Improving the quality of care for women with pregnancy-induced hypertension reduces costs in Tver, Russia

The Quality Assurance Project/ Russia implemented a quality improvement (QI) demonstration project in 1998 at three hospitals in Tver Oblast, Russia. The project sought to improve the quality of care for women with pregnancy-induced hypertension (PIH), then the single largest cause of maternal deaths in Tver. Central to the QI effort was the development and introduction of evidence-based clinical guidelines for the management of PIH. The new guidelines rationalized admission criteria and the use of drugs, reduced the number of PIH admissions, and called for more aggressive treatment of PIH. Health outcomes improved following the introduction of the new guidelines. Complications in newborns of PIH mothers dropped, no PIH case progressed to eclampsia (which is often fatal), and no maternal deaths caused by PIH occurred in the 15 months following the implementation of the new guidelines. A before-and-after cross-sectional cost study at two of the three pilot hospitals found that PIH admissions decreased by 77 percent in the six months following introduction of the new guidelines compared to the previous six months (from 47 cases before to 11 after). This decrease is consistent with the new, more stringent guidelines and indicates a high likelihood that compliance with the new guidelines caused the decrease. The cost study measured PIH-related direct costs for inpatient and outpatient cases. The former included the cost of hospitalization (clinical services, food), drugs, lab tests and other paraclinical services. The latter included antenatal care-related costs and costs associated with PIH and other conditions: drugs, lab and other paraclinical care, and medical consultations. Total direct inpatient-related costs decreased by 86 percent, from about 51,000 rubles in the Before group to about 7,000 rubles in the After group. This is an annualized savings of about 118,000 rubles (about US$ 4,720 at the time of the study). Direct perinpatient costs decreased 41 percent. As expected, costs were higher for women with more severe PIH, but a substantial decrease was evident at all severity levels following the introduction of the new guidelines, with the larger decreases occurring in the more severe cases. Length of hospital stay for PIH women also decreased, on average from 13.5 to 11.8 days. Findings also suggest that outpatient costs potentially associated with PIH care also dropped by roughly 13,000 rubles per year, although an inability to separate PIH costs from regular antenatal care costs makes it difficult to pinpoint the decrease with certainty. Although the number of cases in each study group is small, and numerous assumptions are made in the analysis, no substantial threats to the validity of these findings are apparent. The unusual result of having health outcomes improve at substantially lower operating costs recommends wider application of the demonstration project.

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