# Randomized Control Trial of Postpartum Visits at 2 and 6 Weeks

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- Postpartum care is an integral transition from pregnancy to wellwomen care
- More than half of maternal deaths occur postpartum<sup>1</sup>, with suicide and self harm as some leading causes<sup>2</sup>
- Average postpartum (PP) visit attendance nationwide 60-90%<sup>3</sup>
  - Lower among minorities, younger women, higher parity, limited prenatal care

<sup>2.</sup> Metz et al, Obstet Gynecol, 2016

### Interventions studied to increase PP attendance

- Incentives
- Home visits
- Group prenatal care
- Patient education
- Patient reminders
- Scheduling visit upon hospital discharge
- Timing of visits?

Table 2 Antenatal interventions to increase attendance at postpartum follow-up visit (PPV)

Author, year	Target population	Population size	Intervention type	Results	Study design
Stevens- Simon et al. 1994 [41]	Low-income adolescents in Colorado	240	Incentives	Women given incentive of infant carrier at PPV more likely to attend PPV compared to control group (82.4 and 65.2 %, respectively; $p=.003$ )	Randomized Controlled Evaluation
Laken and Ager, 1995 [30]	Medicaid-eligible women in Michigan	205	Incentives	No significant difference in PPV attendance (55 % overall) between control groups, women who received \$5.00 gift card or entrance in \$100 raffle for attending visit	Randomized Controlled Evaluation
Patient incenti	ves: inconclusive find	ings, possible	increase in atte	ndance for adolescents	
Belizan et al. 1995 [5]	Socially high-risk women in Latin America	2235	Home visits, support services	No significant difference in PPV attendance between control group and women who received intervention (32.8 and 36.8 %, respectively)	Randomized Controlled Evaluation
Bensussen- Walls and Saewyc, 2001 [6]	Adolescents in Washington State	106	Teen- centered prenatal care	Adolescents in intervention group more likely to attend PPV than adolescents who received traditional prenatal care (70 and 77.8 % for adolescent clinics and $<$ 33.3 and 44 % for adult, $p < .05$ )	Retrospective Matched Evaluation
Grady and Bloom, 2004 [19]	Adolescents in St. Louis, Missouri	124	Group prenatal care	87 % of adolescents in group prenatal care (CenteringPregnancy Model) returned for PPV	Descriptive Evaluation
Tandon et al. 2013 [43]	Hispanic women in Palm Beach County, Florida	176	Group prenatal care	Women in group prenatal care more likely to attend PPV than comparison group (99 and 94 %, respectively; $p = .04$ )	Quasi- Experimental Evaluation
Trudnak et al. 2013 [44]	Spanish-speaking and Hispanic women	487	Group prenatal care	Women in group prenatal care had increased odds of attending PPV compared to women in traditional prenatal care (86.7 and 74.6 %, respectively; aOR* = 2.20 [1.20-4.05])	Retrospective Cohort Evaluation
Meghea et al. 2013 [34]	Medicaid-eligible women in Michigan	32,088	Home visits, support services	Women who received home visits through the Maternal and Infant Health Program were significantly more likely to attend their postpartum visit than their matched counter parts (OR = $1.50 (1.43, 1.57), p < .05$ )	Quasi- Experimental Evaluation
Enhanced pres	natal care intervention	s: inconclusi	e findings, poss	sible increase in attendance for group prenatal care	
Jones and Mondy, 1990 [26]	Low-income adolescents in Texas	399	Incentives, patient education	Women in high-treatment group ( $\geq$ 8 lessons) more likely to attend PPV compared to low-treatment group ( $<$ 8 lessons) (87 and 73 %, respectively; $p < .011$ ) and comparison group (87 and 71 %, respectively; $p < .002$ )	Quasi- Experimental Evaluation



#### Timing of Postpartum Visits

- Worldwide guidelines
- Recommendations for timing and frequency of PP visits varies from 48 hours to 8 weeks postpartum
  - Based on "available literature, expert opinion, clinical practice"

Organization	Year	Guidelines development process	Guidelines for timing and frequency of PPV	Evidence for timing and frequency of PPV guideline	Quality of evidence as provided by guideline authors
Department of Health, Reproductive Care Program of Nova Scotia, Canada [38]	2002	A postparium services review working group gathered information from literature aview, chiral practice, current statistics and used information to develop guidelines then approved by an action group at the Reproductive Care Program of Nows Soois and a program delivery group at the Department of Health	Follow-up visit: 6 weeks postpartum Follow-up care can be added to based on family care plan	Available literature, expert opinion, and clinical practice	Specific quality level not stated
National Institute for Health and Care Excellence, UK [15]	2006	A Technical Team gathered information from economic and clinical databases for review by a Guideline Development Group. Final recommendations agreed upon by Group following comments from stakeholders	First visit: within 1st week postpartum Remaining visit(s): 2-8 weeks postpartum Care should be individualized for each woman and determined in the antenatal period	Available literature and expert opinion/punel	Recommendation based only on experiences of Guideline Development Group
American College of Obstetrics and Gynecology [2]	2012	Developed by AAP Committee on Fetus and Newborn and the ACOG Committee on Obstetric Practice based on most up-to-date scientific information, clinical practice, and expert opinion	Follow-up visit: 4-6 weeks postpartum Interval can be modified by needs of patient	Available literature, expert opinion, and clinical practice	Specific quality level not stated
Michigan Quality Improvement Consortium, USA [35]	2012	Evidence gathered through literature review and evaluated by type of study used to establish guidelines to be reviewed by committee until group consensus reached	Follow-up visit: 3-8 weeks postpartum	Available literature and expert opinion/panel	Specific quality level not stated
Institute for Clinical Systems Improvement, USA [1]	2012	Evidence gathered through literature review evaluated using GRADE methodology used to establish set of guidelines reviewed and approved by a series of medical committees and relevant stakeholders.	Follow-up visit: 4-6 weeks postpartum Discussion of postpartum care intiided in antenatal period	Available literature and expert opinion/panel	Specific quality level not stated
Association of Reproductive Health Professionals, USA [7]	2013	Based on expert opinion and available literature	Follow-up visit: 4-6 weeks postpartum	Not provided	Specific quality level not stated
World Health Organization [47]		Guideline Development Group reviewed and evaluated evidence gathered through systematic neviews using GRADE profiles and analysis of benefits, risks, and costs of implementation. Findings were used to draft recommendations by a WHO steering group and finalized through group consensus/vote	postpartum Second Visit 7–14 days postpartum A minimum of three visits	Available literature and expert opinion/punel	Low quality evidence
French College of Gynaecologists and Obstetricians [51]	2016	A steering committee established research questions and assigned experts to conduct literature reviews related to these questions. This information was then used by the steering committee to develop guidelines	Follow-up visit: 6-8 weeks postpartum	Not provided	Specific quality level not stated



- ACOG highlights importance of "fourth trimester"
  - Timing of 6-week visit is arbitrary and should be individualized and woman centric
    - "all women should ideally have contact with a maternal care provider within the first three weeks postpartum...ongoing care as needed...comprehensive postpartum visit no later than 12 weeks after birth"
- Derived on expert opinion



#### **Postpartum Emergency Department Usage**

Are patients utilizing the ED instead of attending clinic?

- One in twenty women will use the ED within 6 weeks postpartum<sup>1</sup>
- Predictors of ED usage
  - Public insurance, young age, cesarean delivery, severe maternal morbidity, antepartum complications<sup>2</sup> and mood disorders<sup>3</sup>

#### **Objective**

 To determine if shortening the time to initial postpartum visit from six weeks to two weeks can increase clinic visit attendance and decrease usage of the emergency department



### Methods



#### Methods - Trial Design

PUnCTuAL: Postpartum Care Timing: A Randomized Trial

- Followed CONSORT Guidelines
- Simple parallel randomization
- Non-blinded
- 1:1 allocation
- Clinical Trials NCT03733405
- Funding: N/A

#### **Methods - Participants**

- Study Population
  - Publicly insured population at tertiary academic medical center
- Eligibility Criteria
  - 18+ years old
  - English or Spanish speaking
  - 35'0 weeks of gestation
  - Planning to continue their intrapartum and postpartum care at UCLA

- Exclusion Criteria
  - Cognitive impairment or language barrier that limits ability to provide informed consent

#### **Methods - Interventions**



#### Control: Arm 1

6- week postpartum visit (29-56 days PP)



#### **Intervention: Arm 2**

2- week postpartum visit (8-28 days PP)

#### **AND**

6- week postpartum visit (29-56 days PP)



#### **Methods - Outcomes**

- Primary outcome:
  - Attendance at one or more routine postpartum clinic visits
- Secondary outcome:
  - Emergency room visit within 30 days of delivery
    - Chart review
    - Patient reported on postpartum survey
  - Attendance at non-routine postpartum clinic visit
    - Provider recommended
    - Patient initiated



#### **Methods - Power**

#### Power calculation:

- Baseline clinic attendance 70%
- Alpha 0.05, beta 0.80
- To increase clinic attendance from 70% to 85%, require 240 patients
- To account for post-randomization drop-out, goal 250 patients

#### **Methods – Recruitment**

- Recruitment and consent documents in English and Spanish
- Simple computer randomization
- Allocation concealment
- No blinding

#### **UCLA RESEARCH STUDY**



#### **PUnCTuAL**

Postpartum Care Timing: A Randomized Trial

We are looking for pregnant women to participate in a study to determine the best time for a follow up visit after their baby is born.

Speak to any staff member for details! UCLA OBGYN Clinic 1010 Veteran Ave LA. CA 310-825-7955

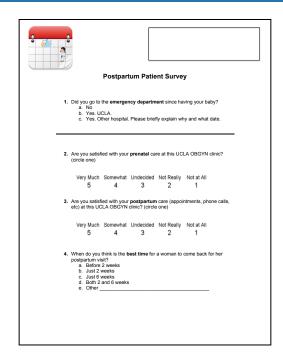


#### **Methods - Implementation**

- Scheduling
  - Patient responsible for scheduling appointments (routine practice)
- Additional clinic visits continued to be scheduled as indicated by her intrapartum course, designated urgent or "non-routine visit"
  - Provider recommended blood pressure or wound check
  - Patient initiated visit

#### Methods – Postpartum visits

- Routine history and physical
- Patient survey

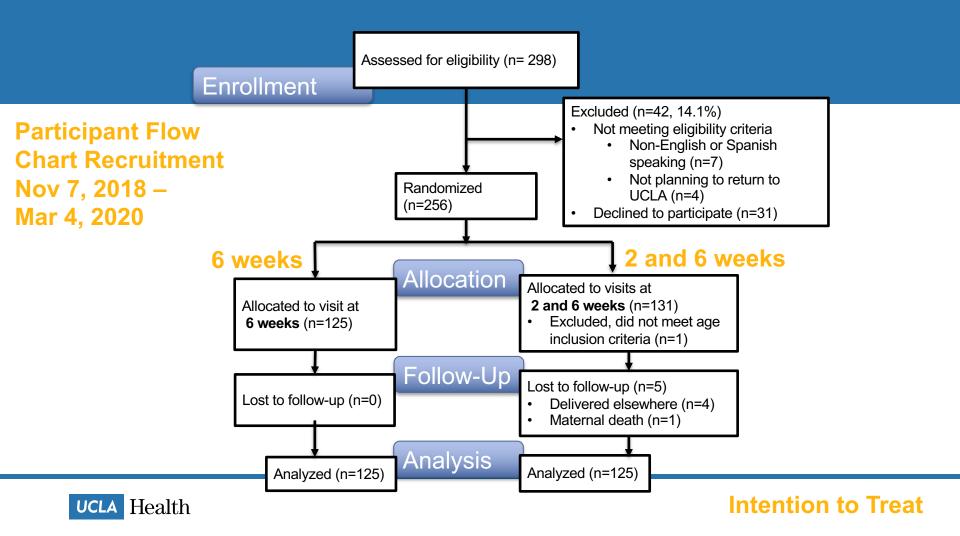


#### **Methods – CoVID-19 adjustments**

- Due to CoVID-19 pandemic, after March 16, 2020, postpartum visits were adjusted to telephone visits when available
- Attendance was defined as answering the phone and completing appointment at prescheduled time and date

#### **Methods – Data Analysis**

- Chi square or Fisher's exact for categorical variables
- T-test or Wilcoxon rank-sum for continuous variables
- Multivariable logistic regression using backwards elimination method to adjust for confounders of attendance at clinic and ED
- Univariable ROC curves
- Spearman correlation
- Analysis on Stata 15.1 and SAS 9.4



### Results

#### **Demographics**

Variable	Arm 1 (n=125)	Arm 2 (n=125)	P-value
Age	31.0 +/- 6.1	29.8 +/- 5.8	0.117*
Race			
Hispanic	69 (55.2)	71 (56.8	0.687†
White	17 (13.6)	11 (8.8)	
Asian	11 (8.8)	13 (10.4)	
Black	10 (8.0)	14 (11.2)	
Other	18 (14.4)	16 (12.8)	
Marital status	N=124	N=124	
Single	68 (54.8)	70 (56.4)	0.798†
Married	56 (45.2)	54 (43.6)	
Education	N=89	N=90	
<9 years	3 (3.4)	1 (1.1)	0.434‡
9-11 years	6 (6.7)	10 (11.1)	·
12-16 years	58 (65.2)	62 (68.9)	
>16 years	22 (24.7)	17 (18.9)	
Tobacco use	2 (1.6)	5 (4.0)	0.446‡
	N=92	N=93	
Domestic violence	4 (4.4)	8 (8.6)	0.372‡
Obese at consent	69 (55.2)	64 (51.2	0.526†

No differences in baseline characteristics between study groups

Data are mean+/- SD; \*t-test; † Chi square test ‡ Fisher's exact

#### **Demographics**

Variable	Arm 1 (n=125)	Arm 2 (n=125)	P-value
Nulliparous	49 (39.2)	54 (43.2)	0.521†
Singleton Twin	121 (96.8) 4 (3.2)	123 (98.4) 2 (1.6)	0.684‡
Distance >20 miles	15 (12.0)	16 (12.8)	0.848†
Gestational age at intake (weeks)	20.1 (10.1-32.4)	16.7 (10.3-29.0)	0.297 §
Gestational age at randomization (weeks)	36.6 (35.7-37.4)	36.1 (35.6-36.7)	0.020 §
High Risk OB Clinic Low Risk OB Clinic	50 (40.0) 75 (60.0)	50 (40.0) 75 (60.0)	0.999†
Maternal Comorbidities			
Diabetes Mental health disorders Hypertensive disorders	38 (30.4) 28 (22.4) 21 (16.8)	36 (28.8) 28 (22.4) 20 (16.0)	0.782† 0.999† 0.864†
History of preterm birth Autoimmune disease Cardiac disease Renal disease	5 (4.0) 5 (4.0) 2 (1.6) 1 (0.8)	5 (4.0) 4 (3.2) 4 (3.2) 2 (1.6)	0.999† 0.999‡ 0.684‡ 0.999‡
Major fetal anomaly	6 (4.8)	7 (5.6)	0.776†
	N-80	N-02	

No clinically important differences in baseline characteristics between study groups

Data are n(%), median (25-75% IQR); \*t-test; † Chi square test ‡ Fisher's exact; § Wilcoxon rank sum

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#### **Delivery Characteristics**

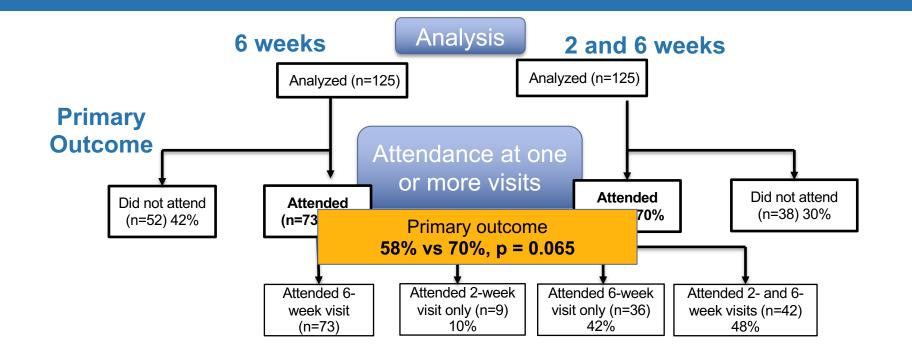
Variable	Arm 1 (n=125)	Arm 2 (n=125)	P-value
Method of delivery SVD	85 (68.0)	85 (68.0)	0.999‡
Cesarean Operative VD	37 (29.6) 3 (2.4)	37 (29.6) 3 (2.3)	
Gestational age at delivery (d)	39.1 (38.4-39.9)	39.0 (38.0-39.4)	0.063 §
Prolonged maternal length of stay	14 (11.2)	9 (7.2)	0.274†
Hypertension without SF	31 (24.8)	37 (29.6)	0.394†
Postpartum hemorrhage	14 (11.2)	10 (8.0)	0.390†
Chorioamnionitis	12 (9.6)	11 (8.8)	0.827†
Shoulder dystocia	3 (2.4)	0 (0)	0.162‡
Composite severe intrapartum complication**	6 (4.8)	9 (7.0)	0.451†

No differences in delivery characteristics between study groups

<sup>\*\*</sup>severe hypertension, wound infection, hemorrhage >2L, Hg <7, blood transfusion, Bakri, foley at discharge, ICU, 3<sup>rd</sup> or 4<sup>th</sup> degree laceration, bowel injury, IR, hysterectomy



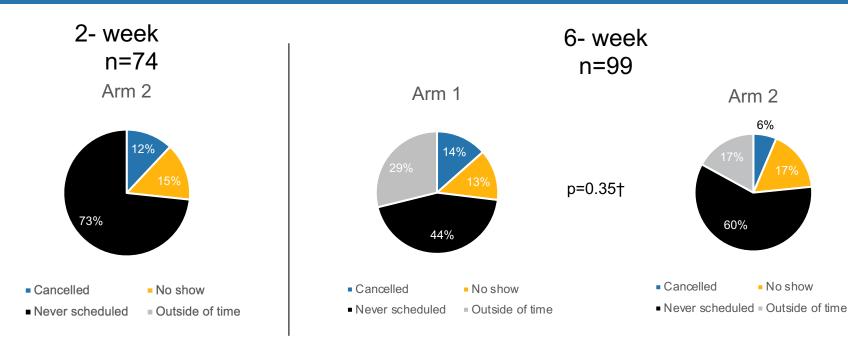
### **Primary Outcome**





42/51 (82%) of patients who attended the 2week visit went on to attend the 6-week visit

#### Reasons for Non-Attendance at Clinic Visit





#### **CoVID-19 Effects on Postpartum Clinic Attendance**

- After March 26, 2020, 25 (10%) of patients were eligible and had not yet attended a postpartum visit, defined as "post CoVID"
- There was no difference in primary outcome among those pre and post CoVID
  - 16/25 (64%) vs 144/225 (64%), p= 0.374

#### **Clinic Visit Attendance**

Variable	Attendance n=160	No Attendance n=90	P value
Age	30.9+/- 5.8	29.5 +/- 6.3	0.077*
Non-white race	143 (89.4)	79 (87.8)	0.701†
Single	83 (52.2)	55 (61.8)	0.145†
Less than high school	N=124	N=55	0.013†
	9 (7.3)	11 (20.0)	
Distance >20 miles	15 (9.4)	16 (17.8)	0.053†
Nulliparous	71 (44.4)	32 (35.6)	0.174†
Gestational age at intake	15.3 (9.3-28.8)	23.8 (12.9-34.1)	0.001 §
Obese at consent	80 (50.0)	53 (58.9)	0.176†
High risk clinic	53 (33.1)	47 (52.2)	0.003†
Any hypertension	67 (41.9)	31 (34.4)	0.248†
Diabetes	44 (27.5)	30 (33.3)	0.332†
Mental health disorder	29 (18.1)	20 (22.2)	0.433†
	N=113	N=59	
Antepartum EPDS ≥10	22 (19.5)	13 (22.0)	0.692†
Antepartum EPDS ≥13	16 (14.2)	7 (11.9)	0.675†
Cesarean	46 (28.8)	28 (31.1)	0.695†
Severe intrapartum complications	7 (4.4)	10 (11.1)	0.042†
NICU admission	15 (9.4)	11 (12.2)	0.479†
	N=160	N=88	
Inpatient EPDS >10	16 (10.0)	10 (11.4)	0.737†
Inpatient EPDS ≥13	9 (5.6)	6 (6.8)	0.706 <del>†</del>
Social work inpatient	47 (29.4)	33 (36.7)	0.235†



#### **Predictors of Clinic Non-Attendance: Multivariable**

Variable	Attendance n=160	No Attendance n=90	P value	OR 95% CI	aOR 95% CI
Age	30.9+/- 5.8	29.5 +/- 6.3	0.077	1.04 (0.99-1.09)	1.08 (1.00-1.15)
Non-white race	143 (89.4)	79 (87.8)	0.701	1.17 (0.52-2.62)	1.22 (0.36-4.13)
Single	83 (52.2)	55 (61.8)	0.145	0.68 (0.39-1.15)	0.63 (0.30-1.32)
Less than high school	N=124 9 (7.3)	N=55 11 (20.0)	0.013	0.31 (0.12-0.81)	0.42 (0.15-1.18)
Distance >20 miles	15 (9.4)	16 (17.8)	0.053	0.48 (0.22-1.02)	1.54 (0.44-5.39)
Nulliparous	71 (44.4)	32 (35.6)	0.174	1.45 (0.84-2.46)	3.09 (1.34-7.15)
Gestational age at intake	15.3 (9.3-28.8)	23.8 (12.9-34.1)	0.001	0.96 (0.94-0.99)	0.99 (0.95-1.03)
Obese at consent	80 (50.0)	53 (58.9)	0.176	0.70 (0.41-1.18)	0.92 (0.43-1.99)
High risk clinic	53 (33.1)	47 (52.2)	0.003	0.45 (0.27-0.77)	0.34 (0.16-0.72)
	,	Younger age <b>aOF</b>	2 1 08 (1 00	-1 15)	
		Multiparity aOR	•		
Severe intrapartum complications		High-risk aOR 2	•	, , , , , , , , , , , , , , , , , , ,	0.42 (0.12-1.52)
	remained p				
		adjusting for	Cornoanaci		



### **Secondary Outcomes**

#### **Secondary Outcome – ED Visits**

Variable	Arm 1 (n=125)	Arm 2 (n=125)	P-value
ED visit within 30 days of delivery	10 (8.0)	8 (6.4)	0.635†
ED visit postpartum days	<i>N=10</i> 14.5 (8-21)	N=8 7 (7-13.5)	0.284 §

Secondary Outcome ED Visits 8.0% vs 6.4%, p = 0.635

Data are n(%), median (25-75% IQR); \*t-test; † Chi square test ‡ Fisher's exact; § Wilcoxon rank sum



#### **Predictors of ED Visit**

Variable	ED Visit (n=18)	No ED Visit (n=232)	P-value
Age	30.4 +/- 7.9	30.4 +/- 5.8	0.958*
Non-white race	16 (88.9)	206 (88.8)	0.999†
Single	10 (55.6)	128 (55.6)	0.994†
Less than high school	N=12	N=167	0.999†
	1 (8.3)	19 (11.4)	
Distance >20 miles	2 (11.1)	29 (12.5)	0.999†
Nulliparous	7 (38.9)	96 (41.4)	0.836†
Gestational age at intake	15.5 (10.1-28.1)	19.1 (10.1-31)	0.512†
Obese at consent	11 (61.1)	122 (52.6)	0.485†
Any hypertension	9 (50.0)	89 (38.4)	0.330†
Diabetes	4 (22.2)	70 (30.2)	0.477†
Mental health disorder	7 (38.9)	49 (21.1)	0.082†
Antepartum EPDS ≥10 Antepartum EPDS ≥13	N=17 8 (47.1) 5 (29.4)	N=155 27 (17.4) 18 (11.6)	0.004† 0.041†
Cesarean	6 (33.3)	68 (29.3)	0.719†
Severe intrapartum complications	3 (16.7)	14 (6.0)	0.112‡
NICU admission	3 (16.7)	23 (9.9)	0.412†
	N=18	N=230	
Inpatient EPDS ≥10 Inpatient EPDS ≥13	4 (22.2) 3 (16.7)	22 (9.6) 12 (5.2)	0.104‡ 0.084‡
Social work inpatient	13 (72.2)	67 (28.9)	<0.001†

#### Not significant:

 Demographics, obesity, hypertension, diabetes, cesarean or NICU

#### **Trending significant**

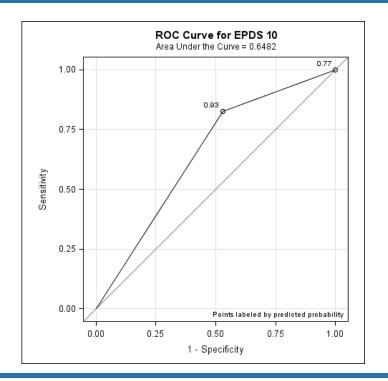
- Mental health disorder
- Severe intrapartum complications
- Inpatient EPDS > 13

#### Significant

- Antepartum EPDS score ≥10
- Social work consult inpatient

#### **Univariable Analysis**

 EPDS ≥ 10 in antepartum period predicting ED usage within 30 days postpartum
 AUC 0.648



#### **Predictors of ED Visit: Multivariable Analysis**

Variable	ED Visit (n=18)	No ED Visit (n=232)	P-value	OR 95% CI	aOR 95% CI
Age	30.4 +/- 7.9	30.4 +/- 5.8	0.958	1.00 (0.93-1.09)	1.01 (0.93-1.10)
	Social work cor	nsult remained pred	dictive for E	D visit ——	
Mental health disorder		adjusting for confo		5)	0.47 (0.11-2.04)
		aOR 5.43 (1.38-21.	.4)	-/	(*** -10 -1)
Antepartum EPDS ≥10	8 (47.1)	27 (17.4)	0.004†	4.21 (1.49-11.91)	2.87 (0.83-9.97)
Cesarean	6 (33.3)	68 (29.3)	0.719	1.21 (0.43-3.34)	1.06 (0.33-3.36)
Severe intrapartum complications	3 (16.7)	14 (6.0)	0.112‡	3.11 (0.80-12.04)	2.75 (0.58-13.04)
	N=18	N=230			
Inpatient EPDS <u>≥</u> 13	3 (16.7)	12 (5.2)	0.084‡	3.63 (0.92-14.28)	1.46 (0.29-7.47)
Social work inpatient	13 (72.2)	67 (28.9)	<0.001†	6.14 (2.10-17.89)	5.43 (1.38-21.4)



#### **Secondary Outcome – Attendance at Non-Routine Visits**

Arm 1 (n=125)	Arm 2 (n=125)	P-value
37 (29.6)	20 (16.0)	0.010†
27 (73.0)	9 (45.0)	0.037†
N=37	N=20	0.834 §
	37 (29.6) 27 (73.0) 10 (27.0)	27 (73.0) 9 (45.0) 10 (27.0) 11 (65.0) N=37 N=20

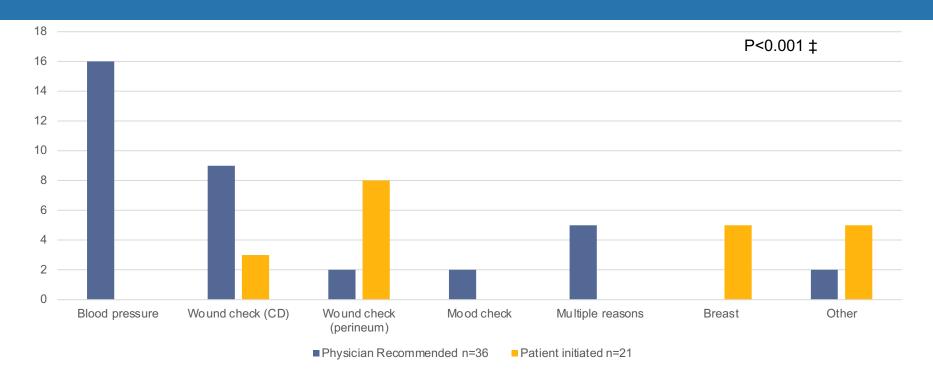
Data are n(%), median (25-75% IQR); \*t-test; † Chi square test ‡ Fisher's exact; § Wilcoxon rank sum

Secondary Outcome Non-Routine Visits
30% vs 16%, p = 0.010

Driven by more Physician recommended visits in Arm 1



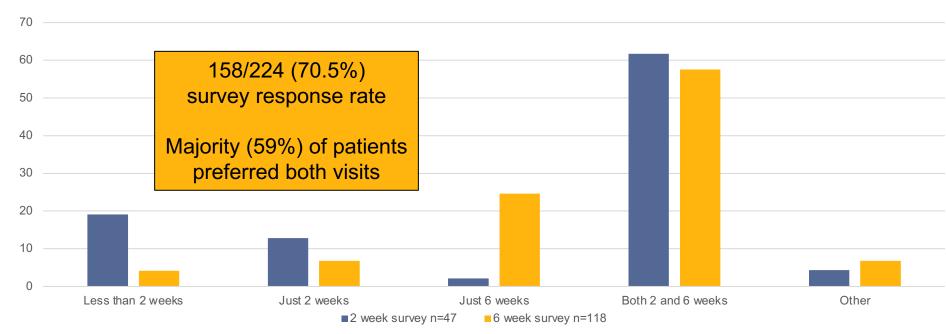
#### **Indications for Non-Routine Clinic Visit**





#### **Survey Results – Patient Preference**







Arm 1 vs Arm 2 p=0.931 †

† Chi square

### **Discussion**

#### Conclusions

- In an obstetric clinic caring for a medically complex population with public insurance, the addition of a 2-week postpartum visit to the routine 6-week postpartum visit:
  - Did not significantly increase the likelihood of attendance at one or more routine postpartum visits (58% vs 70%, p=0.065)
  - Did not reduce the percent of women who presented to the ED within 30 days of delivery (8% vs 6%, p=0.635)
  - Did reduce the amount of non-routine clinic visits (30% vs 16%, p=0.010)

#### **Strengths**

- Randomized nature
- Minimal lost to follow up
- Comprehensive delivery data
- Sensitivity analysis demonstrated low risk of bias due to missing data

#### Limitations

- No blinding
- High rate of physician recommended non-routine visits potentially mitigating the effect of the earlier routine visit
- Population with high rate of medical comorbidities limiting generalizability
- Many non-routine clinic visits and ED visits were prior to two weeks

#### **Future Directions**

 Many women needed an early visit regardless of study arm suggesting that a universal versus targeted approach to an early postpartum visit may be optimal in a high-risk population, especially among those with psychosocial stressors

#### References

- 1.Creanga AA, Syverson C, Seed K, Callaghan WM, Pregnancy-Related Mortality in the United States, 2011-2013, Obstet Gynecol, 2017;130(2):366-73.
- 2.Metz TD, Rovner P, Hoffman MC, Allshouse AA, Beckwith KM, Binswanger IA. Maternal Deaths From Suicide and Overdose in Colorado, 2004-2012. Obstet Gynecol. 2016;128(6):1233-40.
- 3.(CDC) CfDCaP. Postpartum care visits--11 states and New York City, 2004. MMWR Morb Mortal Wkly Rep. 2007;56(50):1312-6.
- 4. Wilcox A, Levi EE, Garrett JM. Predictors of Non-Attendance to the Postpartum Follow-up Visit. Matern Child Health J. 2016;20(Suppl 1):22-7.
- 5.Stumbras K, Rankin K, Caskey R, Haider S, Handler A. Guidelines and Interventions Related to the Postpartum Visit for Low-Risk Postpartum Women in High and Upper Middle Income Countries. Matern Child Health J. 2016;20(Suppl 1):103-16.
- 6.Heberlein E, Smith J, Willis C, Hall W, Covington-Kolb S, Crockett A. The effects of CenteringPregnancy group prenatal care on postpartum visit attendance and contraception use. Contraception. 2020:102(1):46-51.
- 7.Eberhard-Gran M, Nordhagen R, Heiberg E, Bergsjø P, Eskild A. [Postnatal care in a cross-cultural and historical perspective]. Tidsskr Nor Laegeforen. 2003;123(24):3553-6.
- 8.ACOG Committee Opinion No. 736: Optimizing Postpartum Care. Obstet Gynecol. 2018;131(5):e140-e50.
- 9.Clark SL, Belfort MA, Dildy GA, Englebright J, Meints L, Meyers JA, et al. Emergency department use during the postpartum period: implications for current management of the puerperium. Am J Obstet Gynecol. 2010;203(1):38.e1-6.
- 10.Batra P, Fridman M, Leng M, Gregory KD. Emergency Department Care in the Postpartum Period: California Births, 2009-2011. Obstet Gynecol. 2017;130(5):1073-81.
- 11.Pluym ID, Holliman K, Afshar Y, Lee Mha CC, Richards MC, Han CS, et al. Emergency Department Use Among Postpartum Women with Mental Health Disorders. Am J Obstet Gynecol MFM. 2020:100269.
- 12.Schulz KF, Altman DG, Moher D, Group C. CONSORT 2010 statement: updated guidelines for reporting parallel group randomised trials. PLoS Med. 2010;7(3):e1000251.
- 13. Harris PA, Taylor R, Thielke R, Payne J, Gonzalez N, Conde JG. Research electronic data capture (REDCap)-a metadata-driven methodology and workflow process for providing translational research informatics support. J Biomed Inform. 2009;42(2):377-81.
- 14.Harris PA, Taylor R, Minor BL, Elliott V, Fernandez M, O'Neal L, et al. The REDCap consortium: Building an international community of software platform partners. J Biomed Inform. 2019;95:103208.
- 15.Gunn J, Lumley J, Chondros P, Young D. Does an early postnatal check-up improve maternal health: results from a randomised trial in Australian general practice. Br J Obstet Gynaecol.
- 1998;105(9):991-7.
  16.Chen MJ, Hou MY, Hsia JK, Cansino CD, Melo J, Creinin MD. Long-Acting Reversible Contraception Initiation With a 2- to 3-Week Compared With a 6-Week Postpartum Visit. Obstet Gynecol.
- 2017;130(4):788-94.

  17.Bernard C, Wan L, Peipert JF, Madden T. Comparison of an additional early visit to routine postpartum care on initiation of long-acting reversible contraception: A randomized trial. Contraception.
- 2018;98(3):223-7.

  18.Baldwin MK, Edelman AB, Lim JY, Nichols MD, Bednarek PH, Jensen JT. Intrauterine device placement at 3 versus 6 weeks postpartum: a randomized trial. Contraception. 2016;93(4):356-63.
- 18.Baldwin MK, Edelman AB, Lim JY, Nichols MD, Bednarek PH, Jensen JT. Intrauterine device placement at 3 versus 6 weeks postpartum: a randomized trial. Contraception. 2016;93(4):356-63 19Nartea R, Mitoiu BI, Nica AS. Correlation between Pregnancy Related Weight Gain, Postpartum Weight loss and Obesity: a Prospective Study. J Med Life. 2019;12(2):178-83.
- 20.Labarere J, Gelbert-Baudino N, Ayral AS, Duc C, Berchotteau M, Bouchon N, et al. Efficacy of breastfeeding support provided by trained clinicians during an early, routine, preventive visit: a prospective, randomized, open trial of 226 mother-infant pairs. Pediatrics. 2005;115(2):e139-46.
- 21.Zerden ML, Stuart GS, Charm S, Bryant A, Garrett J, Morse J. Two-week postpartum intrauterine contraception insertion: a study of feasibility, patient acceptability and short-term outcomes. Contraception. 2017;95(1):65-70.
- 22. Wheaton N, Al-Abdullah A, Haertlein T. Late Pregnancy and Postpartum Emergencies. Emerg Med Clin North Am. 2019;37(2):277-86.



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