

Program Helps Get High-Risk Teens Immunized

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VANCOUVER, B.C. – A stepped intervention in primary care practices can improve rates of immunization and well-child visits among urban adolescents at high risk for poor health outcomes.

Data from a randomized trial conducted in Rochester, N.Y., showed that adolescents assigned to the intervention were 1.8 times more likely to receive new vaccines than were their peers assigned to usual care. In addition, they were 1.7 times more likely to have made a well-child visit in the past year.

“A stepped tracking-reminder-recall-outreach program can improve immunization rates for high-risk urban adolescents, and it has spillover benefits on improving preventive care visits,” lead investigator Dr. Peter G. Szilagyi said.

“The bottom line, I think, is that a public health approach within primary care can measurably improve the quality of care for urban adolescents,” he added.

The cost of the intervention – excluding research costs – was \$43 a year per adolescent, and the cost per additional fully vaccinated adolescent was \$465.

National immunization guidelines recommend reminders, recalls, and outreach for very high-risk groups, but “for urban adolescents, these interventions have not been tested. And there are virtually no studies that have been shown to improve well-child care visit rates for urban adolescents,” noted Dr. Szilagyi, professor and chief of the division of general pediatrics and professor at the center for community health at the University of Rochester.

The 15-month trial was conducted in eight primary care practices among adolescents aged 11-15 years. Within each practice, the adolescents were randomized to an intervention group or a control group given usual care.

In the intervention group, outreach workers tracked all adolescents to monitor their immunization status. For those identified as being behind, progressively intense measures were used until they were up to date: reminders, then recalls, and finally outreach in the form of a home visit, which was used to assess barriers, link the families with social services, and stress the importance of a medical home.

Similar interventions in the United Kingdom have used nurses, according to Dr. Szilagyi, “but because prior studies have shown that the barriers to immunization in primary care are primarily social in this country, we used a social worker model.”

Outreach workers mainly targeted the parents but often did speak with the

adolescents. “Reaching them is a constant problem,” he commented. “This is why we put human beings here rather than computers or auto-dialers.”

The investigators assessed rates of receipt for three new vaccines for adolescents – tetanus, diphtheria, and pertussis (Tdap); meningococcal conjugate (MCV4); and human papillomavirus (HPV) vaccines – and rates of well-child care visits in the past year.

Analyses were based on 3,365 adolescents in the intervention group and 3,319 in the control group. They were a mean 13.5 years old, and half were male. Most were either black (63%) or Hispanic (23%) and most had Medicaid (73%).

Results showed that in the intervention group, 71% of adolescents needed reminders and recall, and 12% needed home visits.

After adjustment for potential con-

founders, relative to their peers in the control group, adolescents in the intervention group were 1.8-fold more likely to have received all three vaccines at the study’s end (P less than .001), Dr. Szilagyi said.

In absolute terms, 44% of adolescents in the intervention group were fully immunized at that point, compared with 32% in the control group. Differences were significant for each vaccine as well.

Similarly, after statistical adjustment,



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Major Finding: Adolescents assigned to a stepped intervention were 1.8 times more likely to receive new vaccines and 1.7 times more likely to have a recent well-child visit than those given usual care.

Data Source: Randomized controlled trial involving 6,684 high-risk adolescents.

Disclosures: Dr. Szilagyi reported that he had no conflicts of interest related to the study.

In absolute terms, 67% in the intervention group had made such a visit, compared with 55% in the control group. The difference in immunization rates between groups was significant within each of the eight practices, and the difference between groups in well-child visits was significant within

all but one, Dr. Szilagyi noted. Furthermore, improvements in rates of these outcomes were similar by age, sex, race/ethnicity, and type of insurance.

The cost of the intervention (excluding research costs) was \$43 per year per adolescent. The cost per additional fully vaccinated adolescent was \$465, and the cost per additional adolescent with a recent well-child visit was \$417. The number needed to treat (enroll in the intervention) was nine for an additional adolescent to be fully vaccinated and nine for an additional adolescent to have a well-child visit.

"I think the costs are somewhat high, although we have debated this hotly within our group," he said. "We need to improve the efficiencies of this program

and reduce the costs per adolescent."

The percentage of adolescents who were up to date on all three vaccines at baseline was low (12%-13%) in the study population, so the intervention might have a smaller impact in populations with higher baseline rates, as research suggests that incremental gains become harder, Dr. Szilagyi cautioned.

The multifaceted nature of the intervention is likely to be important in this setting. Studies have shown that simple reminders and recalls work in the general population, but not in disadvantaged groups. ■

adolescents in the intervention group were 1.7-fold more likely to have had a well-child visit in the past year at the study's end, he said.

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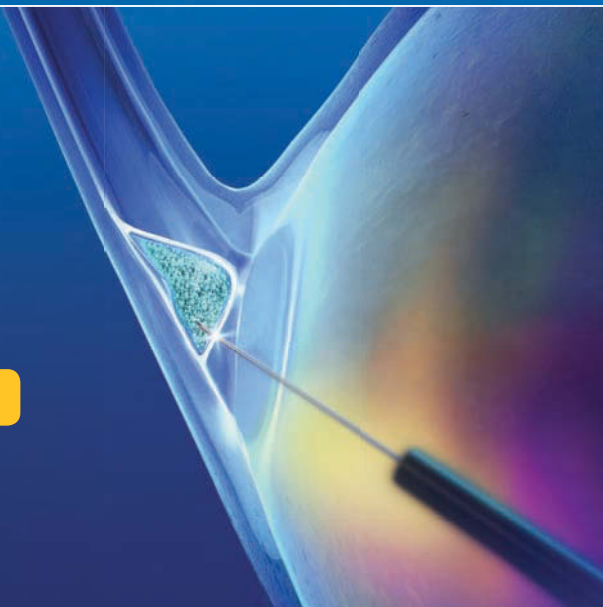
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