Centralized versus Decentralized Reminder/Recall: Identifying the Least Costly Approach to Reach Patients within an Accountable Care Organization
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Background:
Accountable care organizations (ACOs) are incentivized to improve the quality and efficiency of care provided to their patients and to show the value of the healthcare they deliver. One of the most valuable health interventions are vaccines, as vaccination can prevent the direct and indirect costs associated with treating and managing a vaccine-preventable disease. ACOs should be encouraged to increase vaccination coverage for their patients to improve patient health outcomes and to promote efficient healthcare. Reminder/recall (R/R), a strategy associated with increases in vaccination coverage, notifies patients of needed vaccinations and of overdue vaccinations.

Objectives:
Calculate the investment needed to deliver R/R to an ACO’s child and adolescent populations, using both a centralized [by the State Health Department using an Immunization Information System (IIS)] and decentralized (by practices using the IIS) approach.

Methods:
A cost analysis was conducted for both centralized R/R and decentralized R/R done through an ACO in Colorado to quantify and monetize the personnel and non-personnel resources needed to initiate and implement each R/R approach. Domains of resource use included collaboration, training, and recall. Costs were stratified by start-up and implementation.

Results:
Start-up costs for both the centralized approach ($1,366) and decentralized approach ($1,300) were the same for both the child and adolescent populations. Implementation costs were $1.78 and $3.92 per child recalled for centralized and decentralized R/R, respectively. Implementation costs were $0.78 and $1.37 per adolescent recalled for centralized and decentralized R/R, respectively.

Conclusion:
To increase vaccination coverage for their patient population, and thus improve patient health outcomes and reduce unnecessary costs, ACOs may wish to implement R/R. Centralized R/R with an ACO was less costly than decentralized R/R, and resulted in more patients being reached.
Centralized Patient Reminder-Recall Using State Immunization Information Systems
Peter Szilagyi, Allison Kempe, Alison Saville, Heather Roth, Megan Meldrum

Summary of Topic:
This session summarizes patient reminder-recall using state Immunization Information System (IIS) data. Topics include: (a) a 2017 Cochrane review of centralized reminder-recall, (b) results of trials of centralized IIS-based reminder-recall for childhood vaccinations, (c) results of IIS-based reminder-recall for flu vaccine, and (d) practical issues and lessons for IIS-based reminder-recall.

Description of Session:
Patient reminder-recall has been found to raise immunization rates, yet most primary care practices fail to use reminder-recall optimally. Barriers to implementing reminder-recall at the practice-level include limited resources and expertise. Many experts now recommend centralized reminder-recall, whereby a common healthcare entity or health department centrally sends out reminders to patients using immunization data from a common electronic health system or state Immunization Information Systems (IISs). Typically, centralized reminder-recall is sent out to patients, usually for children, in a geographic area e.g. county or city or to patients within a common healthcare organization.

Recent studies and experience with IIS-based reminder-recall suggest both opportunities and challenges in scaling up reminder-recall to a public health level using IIS-based reminders. Opportunities include new communication modalities such as autodialers and text messaging that might allow IIS-based reminder-recall to scale up to a population level. Challenges include completeness and accuracy of IIS data, costs, potential parent acceptability of receiving IIS reminders, and saturation of the public with messages.

This session will showcase key aspects of centralized reminder-recall using state IIS data. The session will present perspectives from the world of research, primary care, and public health. The four topics include:

1) Presentation of results from a 2017 Cochrane Review of patient reminder-recall for immunizations, with particular attention to results from studies testing centralized reminder-recall. Results generally show that centralized reminder-recall can raise immunization rates.

2) Findings and lessons from nearly a decade of experience using state IIS-based reminder-recall for childhood immunizations, from the state of Colorado. Results show that IIS-based reminder-recall in Colorado improved early childhood immunization rates.

3) Hot off the press findings and lessons from a trial of IIS-based reminder-recall for childhood influenza vaccination, from Colorado and New York. This RCT based study found (surprisingly) that IIS-based reminder-recall for influenza vaccination did not increase influenza vaccination rates.

4) Lessons and tips from public health leaders (in CO and NY) who have experience with state IIS-based reminder-recall. Presenters will share practical lessons, cautions, and opportunities.
Impact of IIS-generated text-message recall by a local Health Department on influenza vaccination coverage
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Background:
Annual influenza vaccination is recommended for children aged 6 months and older. In 2016-17 season, coverage among 6 months to 18 year-old children in New York City (NYC) remained low at 45%. In 2015, a text-message recall functionality was implemented in NYC’s Immunization Information System (IIS), the Citywide Immunization Registry (CIR). In October 2017, the NYC Bureau of Immunization (BOI) utilized CIR’s text-message platform for outreach to unvaccinated children.

Objectives:
To assess the effectiveness of text-message recall in increasing influenza vaccination coverage among NYC children and adolescents using a health department initiated text-message intervention.

Methods:
Eligible children were aged 15 months to 18 years who did not receive an influenza vaccine in the previous and current seasons, whose records contained a cellphone number, and who were defined as active in the CIR. Approximately 75,000 children were randomized each to the control and the intervention groups. For the intervention group, a general message focused on child’s influenza vaccination was sent to the parent via mobile text. The proportions of children who received an influenza vaccine within 28 days of the intervention were compared in the two groups.

Results:
A total of 74,471 messages were sent to the intervention group; 72% were delivered successfully. Preliminary analysis showed 4.3% of children were vaccinated within 28 days following the text compared to 4.1% in the control (OR 1.05; 95%CI 0.999-1.105). When stratified by age, more children in the 15-59 month-old group were vaccinated following the text compared to the control group (OR 1.13; 95%CI 1.023-1.240). There was no significant difference in the 5-10 and 11-18 year-old groups.

Conclusion:
The CIR text-message recall intervention had a small positive effect on vaccination among young children. To increase the impact of text messaging, future initiatives may try more targeted message content and send multiple reminders.