INVERT THE PYRAMID TO IMPROVE OUTCOMES AND REDUCE COST WHILE PROVIDING QUALITY CARE TO AN UNDERPRIVILEGED POPULATION

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ABSTRACT

INVERT THE PYRAMID TO IMPROVE OUTCOMES AND REDUCE COST WHILE PROVIDING QUALITY CARE TO AN UNDERPRIVILEGED VULNERABLE POPULATION

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INTRODUCTION AND BACKGROUND

This presentation is based on my experience at Monmouth Family Health Center (MFHC) a Federally Qualified Health Care Center in Long Branch New Jersey from May 2004 through September 2021.

I am instituting the same protocol at the VNA Community Health Centers in NewJersey, commencing at the CHC in Asbury Park from October 2021. Our mission is to provide high quality cost effective, comprehensive, linguistically and culturally sensitive care to our patients regardless of race, ethnicity or ability to pay. We provide Obstetrics and Gynecology, Internal Medicine, Family Medicine, Pediatrics, Dentistry and Podiatry, Behavioral Health services. We work consistently to maintain efficiency and cost effectiveness while providing high quality patient care.

THE PROBLEM

Women with a positive pregnancy test would have an 'intake' visit with obstetrical nursing staff. and then were examined by a physician 3 to 4 weeks later. 1 or 2 out of every 10 pregnancies would be found to be 'non-viable' at this examination.

This 'traditional' way of entry into prenatal care was

- resource intensive
- costly
- wasted a significant number of weeks before final correct diagnosis
- frustrating for the patient and physician when the final diagnosis was made
- a significant number of non-viable pregnancies were found, who really did not need to be in prenatal care, but should have been diagnosed and appropriately treated earlier, thus saving cost, disappointment to the patient and frustration to physicians.

INVERT THE PYRAMID

As the Director of Reproductive Health and Quality and Performance Improvement; and a gynecologist-obstetrician in clinical practice, this 'traditional' method of prenatal care entry made little sense to me.

I envisioned that only viable pregnancies should enter prenatal care and as early in pregnancy as possible.
To achieve this, I instituted the 'pregnancy confirmation visit' wherein a patient presenting to CHC suspecting pregnancy would get a pregnancy test, a history and physical examination and an ultrasound by a board-certified ob-gyn physician at that visit.

RELEVANCE

- early diagnosis of life threatening condition e.g. ectopic pregnancies
- improved outcomes by early prenatal care entry, accurate dating and multifetal pregnancies
- enhanced patient satisfaction
- cost savings

OBJECTIVE

To provide early correct diagnosis of the viability, number, location, and dating of a pregnancy for every patient and ensure early prenatal care entry.

TRADITIONAL PRENATAL CARE ENTRY METHOD

- Women who suspected pregnancy would come to MFHC OBGYN unit, where they would be given a pregnancy test (urine) by a staff member.
- If the test was positive, inquiry was made into when was the last menstrual period and then a further appointment would be given, for the obstetrics staff nurse for an 'obstetrics intake visit' within the next few weeks.The usual time interval from a positive pregnancy test to 'intake' was 2 to 3 weeks.
- Subsequent to 'intake' where a history was obtained by staff nurses, the patient would be scheduled for the first actual prenatal visit, where a physician would reconfirm the history and perform a clinical examination and confirm the viability of the pregnancy by listening to the fetal heart tones. If the fetal heart tone was not heard, the patient would be scheduled for a 'radiology' ultrasound.
- A final diagnosis would be made possibly 3-5 weeks subsequently, depending upon when the earliest ultrasound appointment could be obtained.
- Meanwhile, the patient would be anxious and worried about the health of the pregnancy.
- Ultimately, at least 1-2 of 10 pregnancies were proven non-viable.
- The usual time of final diagnosis was at 12-14 weeks earliest or even later, and treatment and counseling was then initiated.
- **SOME PATIENTS WERE FOUND TO BE NOT PREGNANT!**

This 'traditional' way of entry into prenatal care was

- Resource intensive
- Wasted a significant number of weeks before final correct diagnosis
- Frustrating for the patient and physician when the final diagnosis was ultimately made
- A significant number of non-viable pregnancies were found, who really did not need to be in prenatal care, but should have been diagnosed and appropriately treated earlier, thus saving cost, disappointment to the patient and frustration to physicians.
- Significant patient dissatisfaction
- Delayed treatment for nonviable pregnancies
- Costly

This 'traditional' method of prenatal care entry made little sense to me because it had several 'fatal flaws' (as noted above). I envisioned that only viable pregnancies should enter prenatal care and as early in pregnancy as possible.

'INVERT THE PYRAMID' METHOD

To achieve the objective that only viable pregnancies should enter prenatal care and as early in pregnancy as possible, I instituted the 'pregnancy confirmation visit', which is where I 'Inverted the Pyramid' as follows:

- **Any a patient presenting to MFHC suspecting pregnancy could call our appointment line (and would get an appointment within the week) or walk into the Center (I do have open access slots and 'add on slots' at every session which I instituted a few years ago)**
- **The patient would get a pregnancy test at the Center**
- **A comprehensive history and physical examination would be performed by a physician**
- **An ultrasound by a board-certified ob-gyn physician would be done that visit.**
- **A decision would be made regarding whether the patient must go to the high-risk obstetric care or normal prenatal care**
- **Timing of the prenatal visit would be decided on clinical grounds**
- **Gestational age dependent tests e.g., Quad test ordered at this visit, if indicated**
- **Tests for diabetes or other existing medical conditions would be ordered at this first visit**

RESULTS

This 'Inverted Pyramid' method achieved the following results:

- **Eliminated 'non-pregnancy' amenorrhea patients, and channeled them for appropriate work-up**
- **Early diagnosis of the viability of a pregnancy**
- **Early diagnosis of a non-viable pregnancy, and initiating of treatment for the condition**
- **Early and therefore accurate dating of pregnancy avoiding later confusion/need for recalculation or reordering of gestational age dependent tests such as the Quad screen**
- **Early diagnosis of multifetal pregnancy**
- **Early diagnosis of ectopic pregnancy (I have sent patients from the office directly to the operating room for treatment of ectopic pregnancy)**
- **Early entry into prenatal care for all pregnancies diagnosed, thus improving outcomes**
- **Cost savings via elimination of non-viable pregnancies entering prenatal care**
- **Much enhanced patient satisfaction**
- **Our UDS reports recognize that more than 80% of patients have a first trimester prenatal care entry, which is higher than the national average**
- **Enhanced and appropriate resource utilization**

CONCLUSION

Efficiency and patient satisfaction can be improved by utilization of many innovative approaches while at the same time decreasing cost.

LESSON

Physician Leaders must 'think out of the box' to be the leaders of change.