

A globe of Earth is positioned on the left side of the frame, set against a background of a blue, textured surface that resembles water or a fine-grained material. A soft shadow of the globe is cast to its right, extending towards the center of the image. The overall color palette is dominated by various shades of blue, from deep navy to bright cyan.

Empowerment Through Ultrasound

Obstetric Sonography in Haiti

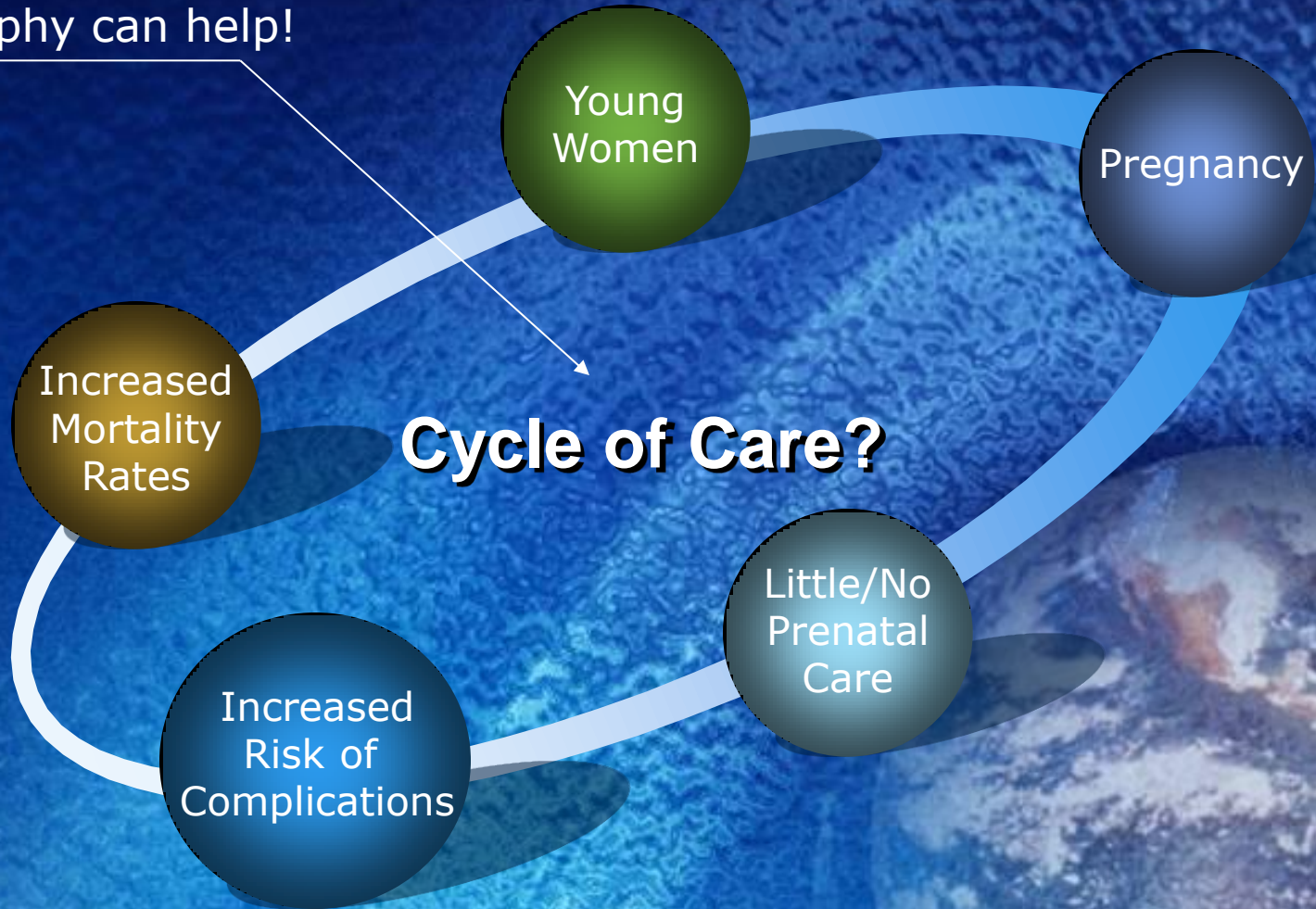
Objectives

1. Describe the role of sonography in developing countries.

3. Recognize the need for proper ultrasound training.

A Vicious Cycle

Sonography can help!



Factors for Consideration

Poverty

Security

Malnutrition

Minimal/No
Family
Planning

Limited
Access to
Healthcare

Lack of
Skilled
Professionals

Maternal Mortality in Haiti

WHO Report: Trends in Maternal Mortality: 1990-2010.

- A total of 40 countries had high maternal mortality rates.
- Haiti was one of only 4 countries outside of Africa with high maternal mortality rates
- High MMR \geq 300 maternal deaths per 100,000 live births

In Haiti, pregnant women die from:

- Preeclampsia/Eclampsia
- Hemorrhage
- Unsafe Abortion

Preeclampsia/Eclampsia

- Preeclampsia is high blood pressure (>140/90) after 20 weeks gestation with proteinuria.
- Eclampsia is more severe involving maternal seizures.
- Most common in first-time pregnancy, teens, and women over 40.
- Fetal complications: preterm delivery, low amniotic fluid, poor growth, low birth weight.
- Maternal complications: liver and kidney failure, placental abruption and hemorrhage, clotting disorders, HELLP syndrome, stroke.
- Linked to obesity, history of high blood pressure, family history of preeclampsia, multiple gestation, sickle cell disease, and malnutrition.
- Preeclampsia may be asymptomatic.
- Diagnosed through regular prenatal health screenings that include urinalysis and blood pressure measurements.
- Treatment options include bed rest, frequent monitoring, steroids to promote fetal lung maturation, drugs to prevent seizures, blood pressure medicine, and delivery.
 - Mild preeclampsia = induced at 37 weeks
 - Severe preeclampsia = induced or Caesarean section after 34 weeks.
- **Cannot be prevented and has no cure BUT better outcomes with early detection, monitoring, and management.**

Maternal Hemorrhage

- **Leading cause of preventable maternal deaths worldwide.**
- **Risk factors include placenta previa or abruption, preeclampsia, multiple gestations, uterine rupture, trauma, uterine atony and internal bleeding, bleeding disorders (coagulopathy) , retained products of conception, emergency Caesarean section.**
- **Postpartum estimates of normal blood loss is practitioner dependent.**
- **May be difficult to detect if concealed internal bleeding and missed hemorrhagic shock due to pregnancy factors that affect blood flow.**
- **Antepartum hemorrhage may occur after 24 weeks gestation.**
- **Related to placental abnormalities such as previa and abruption.**
- **Complications include maternal shock, premature delivery, fetal hypoxia, and sudden fetal death.**
- **Treatment options include uterotonic medication to preserve uterine tone during Ceasarean section; invasive treatments such as embolization, ligation and hysterectomy; interventional radiology services; transfusion; etc.**

Unsafe Abortion

- According to the World Health Organization, every 8 minutes a woman in a developing nation will die of complications arising from an unsafe abortion.
- Approximately 97% of unsafe abortions occur in developing countries.
- Accounts for approximately 13% of maternal deaths worldwide.
- Many who survive will suffer long-term health complications.
- Prevention strategies of safe abortion options and contraceptive use may not be socially, politically, or religiously acceptable.
- Even if prevention strategies are in place, patient and practitioner education and proper training are required.
- Safe abortions depend on quality of health facility, skill of providers, and the age of the fetus.
- Techniques and tools required for safe abortion vary with factors such as uterine anatomy, fetal age, and placenta location.
- Unsafe abortion methods include toxic chemicals, improper medications, trauma to vagina, uterus, or abdomen, and unhygienic unskilled procedures.
- Complications include hemorrhage, sepsis, infection, and death among others.

How Ultrasound Can Help

Preeclampsia/Eclampsia

- Detect multiple gestation
- Determine fetal age
- Assess placenta location and integrity
- Monitor fetal development
- Track amniotic fluid
- Estimate fetal weight
- Visualize fetal position for delivery decisions

Maternal Hemorrhage

- Detect multiple gestation
- Determine placenta previa and abruption
- Assess fetal well-being
- Detect retained products of conception

Abortion

- Determine fetal age
- Detects multiple gestation and ectopic pregnancy
- Visualizes uterine anatomy and placenta location

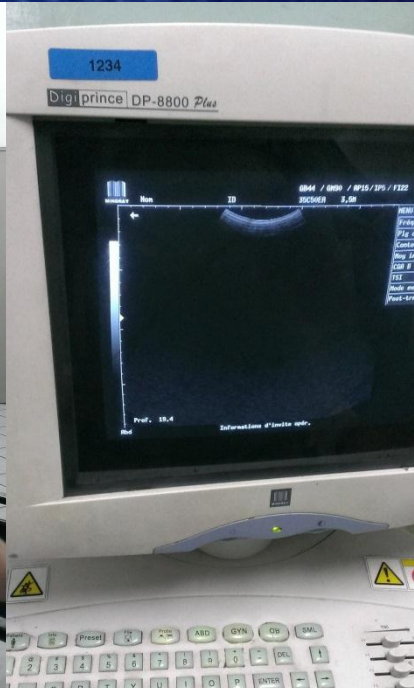
Ultrasound Education in Haiti



Public Health Initiative: "Maman ak Timoun an Sante"

- Addresses fundamental concerns
- Broad reaching
- Partnership based
- Grant supported

December 2012 and April 2013



Ultrasound Progress Diagram

Phase 1

Phase 2

Phase 3

December 2012
Carre Four

April 2013
Isaie Jeanty

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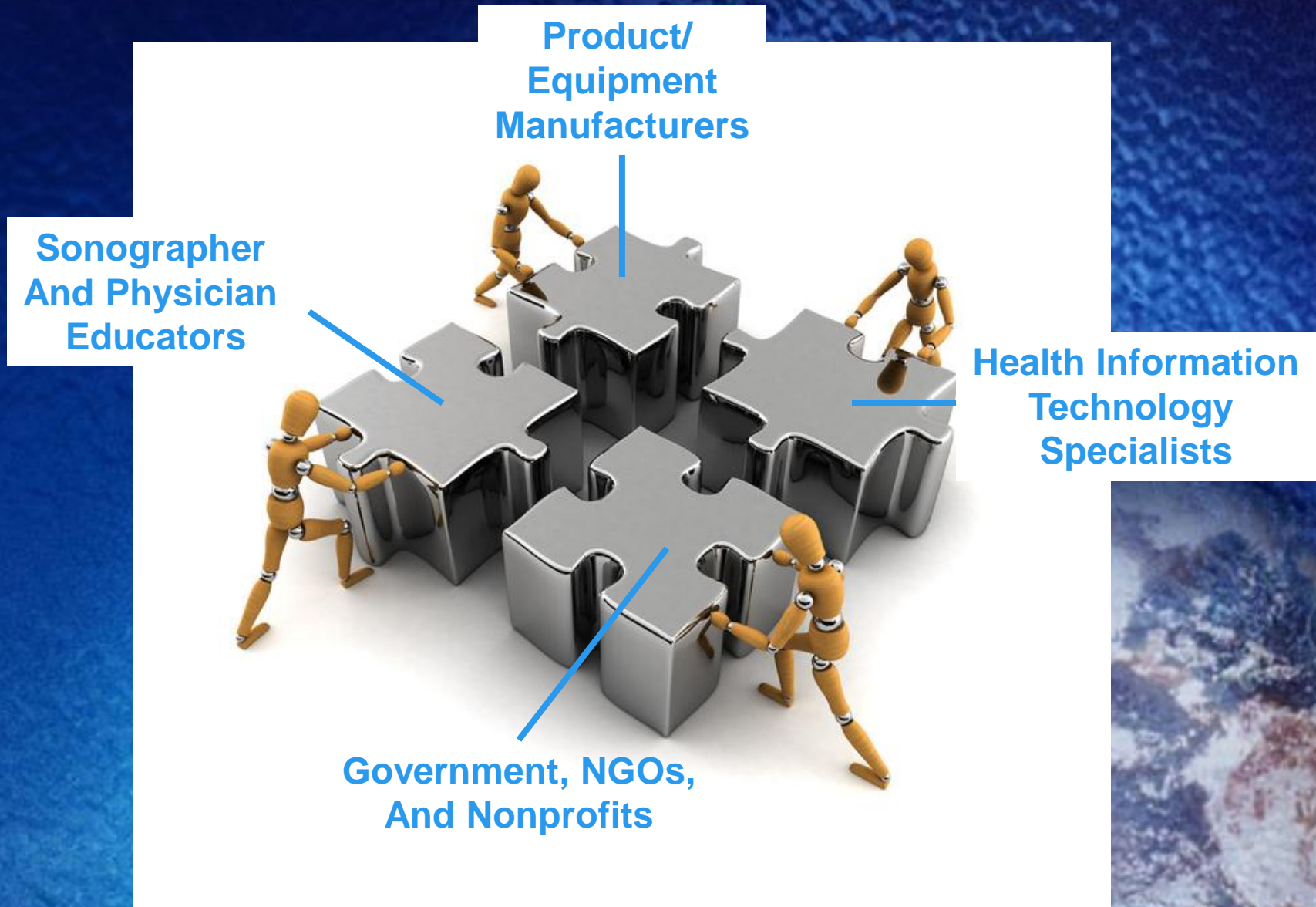
Collaboration of:
PAHO, Haitian Ministry of Public Health,
RAD-AID, ASRT

The Need for a Collaborative Approach

- Cultural Practices
- Limited Resources
- Multi-Tiered Systems
- Tailored Solution Required
- Complex Challenges

Flexibility * Expertise * Accountability

Sustainable Effective Ultrasound in Haiti



Tiered Ultrasound Education



2nd/3rd Trimester
Obstetric Ultrasound

1st Trimester Obstetric Ultrasound

Gynecologic Ultrasound

Introduction to Ultrasound

Thank You!

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