

## **Delivery System Transformation: Evaluating the Oregon CCO Experience**

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PRESENTATION FORMAT: Panel Presentation

TOPIC/TARGET AUDIENCE: Health professionals interested in health care utilization and health outcomes among women of reproductive age enrolled in Medicaid

ABSTRACT: Oregon is a leader in Medicaid financing and care delivery reforms, and has recently implemented an innovative Coordinated Care Organization (CCO) model to improve patient outcomes and control cost growth by integrating medical, behavioral, and oral health care. Oregon has also expanded Medicaid eligibility under the ACA. Proponents anticipate that the CCO model and Medicaid expansion together will improve use of health services and health outcomes among individuals enrolled in Medicaid. However, no comprehensive surveillance system exists to measure these effects. Researchers in the College of Public Health and Human Sciences at OSU and OHA recently received funding from CDC to study the use of health services and health outcomes among women of reproductive age (15-44 years) and their infants, before and after CCO implementation and Medicaid expansion. This project creates an integrated data system that links Oregon Medicaid data with other independently-maintained data sources: birth and death records, hospital discharge data, PRAMS, and CCO performance metrics. We have completed linkage of data for years 2008-2013. In this panel we present and discuss early findings on the impact of delivering Medicaid services through the CCO model on prenatal care utilization, emergency department use, and neonatal outcomes.

OBJECTIVE(S): Explain Oregon's Coordinated Care Organizations (CCOs) and innovations in healthcare delivery and integration.

Discuss to what extent Oregon's healthcare system integration through CCOs led to changes in prenatal care utilization, emergency department (ED) use, and neonatal outcomes among women enrolled in Medicaid.

PANEL ABSTRACT 1: Oregon's Coordinated Care Organizations: Their Effect on Prenatal Care Utilization among Medicaid Enrollees

Background: Previous studies indicate that inadequate prenatal care (PNC) is more common among women covered by Medicaid compared with private insurance. Increasing the proportion of pregnant women who receive early and adequate PNC is a Healthy People 2020 goal. We examined the impact of Coordinated Care Organization (CCO) implementation on PNC utilization among Oregon Medicaid enrollees.

Methods: Using Medicaid eligibility data linked to 106,907 unique birth records for 2011-2013, we employed a pre-posttest treatment-control design that compared PNC utilization for a treatment group before and after CCO implementation to women never enrolled in CCOs. The treatment group included 25,124 women enrolled in Medicaid for at least 80% of the 2011-2013 period.

Results: Preliminary findings indicate no change in ever-PNC receipt or number of PNC visits following CCO implementation. However, the probability of initiating PNC during the first trimester increased for the treatment group compared to controls. This effect differed by race/ethnicity, for example Hispanics were more likely than non-Hispanics to initiate PNC during the first trimester.

Conclusion: CCOs sustained prior PNC utilization rates and increased early PNC initiation among Oregon Medicaid enrollees, especially Hispanics. Additional findings and potential implications for the health of women and infants will be discussed.

#### PANEL ABSTRACT 2: Impact of Coordinated Care Organization Implementation on Emergency Department Use by Female Oregon Health Plan Enrollees

Objectives: Coordinated care organizations (CCOs) transform how healthcare is delivered to Oregon Health Plan (Medicaid) enrollees, by integrating medical, behavioral, and oral health services. We examined whether CCO implementation affected emergency department (ED) use among women of reproductive age (15-44 years old).

Methods: Using linked Medicaid enrollment and hospital discharge records from January 2011 to December 2013, we created person-month panel data on 33,733 women (N = 489,924). We performed a quasi-experimental analysis that compared the difference in ED visits before and after CCO implementation for CCO enrollees compared to other women not enrolled in Medicaid. Difference-in-differences conditional fixed-effects negative binomial models were estimated.

Results: The monthly probability of ED use decreased following CCO implementation ( $p < .01$ ) with an approximately 1 percent reduction in ED use probability compared to before CCO implementation. The magnitude of the relationship varied by CCO, and was larger for nonwhite racial/ethnic groups.

Conclusion: During the first year of CCO implementation, we observed a reduction in ED use among Oregon women of reproductive age enrolled in Medicaid. Future research will examine factors contributing to variation across CCOs.

#### PANEL ABSTRACT 3: Coordinated Care Organizations and Neonatal Outcomes

Background: Oregon's coordinated care organizations (CCOs) aim to achieve better health, lower cost, and improved patient experience by integrating physical, behavioral and oral health care. We examine the extent to which CCOs improved neonatal outcomes during the first year of implementation.

Methods: Oregon birth records were match-merged to Medicaid eligibility data for 2011-2013 (N = 106,907 infants). Capitalizing on the fact that CCOs have been employed only for Medicaid enrollees, we estimate difference-in-differences models that compare pre-post change in neonatal outcomes between Medicaid and non-Medicaid births following CCO implementation, controlling for birth risk factors, prenatal care utilization, health behaviors, and demographics. Neonatal outcomes include low birth weight (LBW), infant mortality, abnormal conditions of newborn, congenital anomalies, and APGAR score at 5 minutes.

Results: The likelihood of LBW on average decreased by 16 percent after the CCO implementation ( $p < 0.05$ ). Similarly, during the post-CCO period, the likelihood of newborn abnormality significantly decreased ( $p < 0.01$ ), and 5-minute APGAR scores increased ( $p < 0.001$ ).

Conclusion: During the first year of implementation, the CCO model appears to have had a positive and sizeable impact on neonatal outcomes.

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