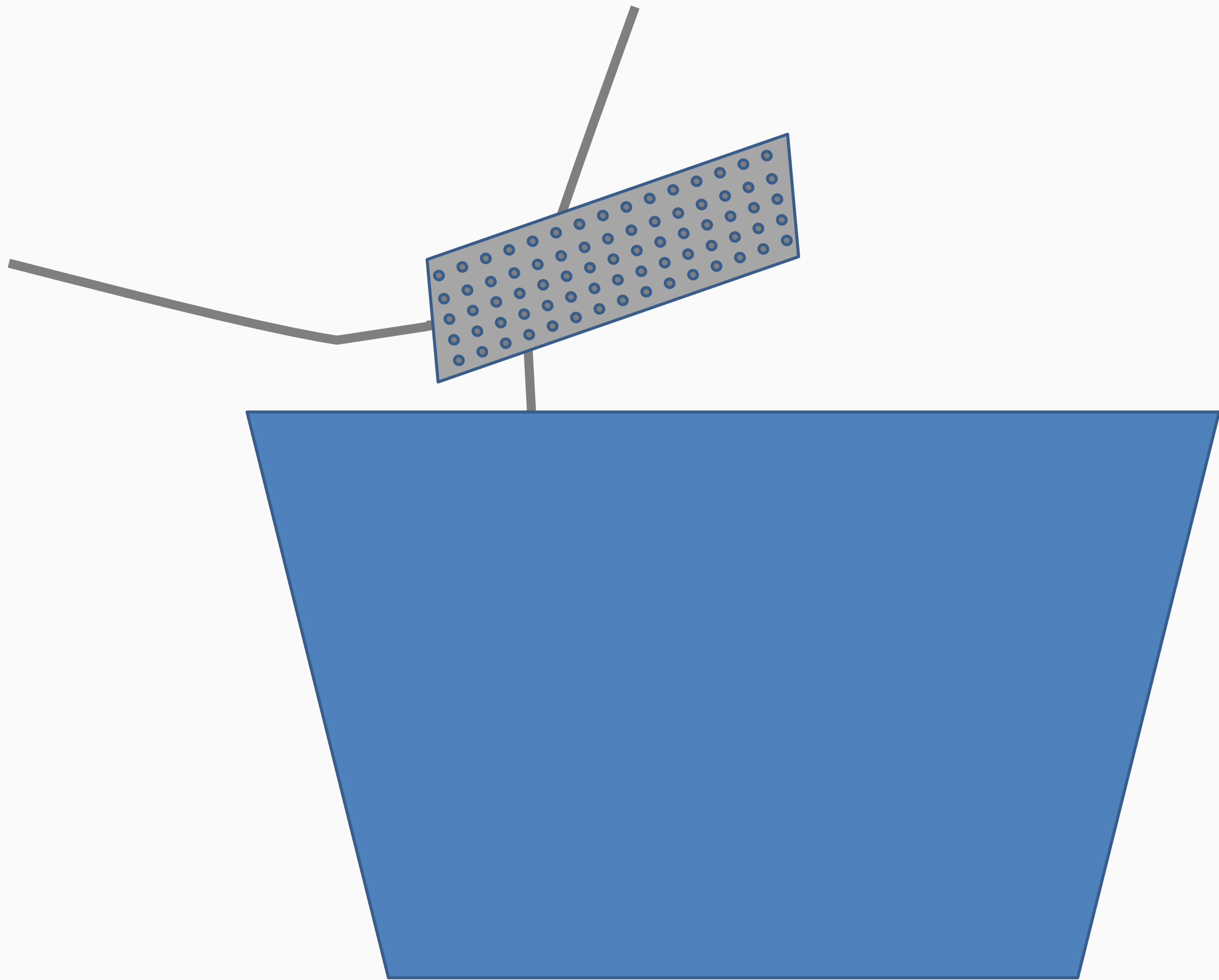




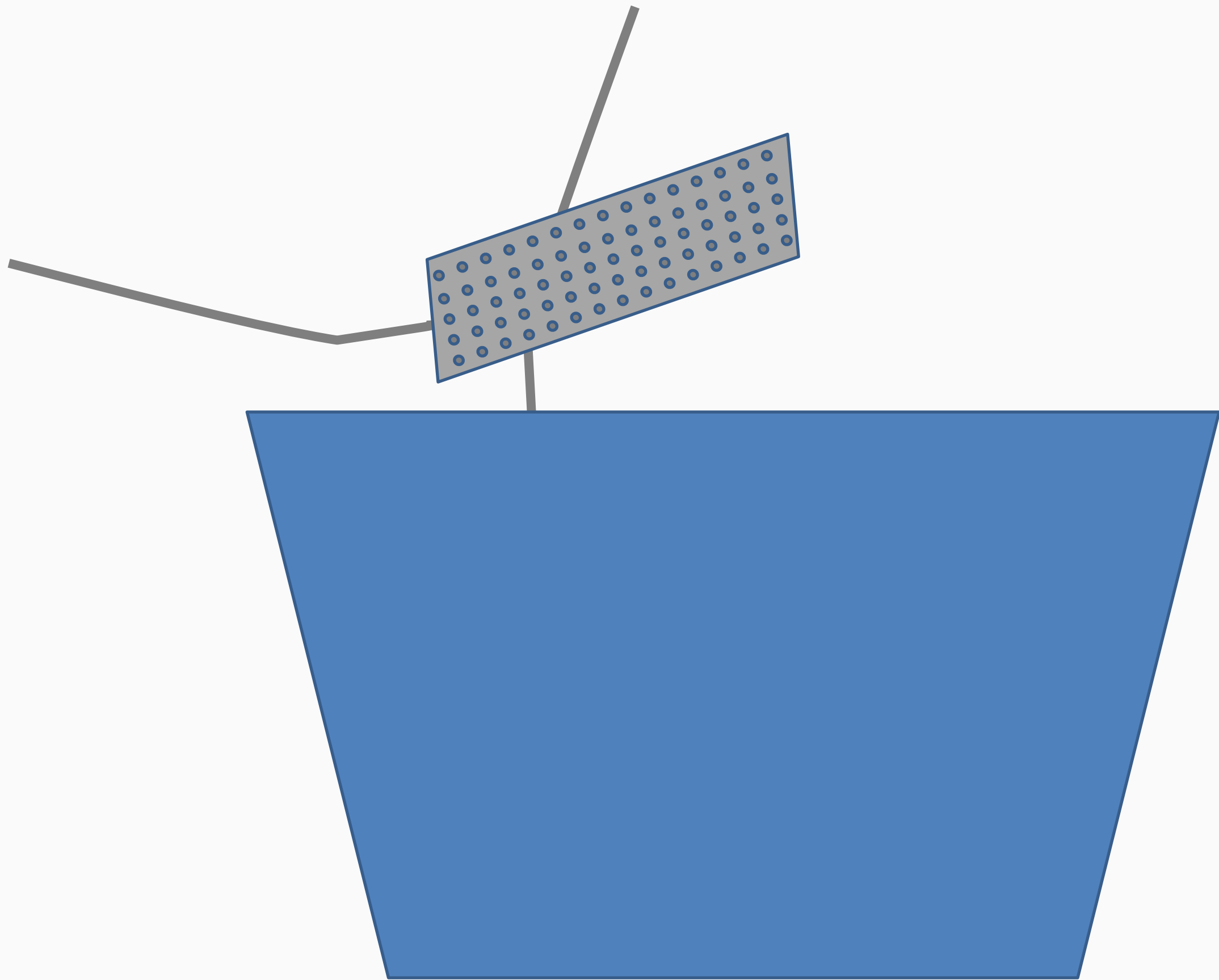
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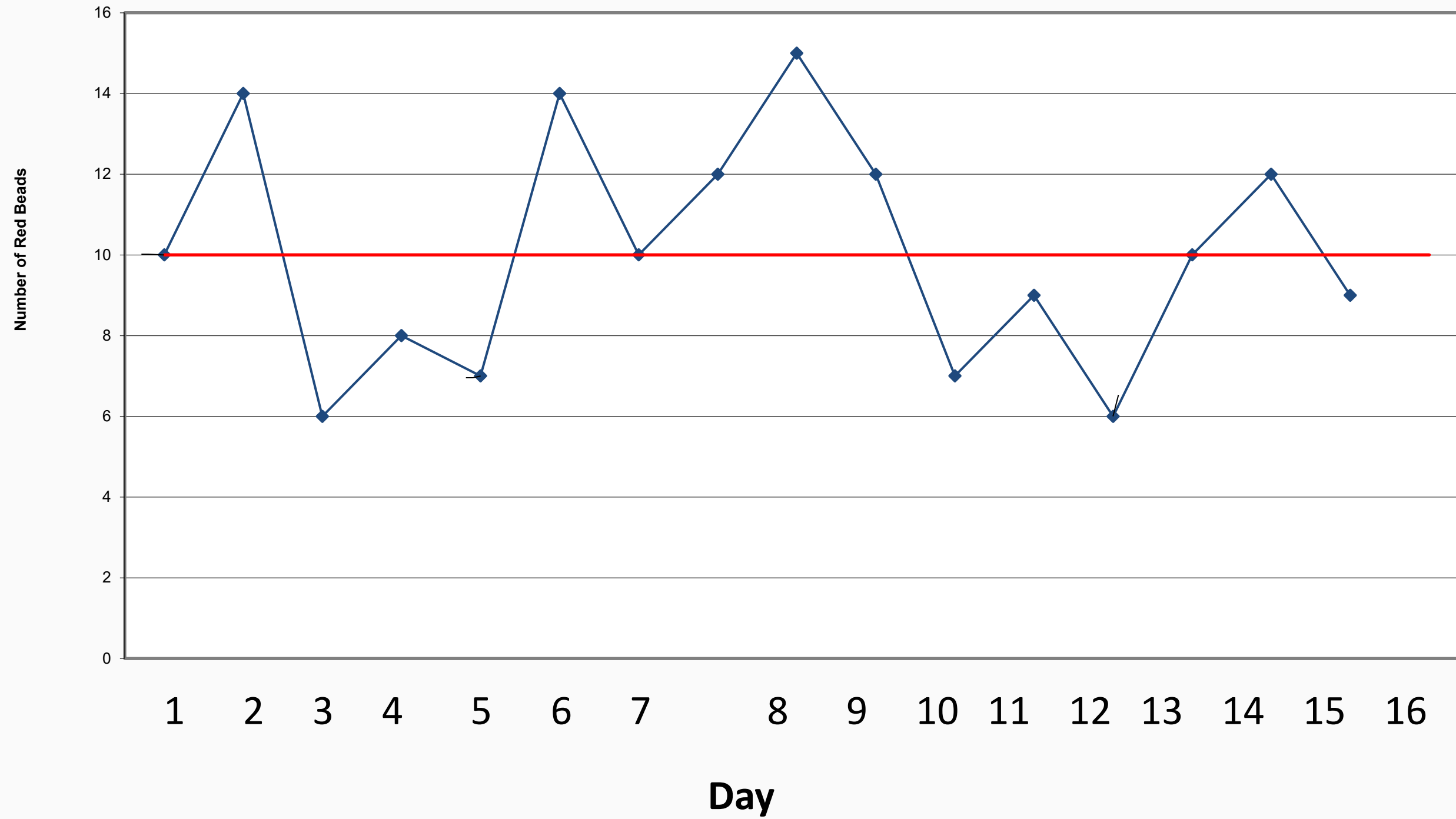
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	Worker			
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Questions to Consider



- Were management techniques helpful?
- What type of problems did we have?
- If you were CEO, what would you change?
- What did you learn about systems?



The Change Package



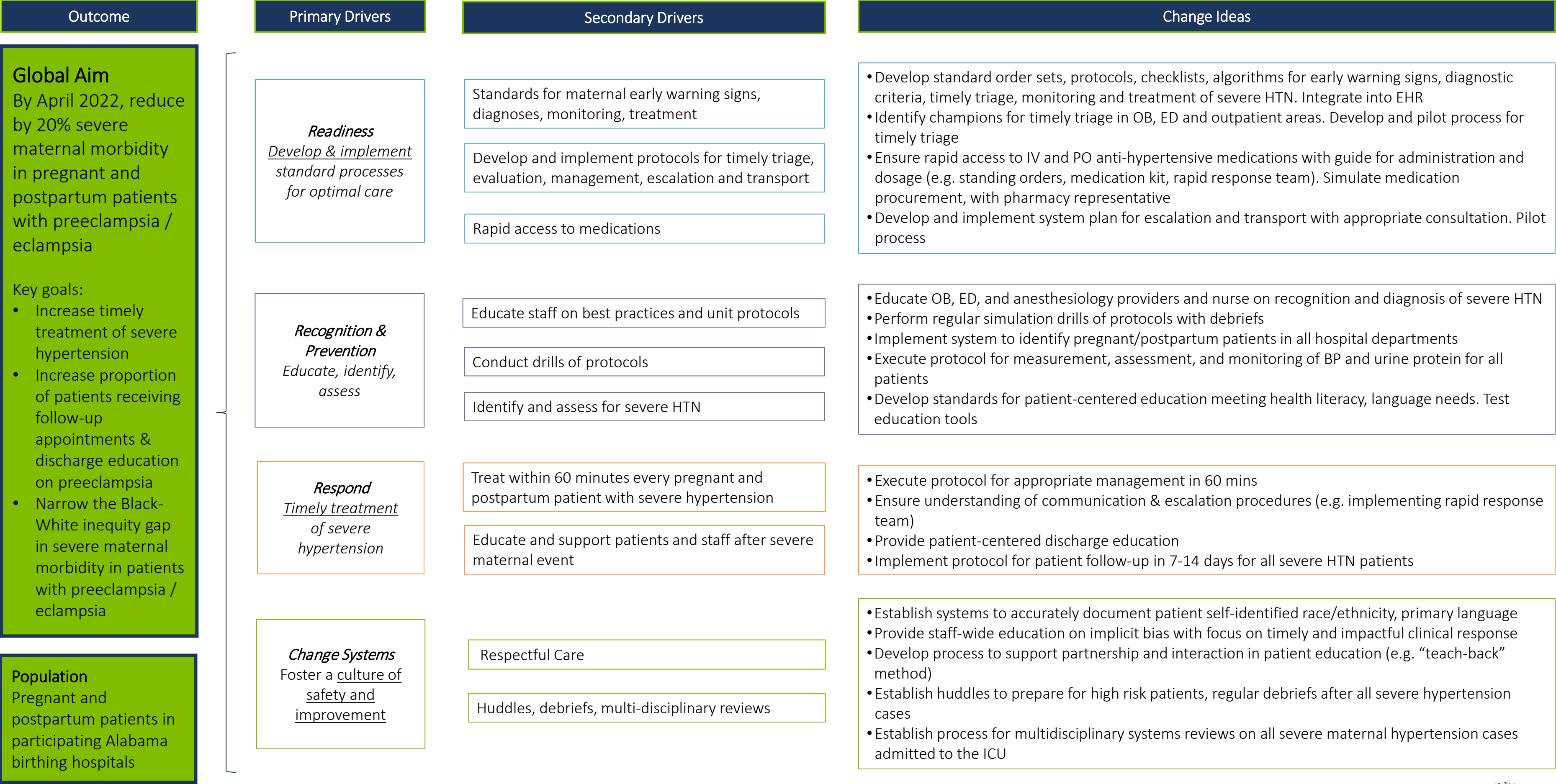
Readiness		12:40 – 12:45
Recognition & Prevention		12:45 – 12:50
Respond		12:50 – 12:55
Change Systems		12:55 – 1:00

Key Driver Diagram



- Key drivers = the **WHAT**
- Interventions = the **HOW**
- **How can we achieve our aim?**
- Drivers are iterative and hospital specific
- Describe elements and relationships of your theory of change





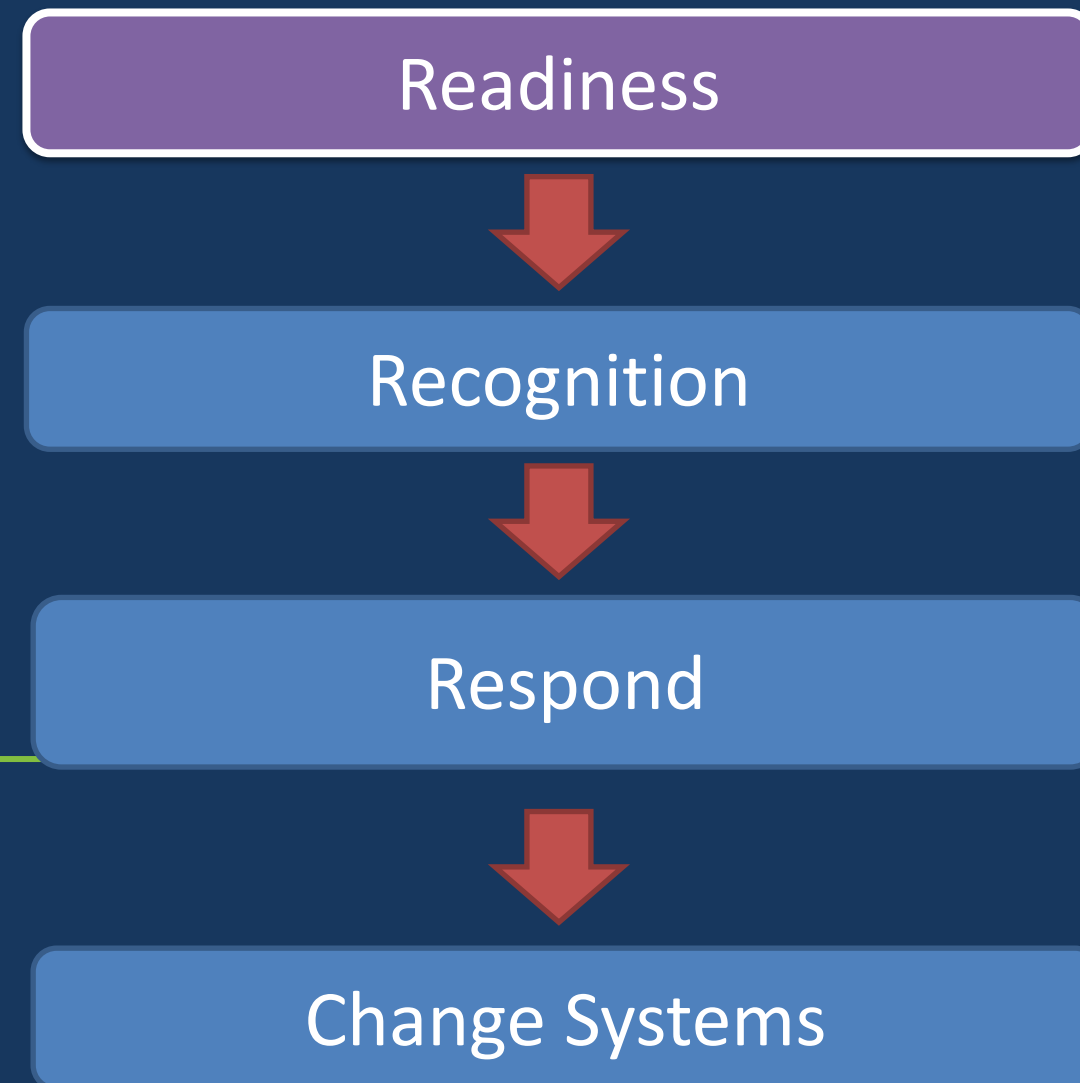
Maternal Hypertension Initiative: Driver Diagram





Readiness : Develop & Implement Standard Processes for Optimal Care


Geraldine Franklin, MSN, MSHA
Director, Clinical Operations
Department of Obstetrics and Gynecology
UAB Medicine



Readiness



- Develop standards for early warning signs, diagnostic criteria, monitoring and treatment of severe preeclampsia/eclampsia (include order sets and algorithms).
- Develop process for timely triage and evaluation of pregnant and postpartum women with hypertension including ED and outpatient areas.
- Rapid access to medications used for severe hypertension/eclampsia: Medications should be stocked and immediately available on L&D and in other areas where patients may be treated. Include brief guide for administration and dosage.
- System plan for escalation, obtaining appropriate consultation, and maternal transport, as needed.

 Maternal Hypertension Initiative Hospital Team Toolkit	
Action and Resources	Current Assessment
1. Readiness (Continued)	
Identify women with severe range hypertension – Ensure process for timely triage and evaluation of pregnant and postpartum women with hypertension including ED, OB, and outpatient areas (Triage in ED). Types of Hypertension Definitions (of severe hypertension and hypertensive emergency) Preeclampsia Early Recognition Tool - CMQCC	⌋ Need to educate on existing policies ⌋ Need to improve existing policies ⌋ Need to develop a policy
Need standard protocol for measurement and assessment of BP and urine protein for all pregnant and postpartum women Utilize Preeclampsia Early Recognition Tool . Tips for taking accurate blood pressures: <ul style="list-style-type: none"> ▪ Guidance from California Collaborative on Accurate Blood Pressure Measurement (e.g. positioning, size of cuff) ▪ Standardize use of blood pressure devices on all units ▪ Regularly calibrate blood pressure devices (at least annually, if not more often) ▪ Ensure appropriate cuff size – width of bladder 40% circumference and encircle 80% of arm ▪ Blood Pressure Visual for Best Practice & Blood Pressure Checklist 	⌋ Need to educate on existing policies ⌋ Need to improve existing policies ⌋ Need to develop a policy
Monitoring Blood Pressure and Labs Monitoring Change of Status Have a plan for complications and escalation (Consultation Triggers) Tip: Need to have phone number readily available for closest MFM consult and/or referral.	⌋ Need to educate on existing policies ⌋ Need to improve existing policies ⌋ Need to develop a policy
Postpartum Surveillance – Need to have a plan for inpatients and outpatients	⌋ Need to educate on existing policies ⌋ Need to improve existing policies ⌋ Need to develop a policy



7 SIMPLE TIPS TO GET AN ACCURATE BLOOD PRESSURE READING

The common positioning errors can result in inaccurate blood pressure measurement. Figures shown are estimates of how improper positioning can potentially impact blood pressure readings.

Sources:

1. *Pickering, et al.* Recommendations for Blood Pressure Measurement in Humans and Experimental Animals Part 1: Blood Pressure Measurement in Humans. *Circulation*. 2005;111: 697-716.
2. *Handler J.* The importance of accurate blood pressure measurement. *The Permanente Journal*/Summer 2009/Volume 13 No. 3 51

This 7 simple tips to get an accurate blood pressure reading was adapted with permission of the American Medical Association and The Johns Hopkins University. The original copyrighted content can be found at <https://www.ama-assn.org/ama-johns-hopkins-blood-pressure-resources>.

Updated December 2016
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Blood Pressure Categories

BLOOD PRESSURE CATEGORY	SYSTOLIC mm Hg (upper number)		DIASTOLIC mm Hg (lower number)
NORMAL	LESS THAN 120	and	LESS THAN 80
ELEVATED	120-129	and	LESS THAN 80
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 1	130-139	or	80-89
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 2	140 OR HIGHER	or	90 OR HIGHER
HYPERTENSIVE CRISIS (consult your doctor immediately)	HIGHER THAN 180	and/or	HIGHER THAN 120

©American Heart Association. DS-16580 8/20

heart.org/bplevels



URGENT MATERNAL WARNING SIGNS



Headache that won't go away or gets worse over time



Dizziness or fainting



Thoughts about hurting yourself or your baby



Changes in your vision



Fever



Trouble breathing



Chest pain or fast-beating heart



Severe belly pain that doesn't go away



Severe nausea and throwing up (not like morning sickness)



Baby's movements stopping or slowing



Vaginal bleeding or fluid leaking during pregnancy



Vaginal bleeding or fluid leaking after pregnancy



Swelling, redness, or pain of your leg



Extreme swelling of your hands or face



Overwhelming tiredness

If you have any of these symptoms during or after pregnancy, contact your health care provider and get help right away.

If you can't reach your provider, go to the emergency room. Remember to say that you're pregnant or have been pregnant within the last year.

Learn more: safehealthcareforeverywoman.org/urgentmaternalwarningsigns



Take a photo to learn more

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Standardization of health care processes and reduced variation has been shown to improve outcomes and quality of care. The Council on Patient Safety in Women's Health Care disseminates patient safety tools to help facilitate the standardization process. This tool reflects emerging clinical, scientific, and patient safety advances as of the date issued and is subject to change. The information should not be construed as dictating an exclusive course of treatment or procedure to be followed. Although the components of a particular tool may be adapted to local resources, standardization within an institution is strongly encouraged.

The Council on Patient Safety in Women's Health Care is a broad consortium of organizations across the spectrum of women's health for the promotion of safe health care for every woman.



<https://safehealthcareforeverywoman.org/council/patient-safety-tools/urgent-maternal-signs/>

Readiness Measures

Measure Type	Measure	Measure Frequency
Structure	Unit Policy and Procedure: Does your hospital have a Severe HTN/Preeclampsia policy and procedure for pregnant and postpartum patients (reviewed and updated in the last 2 years) that provides a unit-standard approach to measuring blood pressure, treatment of Severe HTN/Preeclampsia, administration of Magnesium Sulfate, and treatment of Magnesium Sulfate overdose	Once per initiative
Structure	EHR Integration: Were some of the recommended Severe HTN/Preeclampsia bundle processes (i.e. order sets, tracking tools) integrated into your hospital's EHR system?	Once per initiative



Recognition and Prevention & Systems Learning

Laura Money, RN, MSN
Nurse Manager, Labor & Delivery
Department of Obstetrics and Gynecology
UAB Medicine

Readiness



Recognition & Systems
Learning (Debriefs)



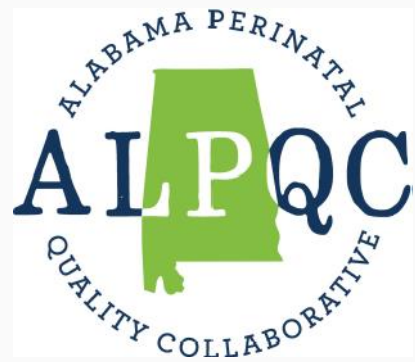
Respond



Change Systems



Recognition & Prevention – Education



Provide role-specific education to all staff who treat pregnant/postpartum patients about the hospital's evidence-based severe hypertension/preeclampsia procedure

- At minimum, education occurs at orientation, when changes in procedure occur, or every two years.
- Education should include how to measure accurate blood pressures, recognize severe hypertension/preeclampsia, and provide evidence-based treatments to lower blood pressure in a safe and timely manner

Be sure to include:

- OB, ED, Other staff (such as outpatient clinics)

Action and Resources	Current Assessment
2. Recognition & Prevention: Ensure appropriate education for all staff. Conduct drills. Identify and assess for severe	
<p>Provide role-specific education to all staff and providers who treat pregnant/postpartum patients about the hospital's evidence-based severe hypertension/preeclampsia procedure.</p> <p>At minimum, education occurs at orientation, when changes in procedure occur, or every two years.</p> <p>Be sure to include:</p> <ul style="list-style-type: none"> ▪ OB staff, ED staff, Other staff (such as outpatient clinics) <p>Severe HTN eModules from AIM Program (scroll to bottom right of page for modules)</p> <p>MEWS eModules from AIM Program</p> <p>ACOG Safe Motherhood Initiative Severe Hypertension in Pregnancy Bundle Presentation</p>	<ul style="list-style-type: none"> Need to educate on existing policies Need to improve existing policies Need to develop a policy
<p>Conduct drills at least annually to determine system issues as part of ongoing quality improvement efforts. Severe hypertension / preeclampsia drills include a team debrief. Ensure drills/simulations conducted for all staff.</p> <p>Safety Action Series: Conducting Drills on Hypertension in Pregnancy</p> <p>Obstetric Drill Program Manual: Council on Patient Safety on Women's Health Care</p> <p>Simulation and Drill Scenarios from ACOG District II:</p> <ul style="list-style-type: none"> ▪ Eclampsia Simulation Scenario Overview ▪ Eclampsia Drill Clinical Scenario ▪ Eclampsia Drill Assessment Tool 	<ul style="list-style-type: none"> Need to educate on existing policies Need to improve existing policies Need to develop a policy
<p>Identify and assess for severe hypertension in pregnant and postpartum patients</p> <ul style="list-style-type: none"> ▪ Implement standard protocol for measurement and assessment of BP and urine protein for all pregnant and postpartum women ▪ Implement standard response to maternal early warning signs including listening to and investigating patient symptoms and assessment of labs ▪ Develop facility-wide standards for educating pregnant and postpartum women on signs and symptoms of hypertension and preeclampsia. 	<ul style="list-style-type: none"> Need to educate on existing policies Need to improve existing policies Need to develop a policy

Recognition & Prevention – Drills



Conduct multidisciplinary drills at least annually to determine system issues as part of ongoing quality improvement efforts.

Severe hypertension / preeclampsia drills include a team debrief.

Drills give opportunity to practice skills and identify system issues in a controlled environment.

- It is crucial to have members from as many disciplines as possible available during drills to truly be able to test each level of the emergency and identify areas of improvement.
- Hospitals should assess their level of proficiency to determine the frequency drills should be performed; organizations that have reached a high level of mastery may need less frequent drills.

Action and Resources	Current Assessment
2. Recognition & Prevention: Ensure appropriate education for all staff. Conduct drills. Identify and assess for severe	
<p>Provide role-specific education to all staff and providers who treat pregnant/postpartum patients about the hospital's evidence-based severe hypertension/preeclampsia procedure.</p> <p>At minimum, education occurs at orientation, when changes in procedure occur, or every two years.</p> <p>Be sure to include:</p> <ul style="list-style-type: none">OB staff, ED staff, Other staff (such as outpatient clinics) <p>Severe HTN eModules from AIM Program (scroll to bottom right of page for modules)</p> <p>MEWS eModules from AIM Program</p> <p>ACOG Safe Motherhood Initiative Severe Hypertension in Pregnancy Bundle Presentation</p>	<ul style="list-style-type: none">Need to educate on existing policiesNeed to improve existing policiesNeed to develop a policy
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<p>Identify and assess for severe hypertension in pregnant and postpartum patients</p> <ul style="list-style-type: none">Implement standard protocol for measurement and assessment of BP and urine protein for all pregnant and postpartum womenImplement standard response to maternal early warning signs including listening to and investigating patient symptoms and assessment of labsDevelop facility-wide standards for educating pregnant and postpartum women on signs and symptoms of hypertension and preeclampsia.	<ul style="list-style-type: none">Need to educate on existing policiesNeed to improve existing policiesNeed to develop a policy

Systems Learning – Debriefs



Review severe hypertension/preeclampsia cases to evaluate effectiveness of the care, treatment, and services provided to patient during the event

- Culture of huddles for high risk patients and post-event debriefs to identify successes and opportunities
- Establish processes for multi-disciplinary review of severe hypertension/eclampsia patients admitted to the ICU
- Monitor outcomes and process metrics

Action and Resources	Current Assessment
4. Change Systems: Foster a Culture of Safety and Improvement	
<p>Respectful Patient Partnership Establish systems to accurately document patient self-identified race/ethnicity, primary language. Provide staff-wide education on implicit bias with focus on timely and impactful clinical response. Develop process to support partnership and interaction in patient education (i.e. “teach-back” method)</p> <ul style="list-style-type: none">▪ Safety Action Series – Empowering Patients, Improving Outcomes▪ ACOG District II Symposium on Racial Disparities and Implicit Bias in Obstetrical Care▪ March of Dimes A Health Crisis Affecting Women and Babies of Color - Implicit Bias Training▪ Reduction of Peripartum Racial/Ethnic Disparities AIM Bundle & Resources▪ CDC Hear Her Campaign <p>Systems Learning Review severe hypertension/preeclampsia cases that meet criteria established by the hospital to evaluate the effectiveness of the care, treatment, and services provided to the patient during the event.</p> <ul style="list-style-type: none">▪ Establish a culture of huddles for high risk and post-event debriefs to identify successes and opportunities▪ Establish processes for multi-disciplinary review of severe hypertension/eclampsia patients admitted to the ICU▪ Monitor outcomes and process metrics <p>Develop criteria for reviewing severe cases and understanding ways to improve</p> <ul style="list-style-type: none">▪ Teamwork and Communication – CMQCC▪ Guide for Engaging Patients and Families in Debriefing – FPQC▪ TeamSTEPPS Team Strategies & Tools to Enhance Performance and Patient Safety: Briefs, Debriefs and Huddles▪ Severe Hypertension-Preeclampsia Debrief Form – CMQCC▪ FPQC Hypertension in Pregnancy Debriefing Guidance, Forms and Tips▪ ILPQC Severe Hypertension Debrief Form▪ Severe Maternal Morbidity Review Guidance & Forms – Council on Patient Safety in Women’s Health Care	<ul style="list-style-type: none">└ Need to educate on existing policies└ Need to improve existing policies└ Need to develop a policy

Recognition & Systems Learning Measures

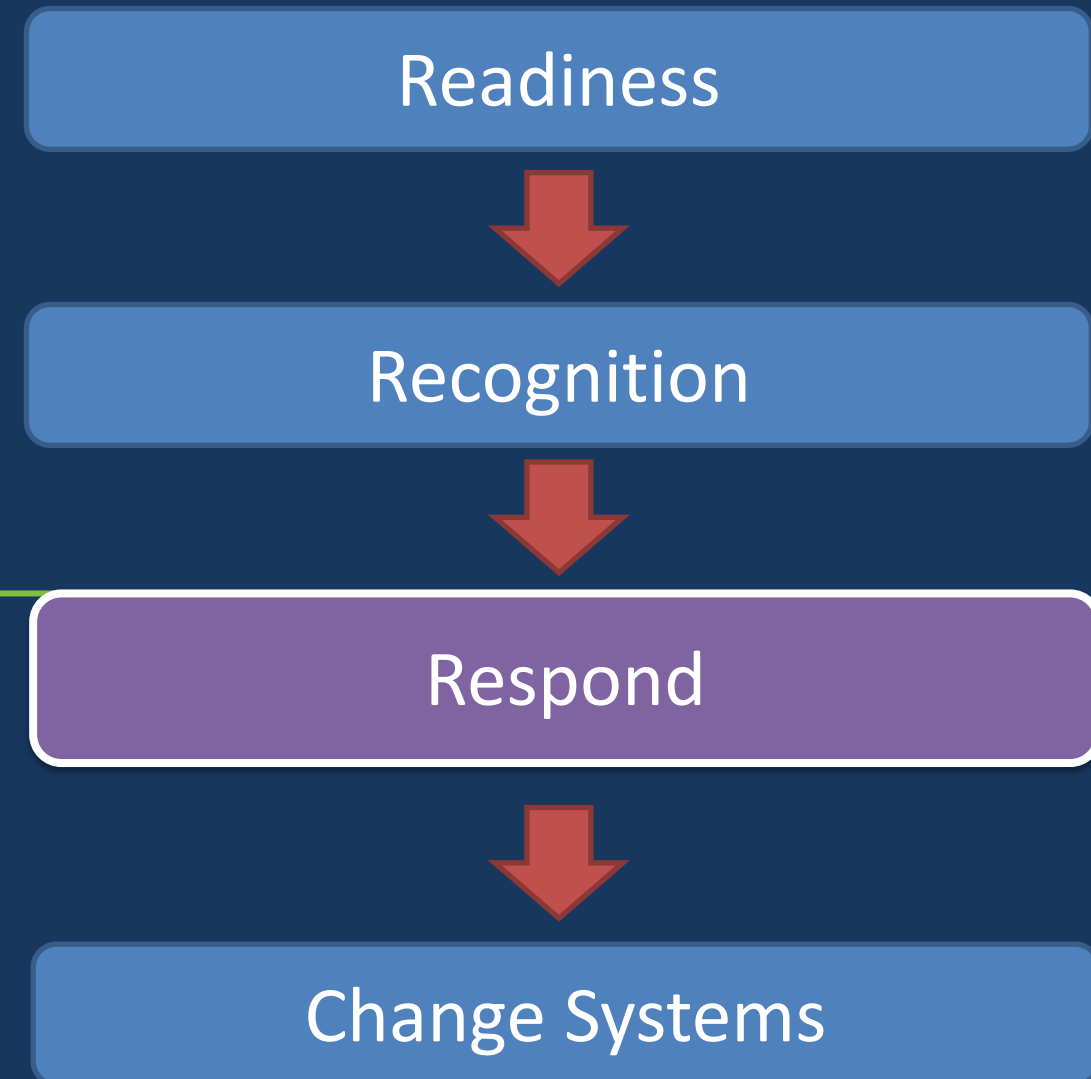
Measure Type	Measure	Measure Frequency
Process	Provider Education: Proportion of OB physicians and midwives who completed (within last 2 years) an education program on: a) Severe HTN/Preeclampsia b) The Severe HTN/Preeclampsia bundle elements and the unit-standard protocol	Quarterly
Process	Nursing Education: Proportion of OB nurses who completed (within last 2 years) an education program on: a) Severe HTN/Preeclampsia b) The Severe HTN/Preeclampsia bundle elements and the unit-standard protocol	Quarterly
Process	Unit Drills: Number of OB drills (In Situ and/or Sim Lab) performed in your unit for any maternal safety topic. Topics covered in the OB drills	Quarterly
Structure	Debriefs: Has your hospital established a system in your hospital to perform regular formal debriefs after cases with major complications?	Once per initiative
Structure	Multidisciplinary case reviews: has your hospital established a process to perform multidisciplinary systems-level reviews on all cases of severe maternal morbidity (including women admitted to the ICU, receiving ≥ 4 units RBC transfusions, or diagnosed with a VTE)?	Once per initiative



Respond: Timely Treatment of Severe HTN

Brian Brocato, DO, FACOG
Assistant Professor, OBGYN – Maternal Fetal Medicine
Department of Obstetrics and Gynecology
UAB Medicine

Obstetric Lead, ALPQC



Respond

Timely Treatment of Severe HTN

- Treat within 60 minutes every pregnant and postpartum patient with severe HTN

Facility-wide standard protocols with checklists and escalation policies for management and treatment of:

- ✓ Severe hypertension
- ✓ Eclampsia, seizure prophylaxis, and magnesium over-dosage
- ✓ Postpartum presentation of severe hypertension/preeclampsia

Determine when to treat

- Ensure protocols include current criteria for initiating treatment for both severe HTN and hypertensive emergencies

Protocols need to cover use of first-line and second-line therapies:

- First-Line Therapies
 - Intravenous [Labetalol](#)
 - Intravenous [Hydralazine](#)
 - [Oral Nifedipine](#)
- [Second-Line Therapies](#) - If patient fails to respond

Seizure Prophylaxis - [Magnesium Sulfate](#)

Tip: Work with pharmacy to standardize medication order sets and have medications readily available in the areas where patients initially present (either in ED or OB triage area). Ideally, the medications would be bundled in the Pixus machine.



ALPQC ALABAMA PERINATAL QUALITY COLLABORATIVE	
Maternal Hypertension Initiative Hospital Team Toolkit	
Action and Resources	Current Assessment
3. Respond to Every Case of Severe Hypertension	
<p>Timely treatment of severe hypertension Facility-wide standard protocols with checklists and escalation policies for management and treatment of:</p> <ul style="list-style-type: none">▪ Severe hypertension▪ Eclampsia, seizure prophylaxis, and magnesium over-dosage▪ Postpartum presentation of severe hypertension/preeclampsia <p>Determine when to treat – Ensure protocols include current criteria for initiating treatment for both severe HTN and hypertensive emergencies (When To Treat). Tip: Continue to monitor patients who don't meet criteria (see #5)</p> <p>Protocols need to cover use of first-line and second-line therapies:</p> <p>First-Line Therapies Algorithms -</p> <ul style="list-style-type: none">▪ Intravenous Labetalol▪ Intravenous Hydralazine▪ Oral Nifedipine <p>Second-Line Therapies - If patient fails to respond</p> <p>Seizure Prophylaxis - Magnesium Sulfate</p> <p>CMQCC Preeclampsia Toolkit Tip: Work with pharmacy to standardize medication order sets and have medications readily available in the areas where patients initially present (either in ED or OB triage area). Ideally, the medications would be bundled in the Pixus machine.</p>	<ul style="list-style-type: none">┌ Need to educate on existing policies┌ Need to improve existing policies┌ Need to develop a policy
<p>Provide education to patients Education should include signs and symptoms of severe HTN/preeclampsia (during hospitalization and after discharge), and when to schedule a post discharge follow-up appointment</p> <p>Develop protocol for patient Discharge Planning and Follow-Up</p> <p>Prenatal and Postpartum Patient Counseling or Education – CMQCC Urgent Maternal Warning Signs Flyer – ACOG (English and Spanish) AWHONN Post Birth Warning Signs Educational Materials (Multiple languages) Preeclampsia Foundation Signs and Symptoms Materials (English and Spanish)</p>	<ul style="list-style-type: none">┌ Need to educate on existing policies┌ Need to improve existing policies┌ Need to develop a policy

Respond = timely treatment!

First Line Therapies

EXAMPLE



- Intravenous labetalol
- Intravenous hydralazine **Within 60 min of persistent severe hypertension**
- Oral nifedipine

Magnesium sulfate not recommended as antihypertensive agent

- Should be used for: seizure prophylaxis and controlling seizures in eclampsia
- IV bolus of 4-6 grams in 100 ml over 20 minutes, followed by IV infusion of 1-2 grams per hour. **Continue for 24 hours postpartum**
- If no IV access, 10 grams of 50% solution IM (5 g in each buttock)
- Contraindications: pulmonary edema, renal failure, myasthenia gravis

Anticonvulsants (for recurrent seizures or when magnesium is C/I):

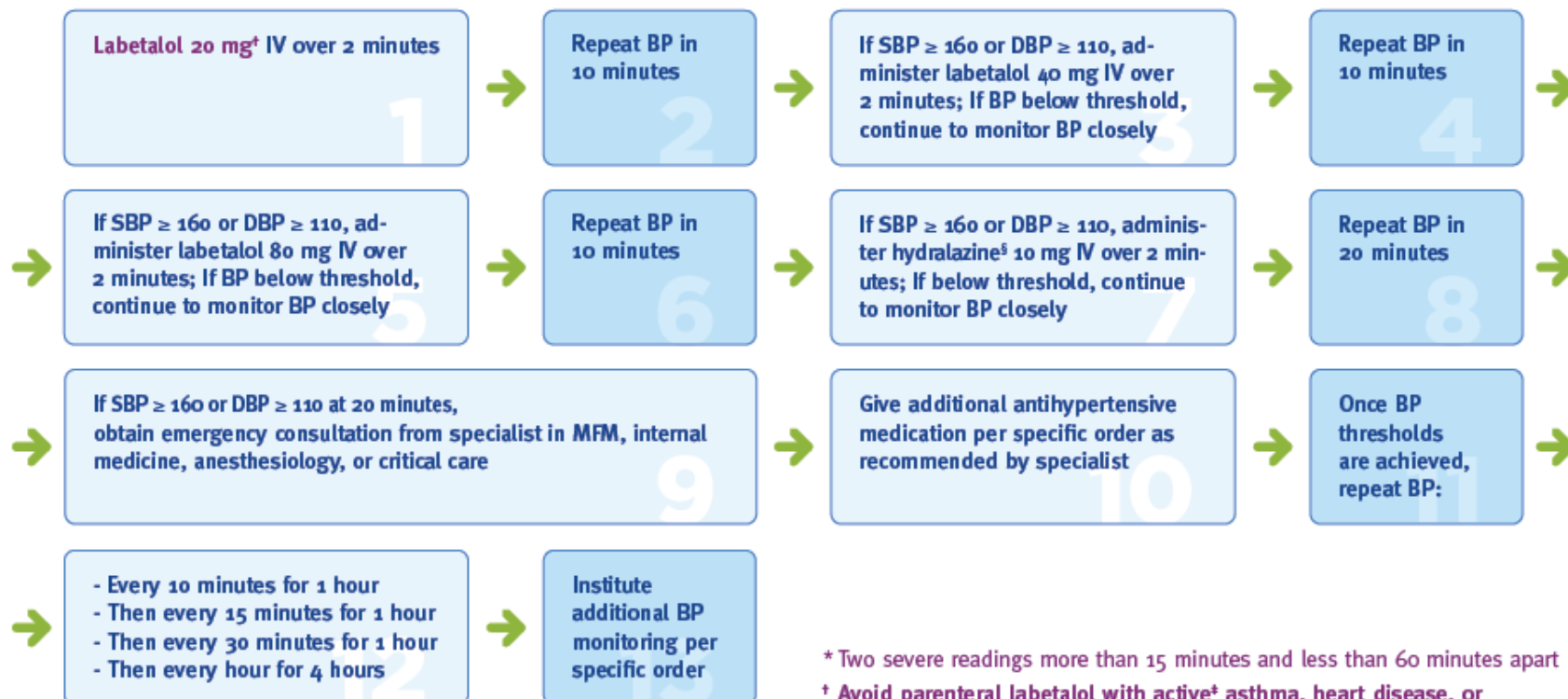
- **Lorazepam:** 2-4 mg IV x 1, may repeat x 1 after 10-15 min
- **Diazepam:** 5-10 mg IV every 5-10 min to max dose 30 mg
- **Phenytoin:** 15-20 mg/kg IV x 1, may repeat 10 mg/kg IV after 20 min if no response. Avoid with hypotension, may cause cardiac arrhythmias.
- **Keppra:** 500 mg IV or orally, may repeat in 12 hours. Dose adjustment needed if renal impairment.

**There may be adverse effects and additional contraindications. Clinical judgement should prevail*

Antihypertensive Protocol Examples

Labetalol Algorithm

Trigger: If severe elevations (SBP ≥ 160 or DBP ≥ 110) persist* for 15 min or more OR If two severe elevations are obtained within 15 min and tx is clinically indicated



- Notify provider after one severe BP value is obtained
- Institute fetal surveillance if viable
- Hold IV labetalol for maternal pulse under 60
- Maximum cumulative IV-administered dose of labetalol should not exceed 300 mg in 24 hours
- There may be adverse effects and contraindications. Clinical judgement should prevail.

* Two severe readings more than 15 minutes and less than 60 minutes apart

[†] Avoid parenteral labetalol with active[‡] asthma, heart disease, or congestive heart failure; use with caution with history of asthma. May cause neonatal bradycardia.

[‡] "Active asthma" is defined as:

- (A) symptoms at least once a week, or
- (B) use of an inhaler, corticosteroids for asthma during the pregnancy, or
- (C) any history of intubation or hospitalization for asthma.

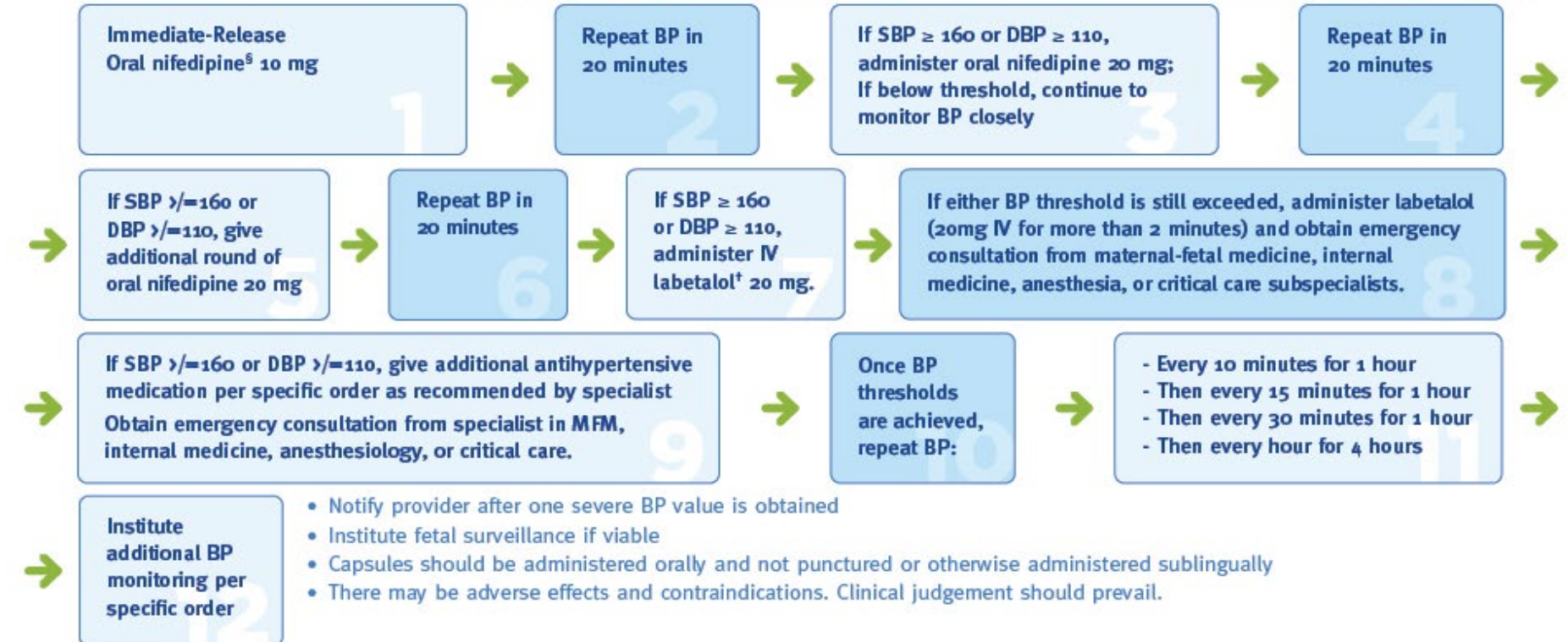
[§] Hydralazine may increase risk of maternal hypotension.

Safe Motherhood Initiative

Revised February 2020

Immediate-Release Oral Nifedipine Algorithm **EXAMPLE**

Trigger: If severe elevations (SBP ≥ 160 or DBP ≥ 110) persist* for 15 min or more OR If two severe elevations are obtained within 15 min and tx is clinically indicated



- Notify provider after one severe BP value is obtained
- Institute fetal surveillance if viable
- Capsules should be administered orally and not punctured or otherwise administered sublingually
- There may be adverse effects and contraindications. Clinical judgement should prevail.

* Two severe readings more than 15 minutes and less than 60 minutes apart

[§] Immediate-release oral nifedipine has been associated with an increase in maternal heart rate and may overshoot hypotension.

[†] Avoid parenteral labetalol with active[‡] asthma, heart disease, or congestive heart failure; use with caution with history of asthma. May cause neonatal bradycardia.

[‡] "Active asthma" is defined as:

- (A) symptoms at least once a week, or
- (B) use of an inhaler, corticosteroids for asthma during the pregnancy, or
- (C) any history of intubation or hospitalization for asthma.

Safe Motherhood Initiative

Revised February 2020

Discharge and Follow up instructions

Discharge Planning



All patients receive information on preeclampsia:

- ✓ Signs and symptoms
- ✓ Importance of reporting information to health care provider as soon as possible
- ✓ Culturally-competent, patient-friendly language

All new nursing and physician staff receive information on hypertension in pregnancy and postpartum

FOR PATIENTS WITH PREECLAMPSIA

- ✓ BP monitoring recommended 72 hours after delivery
- ✓ Outpatient surveillance (visiting nurse evaluation) recommended:

7-14 days, earlier if symptoms



APPENDIX A: SAMPLE DISCHARGE SHEET FOR HYPERTENSIVE DISORDER PATIENTS

Instructions for Patients with Diagnosis of Preeclampsia, HELLP Syndrome or Eclampsia

It is very important for you to follow doctor instructions and pay careful attention to any symptoms you may have. For up to 6 weeks after delivery you are still at risk for emergencies related to your high blood pressure in the hospital. You have been given information about this condition—Yes ☒, No ☐.

Get emergency care if you have shortness of breath, headache, seizures, pain in the upper stomach area, or high blood pressure.

Do not wait to get care, it could be a matter of life or death. Take this information with you and tell the doctor you had a baby on Jan 29th.

Take your Medicines as ordered (be sure to get them from the drug store as you leave the hospital):

1) Labetalol 300mg To be taken every 12 hours. Next dose due: 8:00 pm

2) _____ To be taken every _____ hours. Next dose due: _____

3) _____ To be taken every _____ hours. Next dose due: _____

Your follow-up appointment has been made with Dr. Jones in 10 days.

Date: February 8th, 2021 Time: 10:00 AM

It is important to keep this appointment.

You have been instructed to check your blood pressure at home daily: Yes ☒ No ☐

If your blood pressure is greater than 140 systolic (top number) and/or greater than 90 diastolic (bottom number), call your healthcare provider Dr. Jones.

Phone Number: (205) 123-5678 and if you cannot reach them, go to the emergency room.

URGENT MATERNAL WARNING SIGNS



Headache that won't go away or gets worse over time



Dizziness or fainting



Thoughts about hurting yourself or your baby



Changes in your vision



Fever



Trouble breathing



Chest pain or fast-beating heart



Severe belly pain that doesn't go away



Severe nausea and throwing up (not like morning sickness)



Baby's movements stopping or slowing



Vaginal bleeding or fluid leaking during pregnancy



Vaginal bleeding or fluid leaking after pregnancy



Swelling, redness, or pain of your leg



Extreme swelling of your hands or face



Overwhelming tiredness

If you have any of these symptoms during or after pregnancy, contact your health care provider and get help right away.

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Learn more: [safehealthcareforeverywoman.org/urgentmaternalwarningsigns](https://www.safehealthcareforeverywoman.org/urgentmaternalwarningsigns)



Take a photo to learn more

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V1 May 2020



Respond Measures

Measure Type	Measure	Measure Frequency
Process	Timely treatment of Severe Hypertension	Monthly per patient
Process	Follow-up appointment scheduled within 7-14 days for women with persistent severe HTN	Monthly per patient
Process	Education to patients and their families on signs and symptoms of severe HTN/preeclampsia during hospitalization and after discharge	Monthly per patient
Structure	Patient, Family & Staff Support: Has your hospital developed OB specific resources and protocols to support patients, family and staff through major OB complications?	Once per initiative



Q&A



Initiative Agenda, Baseline Data & Website Overview

Evelyn Coronado-Guillaumet, MPH
Program Director
ALPQC

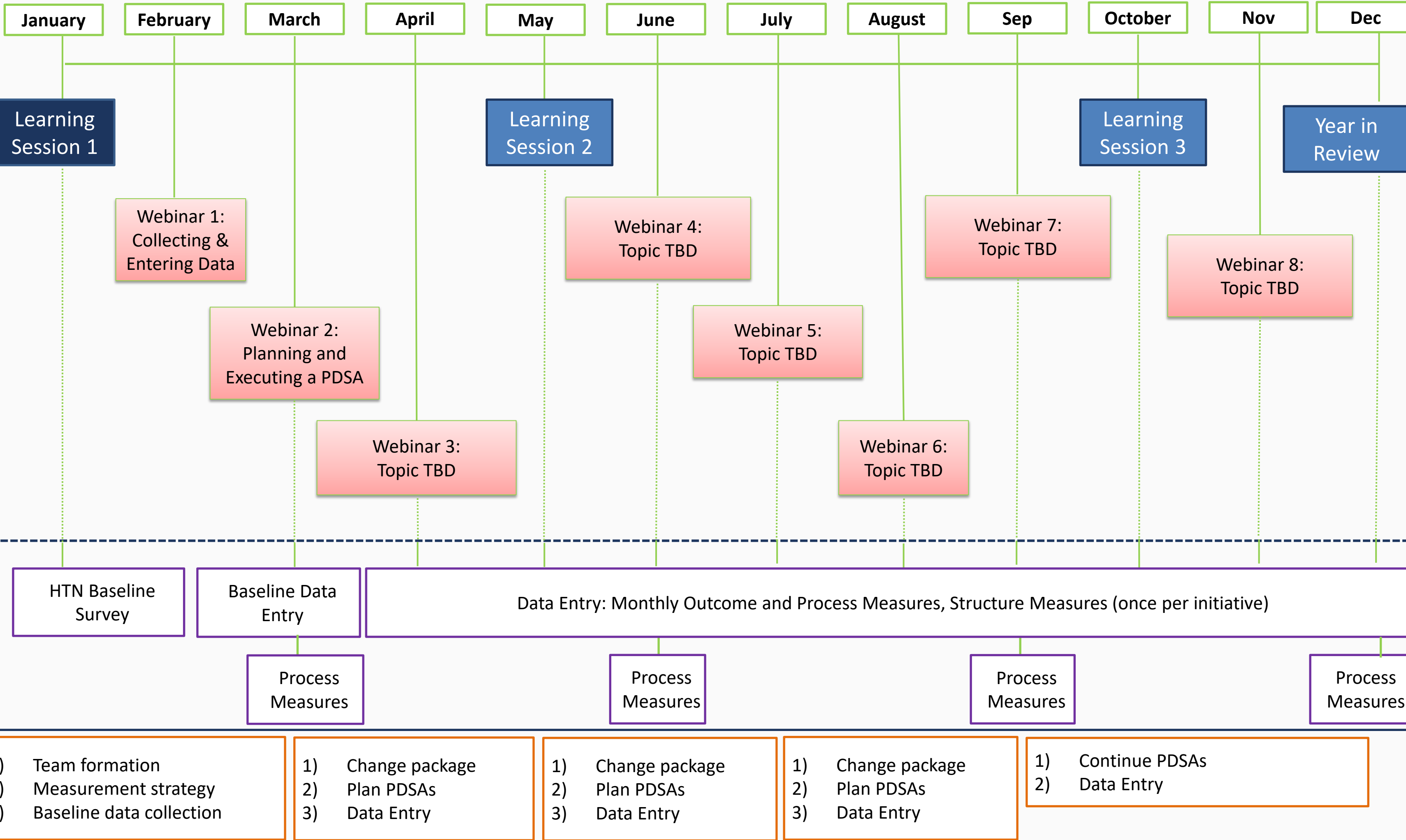




HTN Initiative Agenda

Deliverables

Hospital Actions



Baseline Data Measures



Measure Type	Measure	Source	Measurement Period
Process	Timely treatment of Severe Hypertension	IT report, chart review	Quarter: Dec 2020-Feb 2021
Outcome	Severe Maternal Morbidity (SMM)	IT report	Quarters: Jan 2020 – Feb 2021
Outcome	SMM (excluding transfusion codes)	IT report	Quarters: Jan 2020 – Feb 2021
Outcome	SMM among Preeclampsia Cases	IT report	Quarters: Jan 2020 – Feb 2021
Outcome	SMM among Preeclampsia Cases (excluding transfusion codes)	IT report	Quarters: Jan 2020 – Feb 2021

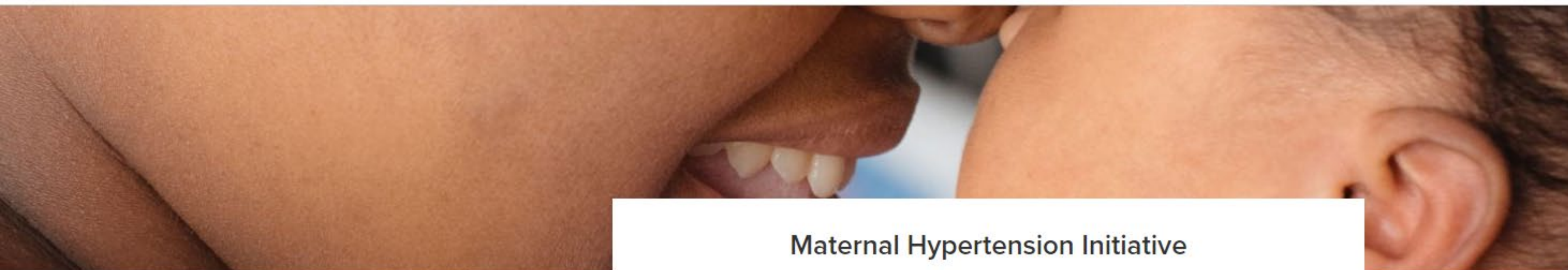
Data-focused call
Feb 26, 2021

Baseline data due
March 31, 2021

Find data forms, including ICD-10 codes, and baseline data collection instructions on our website at www.alpqc.org/initiatives/htn/, under the “Data Resources” menu

Measures in **bold** denote priority





Maternal Hypertension Initiative

Hypertensive disorders of pregnancy (HDPs) are among the leading causes of severe maternal morbidity and mortality and are preventable when caught and treated appropriately.. In 2021, ALPQC will start the Maternal Hypertension (HTN) Initiative. The resources below have been compiled by an ALPQC subcommittee to help your hospital team establish protocols, processes, and education to ensure pregnant and postpartum patients with hypertension/preeclampsia are identified quickly and managed well to avoid further complications.

ALPQC initially introduced the HTN initiative at the 2020 Annual Summit (see link for Summit agenda and slides at the bottom of this page). The kickoff for the HTN Initiative will take place on January 29th,2021.

www.alpqc.org/initiatives/htn/

Join the Initiative!

Enter Monthly Process & Outcome Data

Enter Structure Data

Key Documents

Data Resources

- [Data Collection Form](#)
- [Data Collection Spreadsheet – Process Measures](#)
- [HTN Outcome Measures Codes](#)
- [Data Entry How-To | Graph How-To](#)





PDSA Cycles

Samuel Gentle, MD



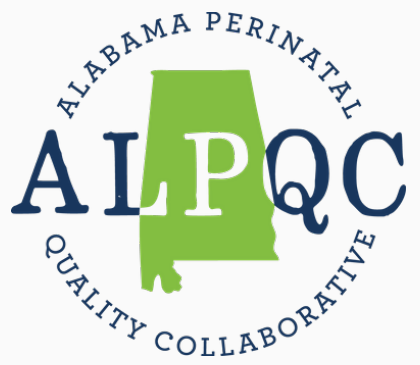
PDSA



- Happening constantly
- Not all changes result in improvement
- Important to adapt components of the change package to the actual environment
- Start with small tests of change
- **PDSA cycles**



Plan



- Assemble a team
- Identify the issue
- Ask basic questions:
 - How do we do it?
 - What are steps in the process?
 - Who should we involve?
 - How can we reduce variation in the process?
- Predict what will happen



Do



- Test your idea
- Prepare (training, resources)
- Start small ($n=1$); less risk, work out kinks
- Monitor your progress (continuous system)



Study



- Reflect on your test
- What has changed?
- Was it effective?
- Changes worth keeping?
- How does this differ from your prediction?



Act



- Adapt, Adopt, Abandon
- Act on your reflection
- Implement positive changes
- Consider spread
- If negative results, consider removing/revising
- Failures during testing can be useful!



TEST DETAILS
Project Name: ALPQC Maternal Hypertension Initiative
Project SMART Aim: <input checked="" type="checkbox"/> Timely treatment of severe hypertension <input type="checkbox"/> Follow up and discharge education <input type="checkbox"/> Narrow inequity gap in severe maternal morbidity
Component of Change Package: <input type="checkbox"/> <u>Readiness</u> : Development and Implementation of standard processes <input type="checkbox"/> <u>Recognition and Prevention</u> : Educate, identify, and assess <input checked="" type="checkbox"/> <u>Respond</u> : Timely treatment of severe hypertension <input type="checkbox"/> <u>Change Systems</u> : Foster a culture of safety and improvement
Test Name: Implementation of timely treatment order set
Test Start Date: 4/1/2021
Test Complete Date: 4/5/2021
What is the objective of the test? To 1) educate providers regarding the order set, 2) monitor use of the order set, 3) reduce the time to treatment of severe hypertension

PLAN:			
Briefly describe the test: We have developed an order set to streamline the process for ordering IV labetalol, IV hydralazine, and oral nifedipine.			
How will you measure the success of this test? 1) a reduction in time between the order being placed and patient receiving pharmacotherapy 2) a reduction in time between identification of severe hypertension and therapeutic treatment			
What would success look like? 1) a reduction in time between the order being placed and patient receiving pharmacotherapy 2) a reduction in time between identification of severe hypertension and therapeutic treatment			
What do you predict will happen? The order set will improve efficiency in the way medications are ordered and delivered to patients and increase the number of patients treated within 60 minutes.			
Plan for collection of data: Collect 2 distinct time metrics: 1) time from order to treatment 2) time between BP reading and treatment			
Tasks:			
Name of Task	Person Responsible	Dates:	Location
Provider education	Julie (MD lead)	3/15/21-3/29/21	MEU
Order set creation	Bob (Pharmacy)	3/01/21-3/15/21	MEU
Nursing education	Harriet (Nurse educator	3/15/21-3/29/21	MEU
Data collection	Harold (IT)	3/15/21-3/29/21	IT

DO:
Was the cycle carried out as planned? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Record data and observations: Providers content with order set, but only used around 50% of the time. Unclear whether all providers received education and may need ongoing reminders.
What did you observe that was not part of the plan? Significant wait times in the room prior to BP reading; may need to optimize upstream processes prior to order being placed.

STUDY:
Did the results match your predictions? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Compare the result of your test to your previous performance: In the patients in which the order set was used, there was a reduction in time to treatment, but not for all patients.
What did you learn? We need to ensure that all providers are educated. Also need to talk to providers that did receive education but did not use the order set; any specific reasons as to why not? May need to post reminders in the work rooms next to work stations regarding the order set. May also need to have nurse champions during shifts to similarly reinforce education.

ACT: Decide to Adapt, Adopt, or Abandon
<input checked="" type="checkbox"/> Adapt: Improve the change and continue testing the plan. Plan/changes for the next test: See above regarding improving education and getting provider feedback. Observe process between triage and BP measurement. Adequate staffing?
<input type="checkbox"/> Adopt: Select changes to implement on a larger scale and develop an implementation plan
<input type="checkbox"/> Abandon: Discard the change idea and try a different one

Next Steps

Evelyn Coronado-Guillaumet, MPH

Next Steps



- Fill out [Team Roster](#): let us know who will be Data Champion(s) so we can connect your hospital to the Data Portal
- Review [Charter](#), [Getting Started Kit](#), Toolkit
 - Fill out Checklist inside Toolkit
- Meet with your team
- Work on your team Aim and 30-60-90 Day Plan (see samples and template worksheets on our website, under “*Key Documents*”)
- Complete:
 - HTN Baseline Survey (link to be sent via email)
 - March of Dimes Breaking Through Bias Training (email eguillaumet@uab.edu to sign up your team)
 - Sign up for brief office hours with us (link to be sent via email)



Q&A



Thank You

Next Call: Friday, February 26 at 12:00 PM

