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communication with ethics consultants from the state governments. CSC guidelines were systematically reviewed by three authors for content including ethical framework and resource prioritization strategies. Specific content reviewed included the use of Sequential Organ Failure Assessment (SOFA) score to triage patients, attention to health equity as a guiding principle, specific language for pediatric patients, and any accommodations for pregnancy in algorithms for resource allocation. Reviewer discrepancies were adjudicated by discussion. Descriptive statistics were used to summarize characteristics of identified CSCs.

**RESULTS:** A state-level CSC was identified for 41 (82%) states (Figure 1), and was COVID-19 specific for 22/41 (53.7%). Thirty four (82.9%) had a specific strategy for prioritizing patients for critical care resources, all of which (34/34, 100%) incorporated the SOFA score as part of resource allocation. Thirteen (13/34, 31.7%) state CSCs mentioned pregnancy (Table 1). Of these 7/13 (53.8%) acknowledged pregnancy as a special circumstance, 3/13 (23.1%) reduced SOFA priority score by 2 points, 2/13 (15.4%) used pregnancy as a tie-breaker, 1/13 (7.7%) created a separate tier system. Twenty-five (61.0%) CSCs had specific mention of health equity as a guiding principle, and these states were not more likely to consider pregnancy in resource allocation (10/25 [40%] vs 3/16 [18.8%], relative risk 2.13 [95% confidence interval 0.69-2.66])

**CONCLUSION:** Thirteen states have crisis standard of care guidelines which include pregnancy in scarce resource allocation, and there is a wide variability their application.

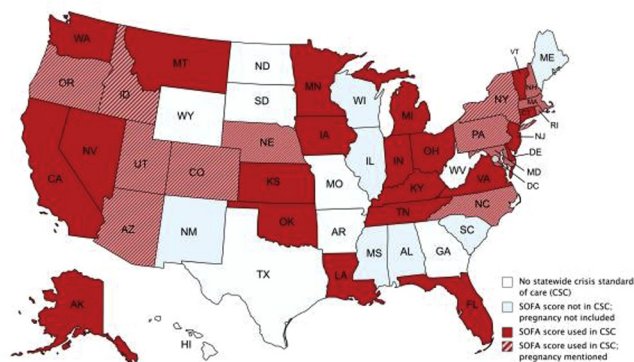


Table 1: Pregnancy-specific accommodation within states (n=13) that mention pregnancy in CSC

State	Modification	Specific Language
AZ	Pregnancy as a special consideration	"If two or more patients require a single resource, additional factors may be considered as priorities, including...pregnancy"
CO	Pregnancy as a special consideration	"Pregnancy - priority for a scarce resource may be given to a patient with a confirmed pregnancy over a non-pregnant patient"
ID	Pregnancy as a tiebreaker	"Several 'tiebreakers' should be used... Priority should next go to pregnant women with a viable pregnancy ≥ 28 weeks of gestation"
MD	Pregnancy as a special circumstance	"The scoring system cannot take into account the complex moral and medical considerations [pregnancy] poses."
MA	Two-point reduction in priority score	"If a pregnant patient is at or beyond the usual standards for fetal viability, the patient will be given a two-point reduction in priority score, giving the person a higher priority score."
NE	Two-point reduction in priority score	Same as MA (above)
NH	Pregnancy as a tiebreaker	"In the event of a tie between a pregnant woman and another non-pregnant patient... fetal viability should be performed. If normal, priority should be given to the pregnant woman"
NY	Pregnancy as a special circumstance	"Plans for health care would be made in advance at a regional perinatal center that could accommodate the special needs of both pregnant women and neonates."
NC	Pregnancy as a special circumstance	"Assessment tools, such as the SOFA/mSOFA, or the priority scoring process may need reasonable modifications with respect to disabilities, pregnancy, or pre-existing condition."
OR	Pregnancy as a special circumstance	"When the capacity exists to assess the unborn child's status, and, based on that assessment and available resources, there is a high likelihood of the infant's survival, [pregnancy] could be considered in resource allocation decisions."
PA	Two-point reduction in priority score	Same as MA (above)
RI	Pregnancy as a separate tier	"The score for prognosis for short-term survival [in a pregnant patient] will... be determined by the predicted likelihood of short-term survival, based on the assessment of the triage officer in consultation with the obstetrical medicine attending and the Maternal and Fetal Medicine (MFM) attending. Patients with predicted survival of 76%-100% will be assigned as Level 1; those with predicted survival of 26%-75 % will be assigned as Level 2, and those with predicted survival of 0%-25% will be assigned as Level 3."
UT	Pregnancy as a special circumstance	Patients with pregnancy may represent two lives, and thus giving them priority is aligned with "do the greatest good for the greatest number."

### 943 Severe COVID-19 in pregnancy has a distinct metabolomic profile which defines clinical outcomes



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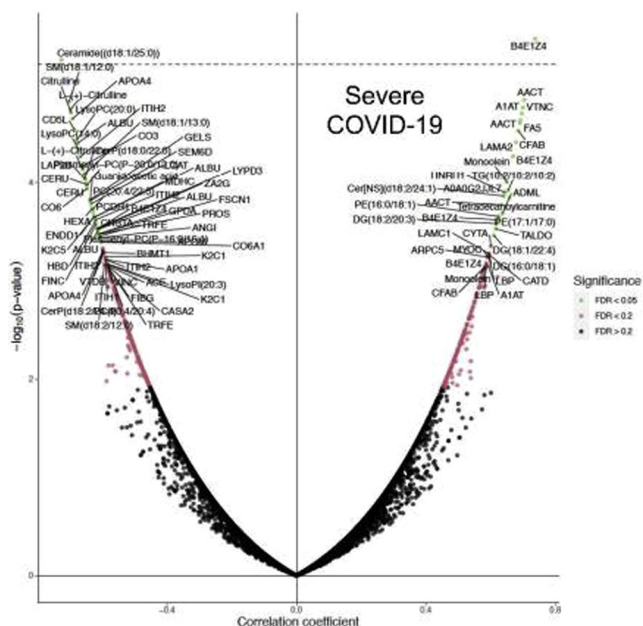
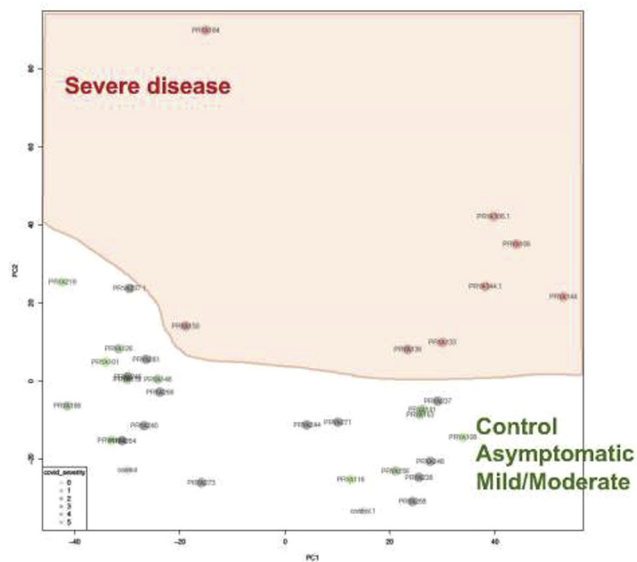
**OBJECTIVE:** Pregnancies complicated by Coronavirus Disease 2019 (COVID-19) are at an increased risk for severe morbidity due to physiologic changes in immunologic, cardiovascular, and respiratory function. This study aims to investigate the pathophysiology behind various clinical trajectories in pregnant patients with COVID-19 by using multi-omics profiling.

**STUDY DESIGN:** This is a prospective cohort study of 31 pregnant patients enrolled in PRIORITY (Pregnancy CoRonavirus Outcomes RegisTrY) at a single tertiary care center. Participants were categorized by severity of COVID-19 disease (control, asymptomatic, mild/moderate, or severe). Maternal serum samples underwent liquid chromatography-mass spectrometry (LC-MS)-based multiomics analysis for profiling of proteins, lipids, electrolytes, and metabolites. Multivariate regression models were used to assess how disease severity related to analyte levels while adjusting for participant age, race, run order, total protein signal, and total compound signal. DAVID functional enrichment analysis was conducted.

**RESULTS:** Of 31 participants, 26 had confirmed diagnosis of COVID-19 (6 asymptomatic, 14 mild/moderate, 6 severe), and 5 participants were controls. Severe COVID-19 was associated with specific proteomic signatures and altered metabolites. There was no observed difference by gestational age of infection. Among the increased proteins there was enrichment of several functional terms that are associated with inflammation and clotting activity: "secreted" (FDR=3e-67), "negative regulation of endopeptidase activity" (FDR=1e-23), "complement activation, classical pathway" (FDR=1e-30), "coagulation" (FDR=7e-10). Asymptomatic and

mild/moderate COVID-19 did not have significantly altered plasma protein or compound levels compared to controls.

**CONCLUSION:** Pregnancies with severe COVID-19 demonstrate greater inflammation and clotting activity with altered complement activation. This altered multiomic expression provides information on the pathophysiology of severe COVID-19 in pregnancy and may serve as potential indicators for adverse pregnancy outcomes.



**944 Preconception and postpartum care in women with preexisting diabetes: Opportunities for quality improvement**

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**OBJECTIVE:** The aim of our study was to ascertain the adequacy of preconception (PC) and postpartum (PP) care in a cohort of women with preexisting diabetes (PED) as measured against American College of Obstetrics and Gynecology and American Diabetes Association (ADA) recommendations.

**STUDY DESIGN:** We performed a secondary analysis of 72 women with PED from a previously published cohort study of 4,144 deliveries between May 2016 and July 2017. Women with known PED or newly diagnosed PED (early pregnancy HbA1c ≥ 6.5%) were included. We determined the proportion of women with known PED who received comprehensive PC diabetes care and the proportion with newly diagnosed PED who had a missed opportunity for PC diabetes screening. Frequency of contraception use and follow up PP and diabetes care, as well as subsequent pregnancy HbA1C were reported for the entire cohort. We also compared obstetric and neonatal outcomes between groups. T-tests and Chi-squared tests were performed for categorical measures where sample sized allowed.

**RESULTS:** In women with known PED (n=48), 69% received comprehensive diabetes care prior to pregnancy, but only 12% received PC counseling. In those with newly diagnosed PED, 100% (n=24) met ADA criteria for screening, but only 29% (n=7) had a primary care visit during the 12 months preceding pregnancy. In the entire cohort, 96% of women had PP contraception counseling and 97% had documented PP contraception use, with long-acting methods being the most popular. Only 64% of our cohort had follow-up for diabetes care within 3-months PP. In the 17 patients with a repeat pregnancy after the original data was published, mean HbA1c at entry to care was higher (9.06%) than our original cohort (7.59%).

**CONCLUSION:** Targeted interventions focusing on diabetes management and preconception counseling for women with known PED and diabetes screening for those with risk factors prior to pregnancy, as well as diabetic control PP, are needed to improve the quality care at our institution.

Table 1. Maternal Demographics, Relevant Clinical Information, Neonatal Outcomes and Postpartum Care

Measure	Category	Pre-existing (n=48)	Newly Diagnosed (n=24)	Total	P-value**
Maternal Age*	Years	32.38 (6.5)	32.46 (6.2)	32.40 (6.36)	
Gravida*		3.88 (2.68)	3.79 (1.74)	3.85 (2.40)	0.8745
Ethnicity	Hispanic	39 (81.25)	17 (70.83)	56 (77.78)	
	Non-Hispanic	9 (18.75)	7 (29.17)	16 (22.22)	
HbA1c at 1 <sup>st</sup> Prenatal Visit	Percent	7.82 (1.42)	7.13 (0.64)	7.59 (1.26)	0.0060
Gestational Age When Prenatal Care Established*	Weeks	9.87 (5.71)	12.08 (6.74)	10.62 (6.62)	0.1766
Gestational Age at Delivery*	Weeks	36.92 (3.31)	37.21 (1.78)	37.02 (2.87)	0.6399
Cesarean Delivery	Yes	22 (45.83)	8 (33.33)	30 (41.67)	0.3105
	No	26 (54.17)	16 (66.67)	42 (58.33)	
Birth Weight	Grams	3287.1 (789.5)	3140.6 (1043.8)	3237.6 (878.9)	0.5491
APGAR 1 Minute*		6.83 (2.35)	7.58 (1.59)	7.08 (2.14)	0.1143
APGAR 5 Minute*		8.04 (2.26)	8.67 (0.70)	8.25 (1.90)	0.0881
Shoulder Dystocia	Yes	7 (4.17)	4 (16.67)	6 (8.33)	
	No	46 (95.83)	20 (83.33)	66 (91.67)	
Neonatal Intensive Care Unit Transfer	Yes	20 (41.67)	13 (54.17)	33 (45.83)	0.3156
	No	28 (58.33)	11 (45.83)	39 (54.17)	
PP Contraception Counseling	Yes	46 (95.83)	23 (95.83)	69 (95.83)	
	No	2 (4.17)	1 (4.17)	3 (4.17)	
Contraception Method at Discharge Documented	Yes	46 (95.83)	24 (100)	70 (97.22)	
	No	2 (4.17)	0	2 (2.78)	
PP Visit Attended	Yes	33 (68.75)	17 (70.83)	50 (69.44)	
	No	10 (20.83)	7 (29.17)	17 (23.61)	
Contraception Method at PP Visit Documented	Yes	45 (93.75)	24 (100)	69 (95.83)	
	No	3 (6.25)	0	3 (4.17)	
Primary Care Visit within 3 months	Yes	34 (70.83)	12 (50.00)	46 (63.89)	
	No	14 (29.17)	11 (45.83)	25 (34.72)	
Repeat Pregnancy Since 2017	Yes	10 (20.83)	7 (29.17)	14 (19.44)	0.4325
	No	38 (79.17)	17 (70.83)	58 (80.56)	
Mean HbA1c at Repeat Pregnancy*	Percent	8.95 (1.95)	9.25 (2.85)	9.06 (2.24)	0.8256

\*Mean (SD) \*\*P-values were calculated using t-tests for categorical measures and Chi-squared for categorical where sample size allowed.