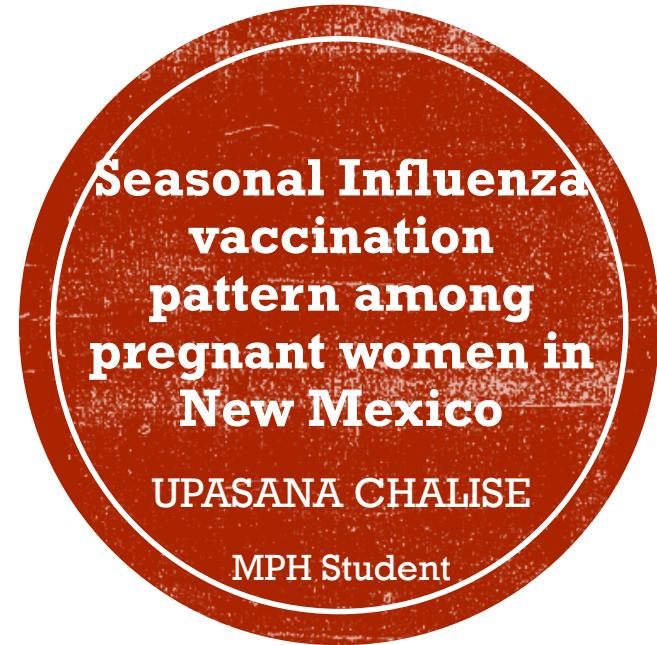


**GETTING  
STARTED ON MY  
THESIS**



# WHAT DROVE ME TO CHOOSE THIS TOPIC?

- My topic of interest-
  - infectious disease / epidemiology / vaccine preventable diseases / vaccination/ maternal and child health
- Updates on the diseases / health issues prevalent in the United States (US) and New Mexico (NM)
- Internship- Border Influenza Surveillance Network weekly report evaluation, Border Infectious Disease Surveillance



# NEXT STEP

- Literature Search
  - Journal articles and other health sites
- Asking- Is it worthwhile conducting this study?
- Asked for Dr. McDonald's suggestion

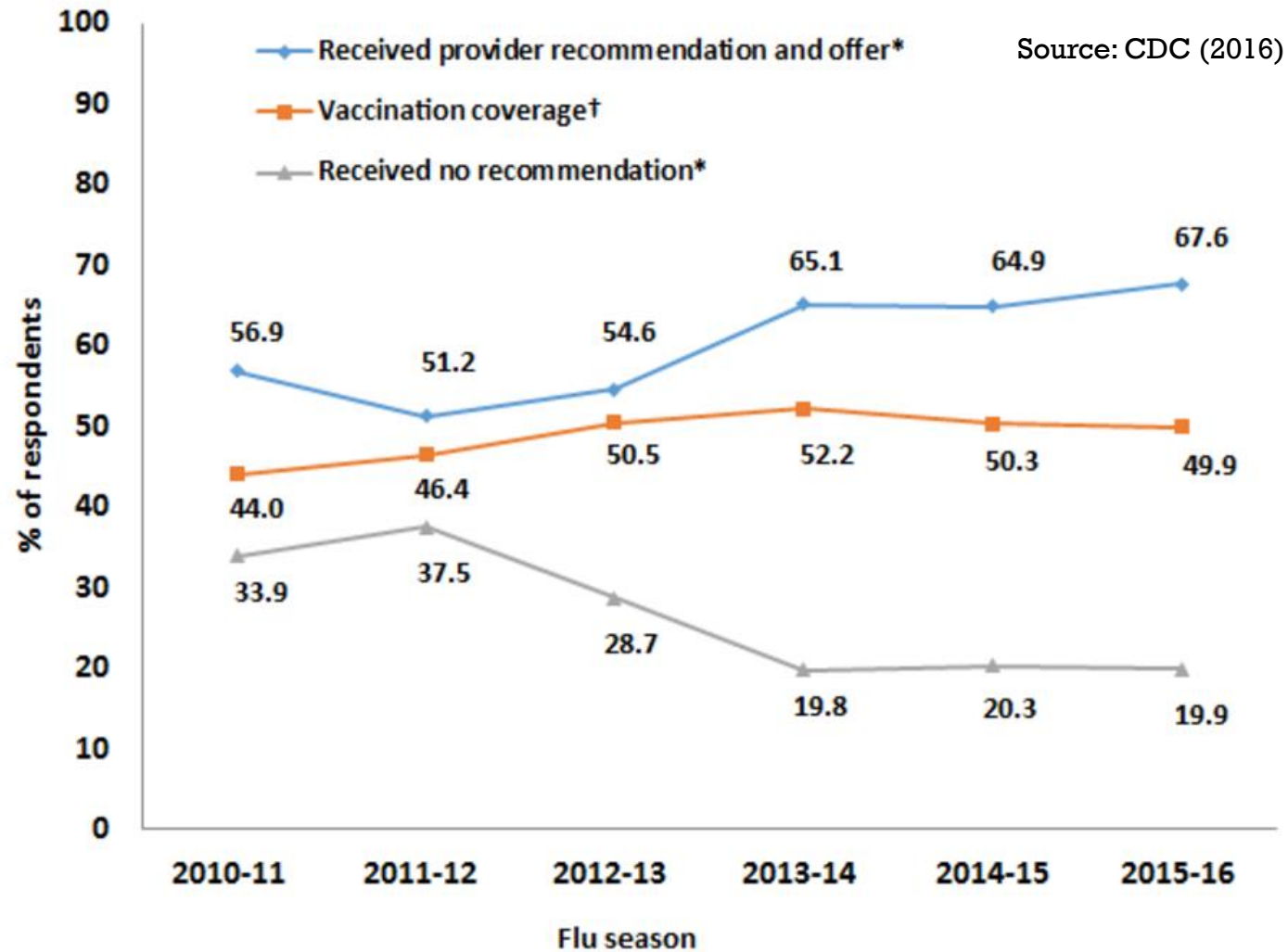


# WHY IS THIS A PROBLEM?

- Influenza can cause serious illness and death, particularly in pregnant women and less immune people like older adult, children, and those with other underlying medical condition
- Pregnant women more vulnerable to flu as compared to their non-pregnant peers
- Premature labor and delivery, febrile illness, hospitalization, and even death
- Advisory Committee on Immunization Practices (ACIP), 2004- All women who are or will be pregnant during flu season should be vaccinated, regardless of trimester
- Despite Recommendation from ACIP, Center for Disease control and Prevention (CDC), and World Health Organization (WHO), vaccination rate among pregnant women is low



# FLU VACCINATION PATTERN AMONG PREGNANT WOMEN IN THE US



- Similar rate over past few years (**WHY???**)
- Health people 2020 target: 80% pregnant women
- Provider's recommendation and offer is an important motivational factor

Figure: Trend of flu vaccination coverage before and during pregnancy and prevalence of provider's recommendation / offer or no recommendation for vaccination among women pregnant anytime October through January, Internet Panel Survey, United states



# FLU SHOT AMONG PREGNANT WOMEN AND FACTORS ASSOCIATED - CDC(2017)

**Associated** - maternal education, economic status/poverty level, insurance types, high risk medical conditions, higher medical visits, provider's recommendation and offer, attitude towards effectiveness of flu shot, and attitude towards safety of flu shot

**Not associated**- age and race/ethnicity

Main reasons for receiving flu vaccination:

- **“To protect my baby from flu”**

Main reasons for not receiving flu vaccination:

- **“I have concerns about safety risks to my baby if I got vaccinated”**



# NEED FOR THIS TYPE OF STUDY IN NM

- Flu shot prevalence rate among pregnant women in New Mexico is not readily available
- Until 2012- Flu shot related questionnaire were not included in PRAMS survey for NM
- Some similar studies are available for whole county and other states- but result cannot be generalized
- New Mexico- unique population, ethnic minorities ( high percentage of Hispanic)



# ... CONTINUED

- Use of prenatal care and health services among ethnic minority population is low
- Border counties – add extra health or disease burden
- Results generated from this and similar studies can inform the prioritization of prevention or motivational factors that may be important in seasonal flu vaccination intervention programs in this population





# BENEFIT OF FLU SHOT

- The flu shot protects both mother and baby through placental transfer of antibodies and transfer via breast milk (Christian, 2014)
- Protects infants for first few months of their life, until they can be vaccinated



# LITERATURE SEARCH

- Growing evidence of influenza vaccination decreasing influenza like illness (ILI) in mother and decreasing ILI, still birth and other morbidity, hospitalization and mortality in infants (<6 months) (Kennedy et. al, 2012; Legge, Dodds, Noni, MacDonald, Scott, & McNeil, 2014)
- Maternal influenza vaccination associated with improved neonatal outcome – less likely to have preterm birth and low birth weight (Legge et al, 2014; Eick et. al, 2011)
- Despite ACIP recommendations, the rate of seasonal flu shot among pregnant women is lower than Healthy People 2020 goal (80% coverage) (CDC,2017; Kennedy et. al, 2012)
- Health Belief Model (HBM) constructs are important predictors of the decision to vaccinate (Gorman, Brewer, Wang, & Chambers, 2012)



# THESIS COMMITTEE FORMATION

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Dr. Jill McDonald  
(Co-PI)

Dr. Anup  
Amatya (Co-  
Investigator)

Third  
person- still  
not decided



# INSTITUTIONAL REVIEW BOARD (IRB) PROCESS

- Human subject training (CITI)
- Maestro
  - upload CITI certificate to Maestro
  - Use Maestro to apply for IRB approval
  - IRB approval is required even for secondary analyses
- Complete IRB form, wait for review, respond to requests for clarifications
- Approved: 9/11/2017 ( took ~ 20 days)



# SECONDARY DATA ANALYSIS

- **Cross-sectional observational study; secondary data analysis**
  - Will identify associations, but not causal
- **Professors' project data, Pregnancy Risk Assessment and Monitoring System (PRAMS), Behavioral Risk Surveillance System(BRFSS), vital statistic data from Department of Health, Internet Panel Survey, NIHS etc.**
- **My data- PRAMS**
- **Why PRAMS? - only survey in NM containing flu shot acceptance and rejection related questionnaire**
- **Benefit of Secondary data analysis?? – Time, Resources, covers whole states (not possible otherwise)**



# HOW DID I APPLY FOR THE DATA?

- Learned about data stewardship in New Mexico Department of Health (NMDOH) <https://ibis.health.state.nm.us/query/DataStewards.html>
- PRAMS- Eirian Coronado
- Talked with my advisor
- Got forms from emailing Eirian and Glenda
- Reviewed the PRAMS questionnaire and decided on which variables I wanted to use; I included the variable list in the application



# RESEARCH QUESTIONS

1. What is the prevalence of seasonal influenza vaccination among pregnant women in New Mexico?
2. Has the prevalence rate of seasonal flu shot among pregnant women in New Mexico changed over past few years?
3. What are the reasons that unvaccinated women state for not getting vaccinated? (Flu shot related questions)
4. What are the characteristics of women not getting the flu shot?
5. Is there geographic variation in prevalence of seasonal flu shot among pregnant women?



# **PROSPECTUS, PROSPECTUS APPROVAL MEETING & RESEARCH PROPOSAL**

- Prospectus meeting and approval- 9/11/2017
- Research proposal timeline-
  - First draft- by the end of October
  - Final draft for review- by the end of November
  - Approval- by the end of this semester





# VARIABLES

- **Primary:** Flu vaccination in past 12 months or not
- **Secondary:**
  - **Demographic-** age, county of residence (border / non-border, city / urban), maternal and paternal highest degree of education, annual total income, insurance type or method of payment, mother employed/unemployed
  - **Behavioral/ lifestyle-** smoking status, drinking status, number and timing of prenatal visits, breastfeeding, take multivitamin / folic acid / prenatal care during pregnancy
  - **Socio-cultural-** Race, ethnicity, language, mother's birthplace, & marital status
  - **Medical and other-** preexisting chronic diseases (hypertension, diabetes, and depression), gestational diabetes, high risk condition, previous birth defects, parity, number of previous live births, previous low birth weight, previous preterm birth weight, date and month of flu shot received, provider's offer in past 12 months (yes/no), and reasons for not getting flu shot



# FLU SHOT RELATED PRAMS QUESTIONS

- Q. No 23 to 26
  - Got provider's offer or not
  - During the 12 months before the delivery of your new baby, did you get a flu shot?
    - No      Yes, before my pregnancy      Yes, during my pregnancy
  - Month and year you got the flu shot
  - What were your reasons for not getting a flu shot during the 12 months before the delivery of your new baby?
    - 6 reasons, other...?



# PLANS FOR ANALYSIS

- Data analysis- will probably start on December break
- SPSS analysis
- Unadjusted and adjusted analyses
  - Chi-square, logistic regression analysis
- 3 years trend- rate decreased or increased or constant?



# FINAL OUTCOME

- Manuscript version, PUBLISH!!
- Journal- Will decide soon



# REFERENCES

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**Thank you!!!**

