

Improving Maternal and Newborn Health through the Implementation of Point of Care Vaccination for Pregnant Patients



FACULTY OF MEDICINE | UNIVERSITY OF CALGARY

Dr. Laura Idarraga Reyes
December 6, 2018



Disclosure Statement

- I have no affiliation (financial or otherwise) with a pharmaceutical, medical device or communications organization.

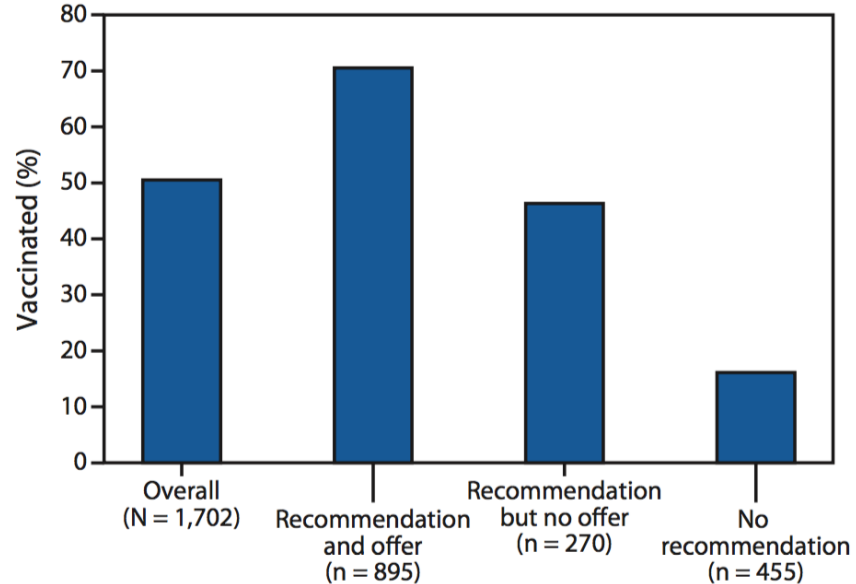
Background

- Influenza infection during pregnancy can result in adverse maternal and neonatal outcomes.
- Pregnant women are at higher risk of influenza related morbidity.
- Uptake remains low: estimated Alberta's influenza vaccination rate is between 8-23%



Point of Care (POC) Increases Influenza Vaccination Coverage Among Pregnant Women

US Internet Panel n = 1,702 pregnancies



Ball S et al. Influenza vaccination coverage among pregnant women—United States, 2012–13 influenza season. MMWR 013;62(38):787-92

TERTIARY CARE FACILITY IN CALGARY ALBERTA



2016-2017

n=2,930
women

Inpatient
Service

4,584 visits by
2,544 women

Outpatient
Clinic

3,282 visits by
1,085

2017-2018

n= 3,174
women

Inpatient
Service

4,557 visits by
2,534

Outpatient
Clinic

3,762 visits by
1,219



Objective

Evaluate implementation of POC influenza vaccination during pregnancy by determining:

- 1. Weekly offer rate**
- 2. Vaccination Uptake**
- 3. Patient and healthcare provider satisfaction**



Mixed Methods

- Prior to 2016-2017 Season: Process mapping for storing, administering and documenting vaccination through multiple PDSA cycles (Plan, Do, Study and Act) within relevant inpatient and outpatient units. Go live Nov 1
- 2017-2018 Season: Vaccine offer rates were measured through weekly chart audit
- A pre/post study design across five consecutive influenza seasons to determine change in vaccination rates amongst pregnant women (2014-2015 and 2015-2016 (before POC), 2016-2017 (POC implementation season) and 2017-2018 2018-2019 (after POC)

RESULTS- Process & Offer Rate

Offer Seasonal Influenza Vaccine
As per Standing Orders per Dr. _____

Yes No Signature: _____

Given Declined Signature: _____

Received Elsewhere Will Receive Elsewhere

Offer Again

Stamp used in Obstetric Clinic

cinat
ider

Offered No _____

Offered Yes _____

Do not ask again

Given here

Got somewhere else

Will get somewhere else

Ask again _____

Sticker used in High Risk Clinic

ed by nurses to
s.

Offered Yes No

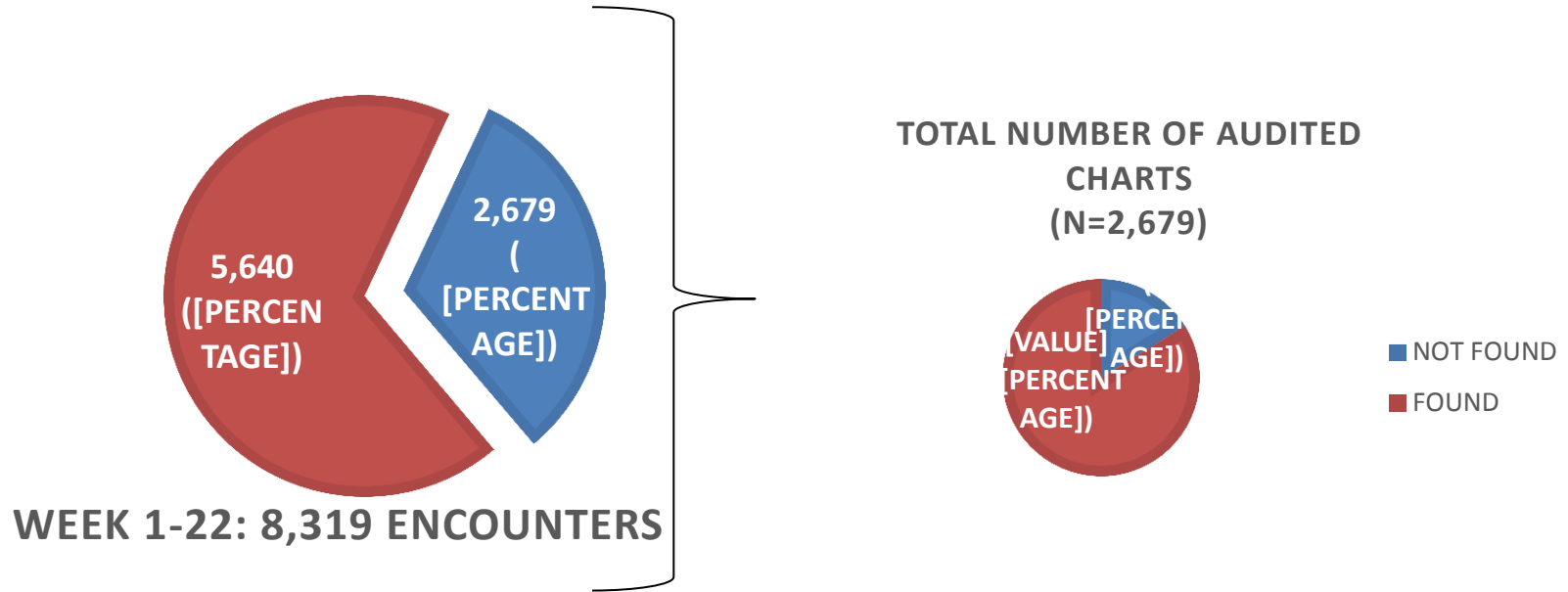
Given Today Declined

Got Elsewhere Will get elsewhere

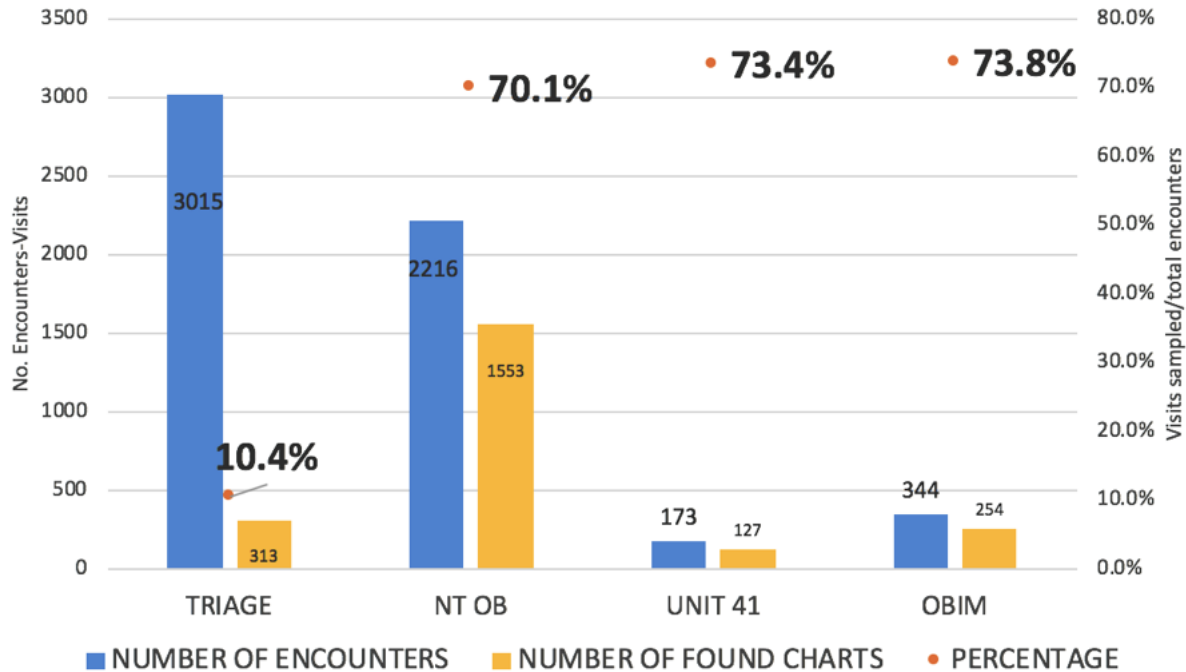
Got here previously

Sticker used in Triage and Antepartum

RESULTS- CHART AUDIT FLU SEASON 2017-2018

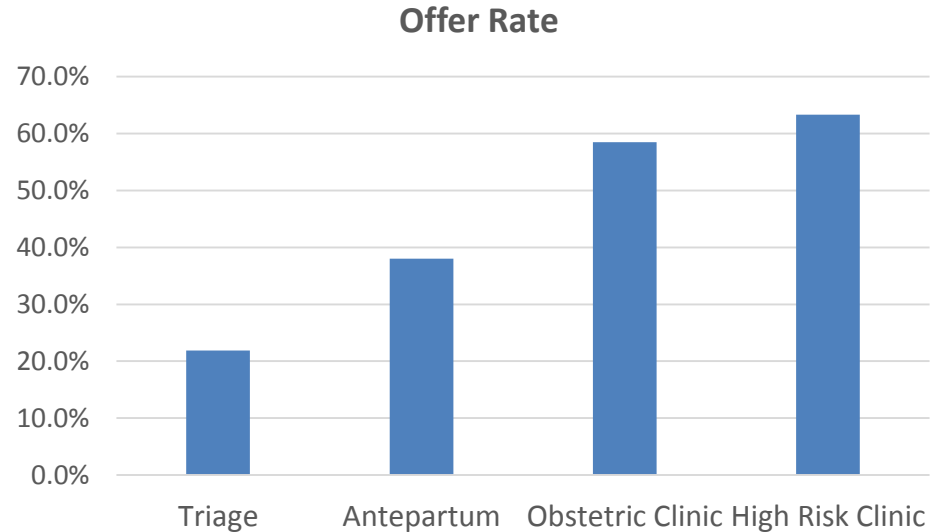


RESULTS- CHART AUDIT FLU SEASON 2017-2018



Results-Offer Rate 2017-2018

UNIT	Offer Rate
Triage	21.9%
Antepartum	38.0%
Obstetric Clinic	58.5%
High Risk Clinic	63.3%
Total	47.1%



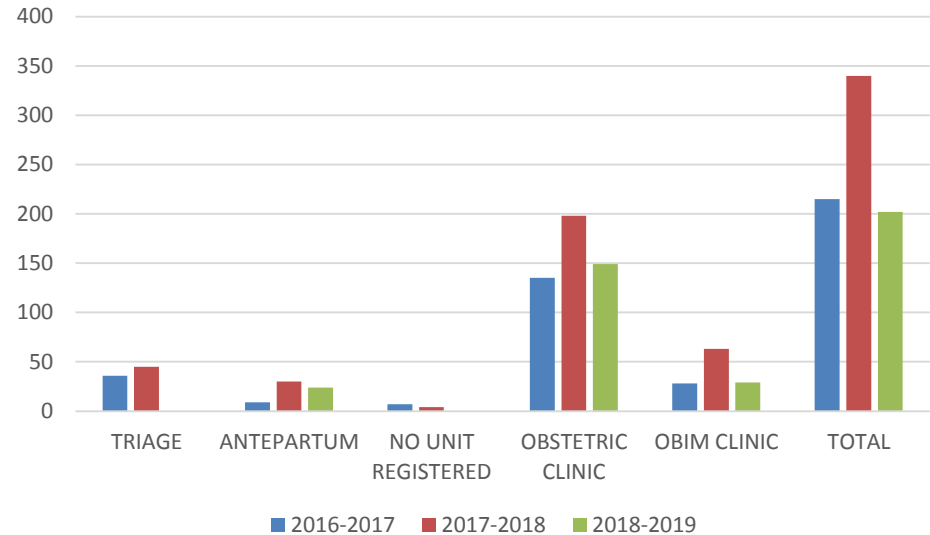
Offer Rate= $\frac{\text{Number of Women to whom the vaccine was offered*}}{\text{Number of Women considered Opportunities}}$

*Unit of analyses is encounters

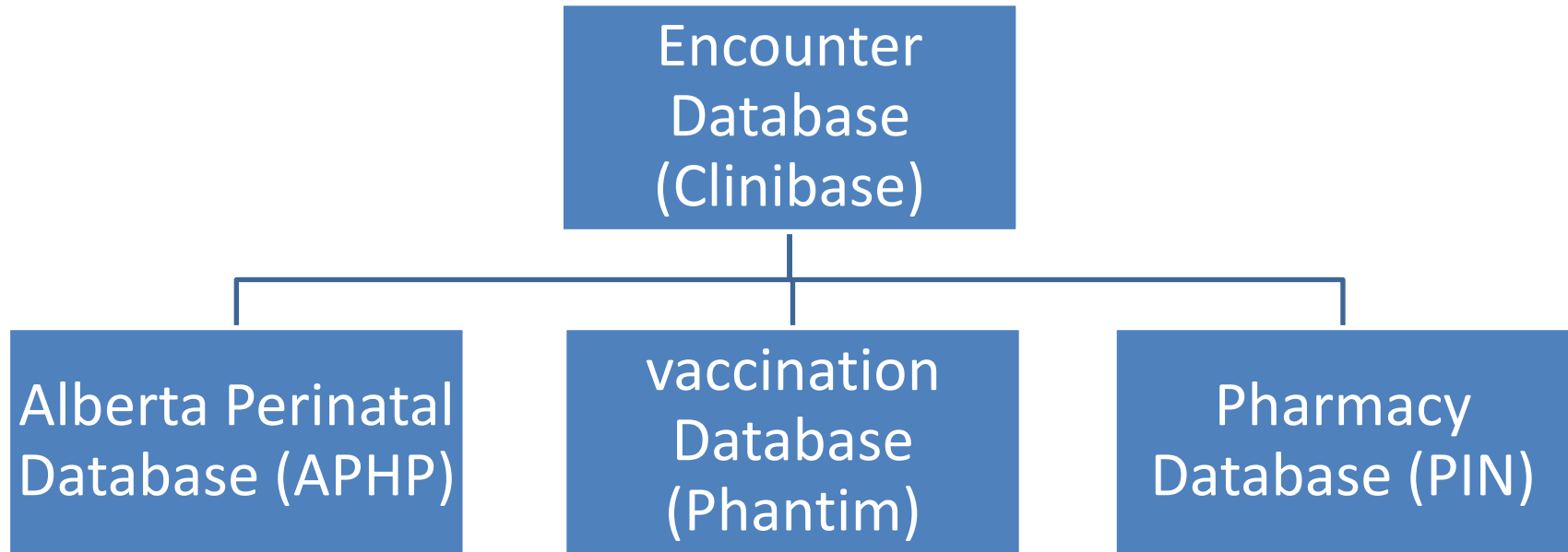
Results

Number of Vaccines Given at POC FMC

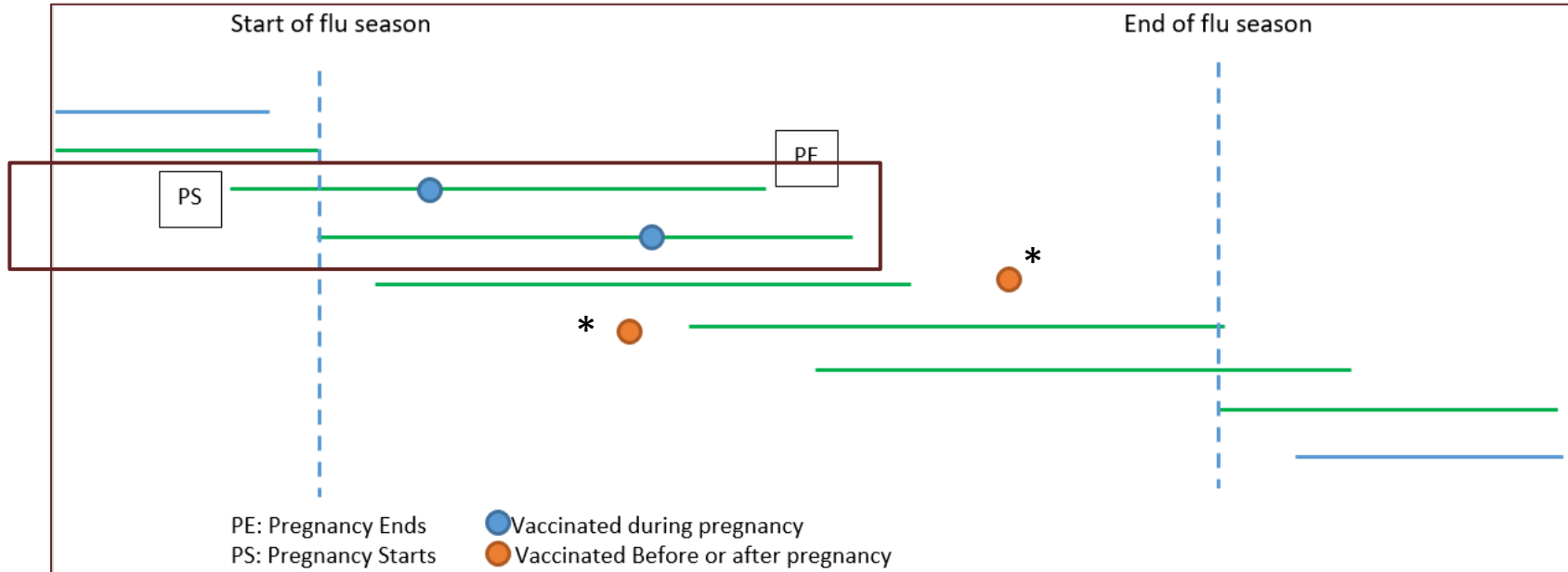
UNIT	2016-2017	2017-2018	2018-2019
TRIAGE	36	45	-
ANTEPARTUM	9	30	24
NO UNIT REGISTERED	7	4	0
OBSTETRIC CLINIC	135	198	149
OBIM CLINIC	28	63	29
TOTAL	215	340	202



Estimating Vaccine Uptake



Estimating Vaccine Uptake



*Women who received the vaccine before or after pregnancy were excluded from the analysis.

*Women with overlapping pregnancies over two seasons were also excluded.

Results- Vaccination Uptake Among Pregnant Cohort

Flu season	Vaccinated n (%)	Not Vaccinated n (%)	Total
2014 – 2015	523 (12.4)	3,680 (87.6)	4,203
2015 – 2016	471 (12.3)	3,363 (87.7)	3,834
2016 – 2017	440 (15.9)	2,331 (84.1)	2,771
2017 – 2018	738 (23.3%)	2,436 (76.7)	3,174

Conclusion

- POC vaccination in pregnancy is **feasible** and **improved vaccination uptake** in outpatient clinics in a tertiary care urban facility in the second influenza season after implementation.
- Obstetric triage units represent a major opportunity for vaccination, given large volume of patients, however, staff perception is that workload and time constraints preclude its successful implementation during this flu season.

Next Steps

- Adding influenza vaccination to antepartum admission electronic orders
- Implement POC vaccination at postpartum units
- Evaluate the effects of Point of Care influenza vaccination in pregnancy on:
 - Health resource utilization
 - Clinical outcomes

Acknowledgements

- Eliana Castillo
- Deidre McCaughey
- Sheila McDonald
- Amy Metcalfe
- Kara Nerenberg
- Maria Santana
- Chris Roach
- Van Der Kooi
- Ève Dubé

We would like to thank to all the nurses participating in this study, to the patients and the AHS clinics for their support.

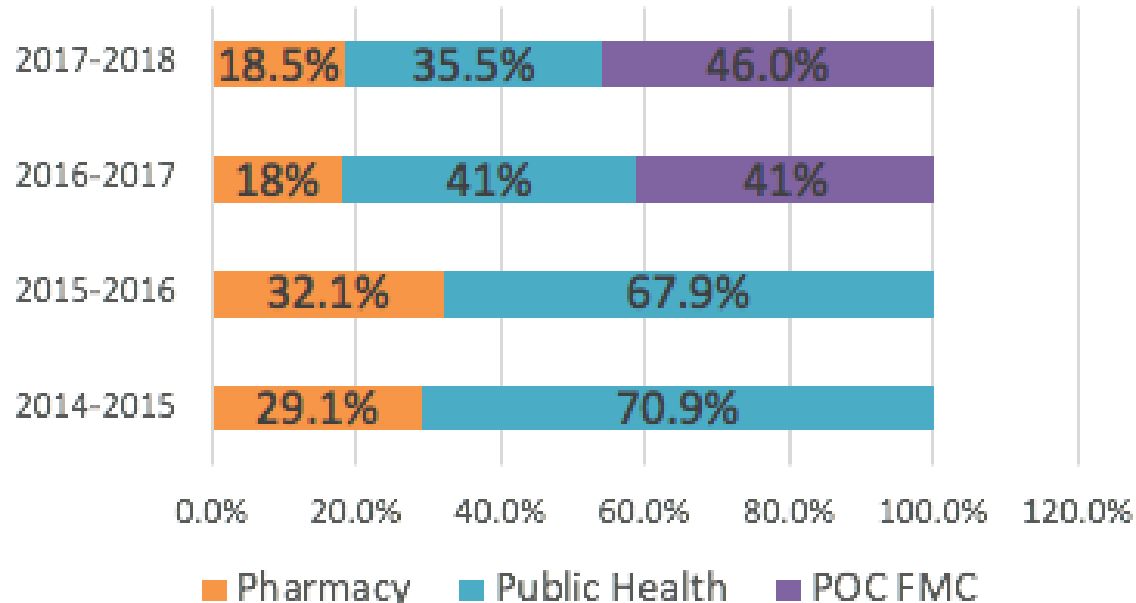
Thank you!



castillo@ucalgary.ca

403.220.6376

UPTAKE BY SITE: Pharmacy/PH /POC



castillo@ucalgary.ca

403.220.6376