

## EDITORIAL

## Tackling substance abuse in pregnancy: a cost-saving approach

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Preterm birth is the largest contributor to neonatal morbidity and mortality. Furthermore, preterm birth is expensive.<sup>1</sup> This information is not news to clinicians who care for pregnant women or newborns, but despite our knowledge and considerable effort, we have been unable to substantially reduce preterm birth, and have actually seen it rise over the past decade. Some of this increase can be attributed to an increasing number of women with risk factors and medical complications becoming pregnant; it can also be attributed to a rising rate of multiple gestations. Although progesterone treatment has been demonstrated to prevent preterm deliveries in women with a prior preterm delivery,<sup>2</sup> no other treatment has been shown to be effective in reducing the overall rate of preterm delivery.

In this edition of the *Journal of Perinatology*, Goler *et al.*<sup>3</sup> describe their success with a substance abuse treatment program and find a decrease in preterm birth and other associated morbidity. The program, Early Start, involves screening all pregnant women for substance abuse and utilizing a licensed substance abuse expert within the prenatal care setting to intervene in women who screen positive. In particular, when they compare women who were screened and evaluated in their Early Start program to those who were screened, evaluated and received intervention, they find a decrease in preterm delivery—both in the overall rate as well as in those born before 33 weeks of gestation.

When one considers the 1% decrease in preterm delivery before 33 weeks of gestation, this means that the number needed to treat in this population is 100: by treating 100 women with substance abuse, the authors find one less baby born before 33 weeks of gestation. Setting aside neonatal morbidity and mortality and considering these gains from an economic standpoint, the mean cost of caring for such premature infants ranges from \$50 000 to \$250 000 depending on the gestational age.<sup>4</sup> Thus, if the cost of treatment is \$500 or less, this intervention is actually cost saving at a societal level. It is not surprising that this program was adopted by Kaiser Permanente, Northern California, which is an integrated health-care system and experiences the back end, long-term costs of preterm births. As most physician groups are small and receive minimal reimbursement for providing services such as Early Start, there is a misalignment of economic incentives to encourage the development of such programs that may actually decrease preterm births.

As this study was not a randomized trial, the findings may be prone to confounding bias. Further, the women in the two groups may not be comparable. However, because the providers at Kaiser Permanente, Northern California, felt it was not ethical to withhold such intervention for some, a randomized trial was not performed. In the future, such interventions could be compared to the historical *status quo*, a so-called 'natural experiment', as I would agree with the authors of the paper that randomizing women with substance abuse to a no treatment arm would be unethical and in light of this study, potentially in violation of the ethical conduct regarding research from the Declaration of Helsinki (<http://www.wma.net/e/policy/b3.htm>).

Incorporating non-physician providers such as dietitians, social workers and counselors into prenatal clinics likely improves compliance with care, education about beneficial behaviors and interaction with these experts who augment medical care. It seems likely that such incorporation will improve outcomes, but it can be both expensive and challenging to a wide variety of organizations or types of practices to implement. In particular, the incorporation of such additional providers is likely to exhibit economies of scale and be more cost-beneficial in larger practices and organizations. I would encourage such practices to consider adopting a program such as Early Start as it may improve pregnancy outcomes in addition to the obvious social and health benefits of a decrease in substance use. I also encourage those who fund the provision of health care to provide appropriate incentives to adopt such programs as it may actually save resources in the overall health-care system while improving health.

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