Journal of Adolescent Health 60 (2017) 734–740

ELSEVIER

JOURNAL OF ADOLESCENT HEALTH

www.jahonline.org

Original article

Improving Adolescent Preventive Care in an Urban Pediatric Clinic: Capturing Missed Opportunities

Tina Kumra, M.D. [a,b,c,*], Shweta Antani, D.O. [d], Sara B. Johnson, Ph.D., M.P.H. [b,e,f], and Sallie J. Weaver, Ph.D. [c,g]

[a] Johns Hopkins Community Physicians, Baltimore, Maryland
[b] Department of Pediatrics, Johns Hopkins School of Medicine, Baltimore, Maryland
[c] Department of Health Policy & Management, Johns Hopkins School of Public Health, Baltimore, Maryland
[d] Department of Pediatrics, Columbia University Medical Center, New York, New York
[e] Department of Population Family & Reproductive Health, Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland
[f] Department of Mental Health, Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland
[g] Department of Anesthesiology & Critical Care Medicine, Johns Hopkins School of Medicine, Baltimore, Maryland

Article history: Received August 6, 2016; Accepted January 5, 2017
Keywords: Adolescent health; Quality improvement; Clinical preventive care; Community health

A B S T R A C T

Purpose: To increase the proportion of adolescents with Medicaid who receive preventive care services in an urban pediatric clinic.
Methods: A quality improvement intervention was implemented at an urban pediatric primary care clinic between November 2013 and October 2014. The intervention systematically "flipped" acute visits into well-care visits for patients ages 12–21 years, when overdue. The primary process measure was the percentage of acute visits expanded to include well-care components out of total eligible opportunities. The primary outcome measure was adolescent well-care (AWC) completion in 2014 versus 2013 and 2012.
Results: Among 857 adolescents with Medicaid, 124 additional AWC visits were completed by October 2014 compared to 2013 and 71 additional visits compared to 2012. The gap to achieving Healthcare Effectiveness Data and Information Set neutral zone targets for AWC was reduced by 59% compared to 2013 and by 54% compared to 2012. The mean proportion of eligible acute opportunities "flipped" monthly increased from 17% (range: 10%–21%) during the initial 3 months of implementation to 30% (range: 5%–50%) in the last 3 months.
Conclusions: Systematically flipping acute visits into well visits resulted in reaching Healthcare Effectiveness Data and Information Set quality targets for AWC, which had not previously been accomplished by this clinic. Incorporating staff and provider feedback strengthened intervention fidelity and buy-in despite time constraints in a busy, urban setting.

IMPLICATIONS AND CONTRIBUTION

Although the majority of health problems in young adults are preventable, adolescents underutilize well care. Increasing adolescent well-care utilization is a national health care quality improvement goal. Systematically capturing missed opportunities in the clinic setting is a simple and effective approach to improve the delivery of adolescent preventive services.

During adolescence and young adulthood, significant physical, mental, and emotional development occurs. This transitional period leaves children more susceptible to environmental influences as they begin to develop autonomy and gain independence [1]. Teenagers are often allowed and expected to assume greater responsibility for their own decisions, while facing increasing challenges from school, peer pressures, relationships, and pubertal development. Rates of motor vehicle accidents and unintentional injury peak during young adulthood, as do mental health problems, substance use, and sexually transmitted infections [1]. Thus,

Conflicts of Interest: The authors have no conflicts of interest to disclose.
* Address correspondence to: Tina Kumra, M.D., Johns Hopkins Community Physicians, 3100 Wyman Park Drive, Baltimore, MD 21211.
E-mail address: tkumra1@jhmi.edu (T. Kumra).

1054-139X/
http://dx.doi.org/10.1016/j.jadohealth.2017.01.005

adolescence is a critical juncture for health monitoring and intervention.

The American Academy of Pediatrics *Bright Futures* guidelines recommend at least one annual wellness-focused primary care visit for adolescents through age 21 years. Annual visits deliver preventive health services, including screening and counseling in such areas as mental health, diet, activity, motor vehicle safety, and substance use [2]. However, national data demonstrate that adolescents underutilize care. Only 38% of adolescents aged 10 to 17 years sampled from the nationally representative Medical Expenditure Panel Survey had a preventive care visit in the prior 12 months, and low-income adolescents were less likely than the highest income group to have these visits and the associated screenings [3].

The 2015 Annual Report on the Quality of Care for Children in Medicaid and CHIP found that states' performance for adolescent preventive care measures, such as well visits and immunizations, was lower than performance on similar measures for younger children [4]. In 2014, the median well-care visit rate for adolescents ages 12–21 years was just 42% [4]. Adolescents with at least one well-care visit are less likely to have missed preventive services, such as immunization opportunities [5].

Adolescent well-care (AWC) utilization rates have been designated by the National Committee for Quality Assurance [6] as a Healthcare Effectiveness Data and Information Set (HEDIS) target measure. HEDIS measures are used by more than 90% of America's health plans to measure performance on dimensions of care and service, including pediatric services [6]. The AWC measure is defined as the percentage of enrolled members ages 12–21 years with one or more comprehensive well visits during the measurement year [6].

Interventions to enhance well-care access and utilization

To improve well-care utilization rates and quality of care, researchers have evaluated a number of patient-focused, provider-oriented, or practice-based interventions. Previous systematic reviews of practice-based and provider-oriented interventions aimed at improving the proportion of pediatric patients who receive guideline appropriate screening and follow-up found that physician and staff education, electronic medical record prompts, and changes in office-based systems were associated with increased pediatric screening rates [7]. However, no single intervention arose as most effective in increasing screening quality, and effect sizes varied widely. In a systematic review of well child care clinical practice redesign, group well child visits, anticipatory guidance delivery using web-based formats, and nonmedical professional providers were found equally as effective and efficient as individual well child care [8]. A parent-coach model for well child care was found to improve well child care delivery to low-income families [9]. However, the majority of these studies focus on screening interventions for infants and young children rather than adolescents and include intervention strategies combining multiple resource-intensive approaches.

A study conducted across 16 small pediatric and family medicine practices in rural, suburban, and urban counties in Oklahoma found that a multifactorial intervention including a combination of performance feedback, practice assistance from case managers, and information technology support was associated with increases in the rate and quality of wellness care for children and adolescents ages 0–20 years [10]. However, the multicomponent intervention was time and personnel intensive. Similarly, Bordley et al. [11] instituted multiple office system-based quality improvement (QI) measures across eight diverse pediatric practices in Durham, North Carolina, and found that overall rates of preventive services such as infant immunization and anemia screening increased over the course of the intervention year. However, all eight practices did not achieve similar improvements. Finally, a collaborative effort across practices in Vermont found that provider-oriented educational interventions improved adolescent mental health and risky behavior screening rates from 26% to 50% [12].

Though promising groundwork has been laid, existing intervention studies have not examined strategies to improve well-care rates in urban, historically underserved adolescents and young adults. There is limited evidence-based QI guidance available to practices working to optimize the access to care and delivery of AWC. There is a particular lack of evidence-based insight for urban, community-based pediatric practices that may have limited staff flexibility, or limited access to advanced IT or coding support outside of state or national QI collaboratives.

Impetus for current quality improvement project

Despite significant state investment in expanding health benefits through both private insurance and federally funded sources across Maryland, the most recently available public data from 2013 demonstrate that, across commercial health benefit plans and Medicaid providers, 43%–55% of enrolled adolescents and young adults ages 12–21 years old did not receive recommended annual well care [13]. The goal of this QI project was to develop and evaluate a practice-based intervention to improve AWC utilization rates in an urban community pediatric practice in Baltimore.

An approach used in previous years in this clinic was to incentivize adolescents to complete their well care via movie ticket giveaways, gift card offers, and free transportation services. Another approach involved patient lists provided by the clinic's primary Medicaid insurer identifying those adolescents for whom HEDIS target measures had not been met. Lists were reviewed by clinic staff on a monthly basis beginning with the implementation of the AWC measure in the clinic in 2011. Attempts were made to contact patients and families by phone to schedule overdue wellness appointments based on these lists. Clerical staff in charge of scheduling appointments were also provided with algorithms to offer well visit appointments to callers when they were overdue and access within the primary care doctor's scheduling template was available. None of these efforts improved AWC completion rates to target levels. Capturing missed opportunities, by systematically converting ("flipping") existing acute visits on the daily schedules into well child visits for adolescent patients ages 12–21 years, was then chosen as the primary practice-based intervention.

Evaluation of the intervention was grounded in two research questions: (1) Does implementing an intervention to capture missed opportunities improve well adolescent visit completion rates in an urban underserved clinic population? and (2) Does staff training and ongoing process feedback during the implementation period improve intervention feasibility, fidelity, and buy-in?

Methods

The Johns Hopkins Medicine IRB and the Johns Hopkins Community Physicians Research review board approved this project (#NA-00093603).