Alleviating the Maternal Mortality Epidemic Caused by Preeclampsia Through CHW Based Interventions

Sarah Ahmed
University of Houston Summer Collaboration with Huamana

Background

The United States has the worst maternal mortality rates in the developed world. Compared to those in countries like the Finland, maternal mortality rates in the US are almost 7 times higher [4]. And while other developed countries have a decreasing trend, the US is going the opposite way; maternal mortality rates within the US have increased a staggering 27% from 2000 to 2014 [1]. The news is even worse for Texans as Texas has one of the highest maternal mortality rates within the nation [2]. And this epidemic of maternal mortality disproportionately affects women of color, with African American women being three to four times more likely to die during childbirth than white women[9]. They were followed closely by Native American and Hispanic women [2]. Preeclampsia, a hypertensive disorder of pregnancy, affects about 18% of pregnancies worldwide [6]. Some of the most important risk factors for Preeclampsia include chronic hypertension prior to or during the pregnancy, previous history of preeclampsia or family history of preeclampsia, multiple pregnancies, race (especially Black and Asian women), lack of prenatal care, and advanced maternal age[5]. Preeclampsia/eclampsia result in 6.8% of maternal deaths in the United States [7]. Considering there are about 700-900 maternal deaths per year [3], this means that every year about 48 – 61 women die due to preeclampsia. About 60% of preeclampsia deaths had a good to strong chance of being prevented [8].

Methodology

Primary and secondary articles concerning preeclampsia and preeclampsia risk factors were read. A Directed Acyclic Graph of the possible preeclampsia pathways was made using information from the literature.
Stories were collected from currently or recently pregnant women. Possible interventions were designed using the DAG to determine possible intervention sites and the data to determine how to best target the necessary population. A two pronged approach was developed to focus on both the health care workers and the target population.

Acknowledgements

Directed Acyclic Graph

This Directed Acyclic Graph models pathways of the progression of hypertension and preeclampsia. This graph was used to showcase the possible pathways the disease can take in a person. This graph was analyzed and used to determine possible intervention points.
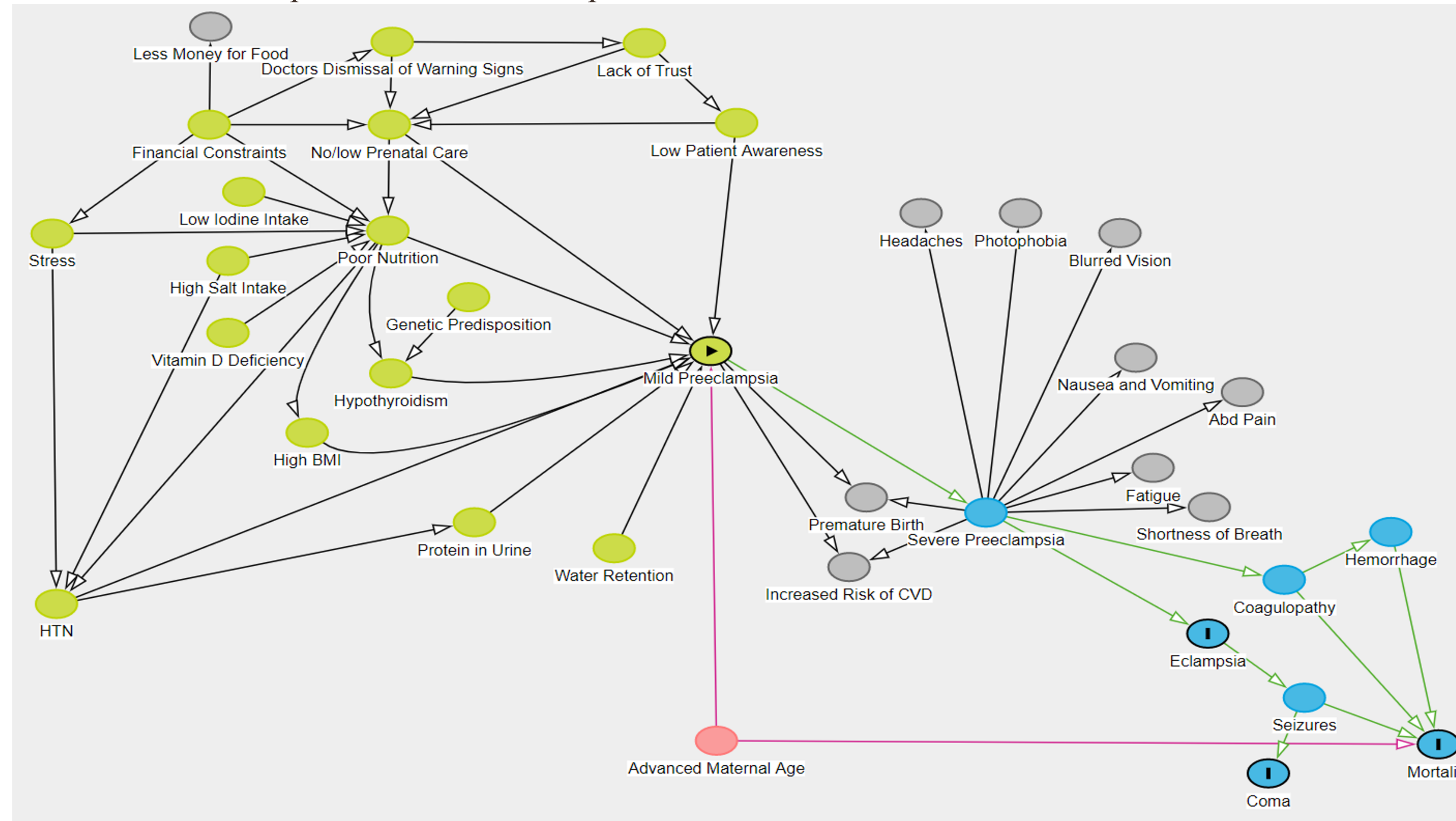
Two Pronged Approach

Continuing Education Unit (CEU)

One prong was a Continuing Education Unit (CEU) which focused on educating health care workers and community health workers (CHWs) on what kinds of issues their clients were having. The CEU included things resources they could help connect their clients to and how to conduct motivational interviewing in order to help clients bring about lifestyle changes. The CEU also included information about maternal mortality and more specific information about preeclampsia risk factors and prevention and management techniques. It was important that the CHWs and other health care workers were aware of this information before utilizing the curriculum.

Curriculum

The second prong was a curriculum for a class that could be taught by community health workers that would allow them to teach people about this issue. The curriculum also included general information about maternal mortality, preeclampsia risk factors, and management techniques. But it also included other important information the general public should be aware of. There were educational segments about rights of pregnant and recently pregnant mothers and information about the patient's bill of rights. Also included were section about how people can advocate for themselves as how to effectively communicate with healthcare professionals in order to make sure their concerns are being listened to. The class was made to be interactive in order to promote learning.

Conclusions

In lieu of information from our reading and the stories that were collected, it was determined that community health workers (CHWs) would be the best way to address the disparities in trust and knowledge. We also felt the need to address health professionals to make sure they were aware of the issues patients were having. We devised a two pronged approach to fixing the disparities. For healthcare workers, we created a CEU to make sure they understand the intricacies of the disease and the issues the patients were facing. For the patients we created the curriculum for a class that can be held by CHWs in order to inform them about the preeclampsia and hypertension management and prevention. We also included parts about how to properly address concerns at doctors offices. With both of these prongs, we hope to be able to be mitigate some of the cases of maternal mortality caused by preeclampsia.
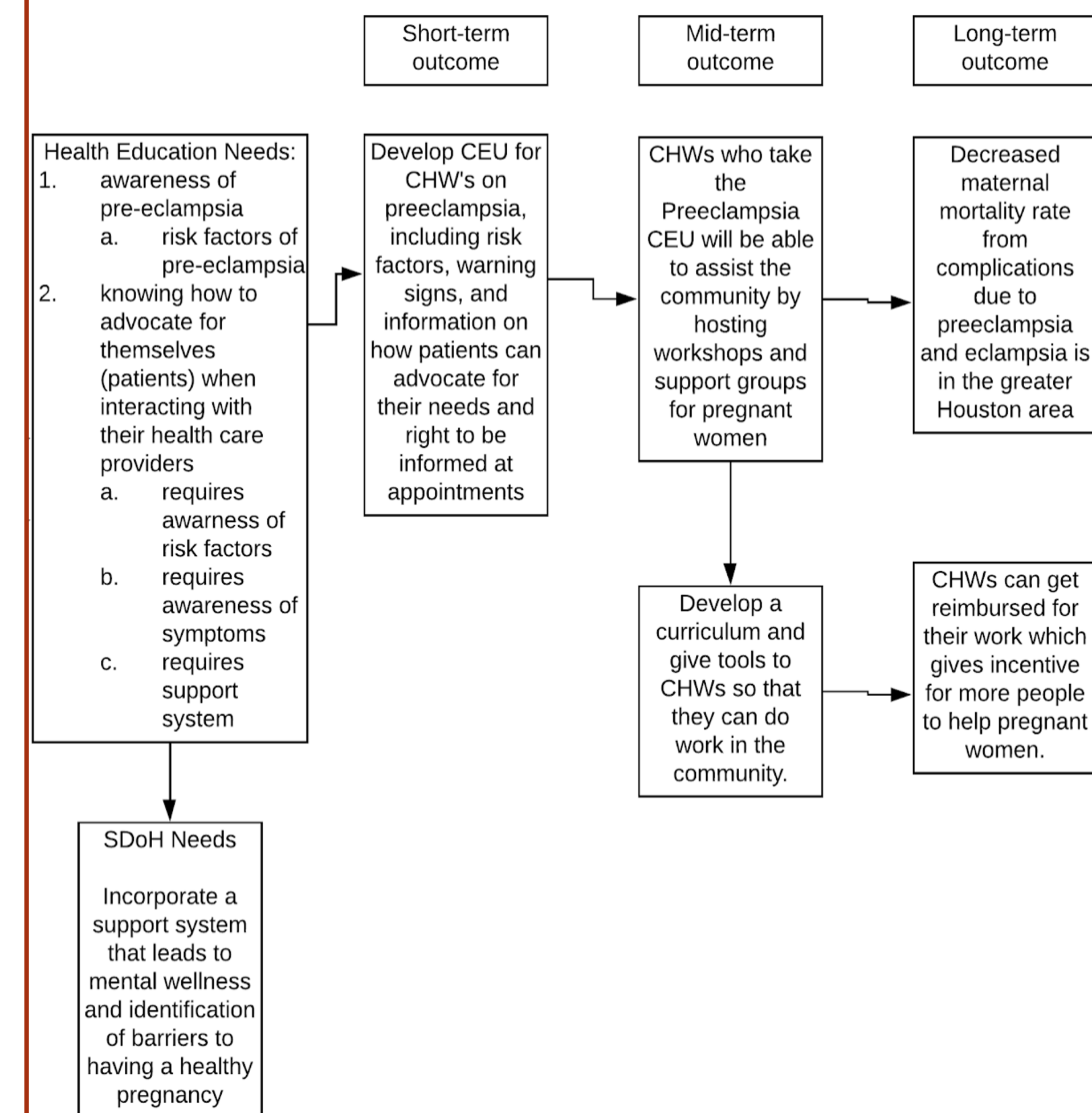
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