

Improving HPV Vaccine Completion Rates in a Pediatric Resident Based Clinic: A Quality Improvement Initiative.



Murphy, M. D.O., Lewis, J. M.D.

Department of Pediatrics Advocate Children's Hospital - Park Ridge

Background:

The CDC recommends 80% of both the male and female adolescent populations to be vaccinated against HPV by 2020.¹ Currently, based upon national data, 60% have started the vaccination series, and 21% of boys and 40% of girls are completing the series.² We reviewed data from our clinic and found we are below the national average with having ~20% of our adolescent patients completing the series within a year of starting.

Aim:

Using quality improvement techniques, our goal was to initiate a new reminder system, which would increase patients making return appointments by 20% and, subsequently, increase our HPV completion rate.

Methods:

- After surveying families in our clinic, we targeted two of the main drivers for failure to complete the HPV vaccine series. Interventions were developed in two phases to address each problem.
- Phase 1 addressed adolescents unable to return to clinic during normal business hours due to school and extracurricular activities. We created a weekly resident-run HPV evening clinic. During phase 1, we monitored the data weekly, trending the numbers of patients in the evening clinic, as well as surveying families who attended the clinic.
- Phase 2 addressed family forgetfulness to make appointments due to length of time between shots. We developed an automated physician voice messaging system to give reminders at the 2 and 4 month intervals. Phase 2 data was monitored weekly and tracked percentage of phone calls and patients who made appointments.
- All patients and families involved were at our general academic outpatient combined resident and faculty practice in the northwest suburbs of Chicago. The clinic has a volume of approximately 18,000 patient visits per year, with over 1500 HPV vaccinations given annually. This clinic is a part of Advocate Health Care, a large multi-site health system in the Chicago area.

Measures and Improved Performance:

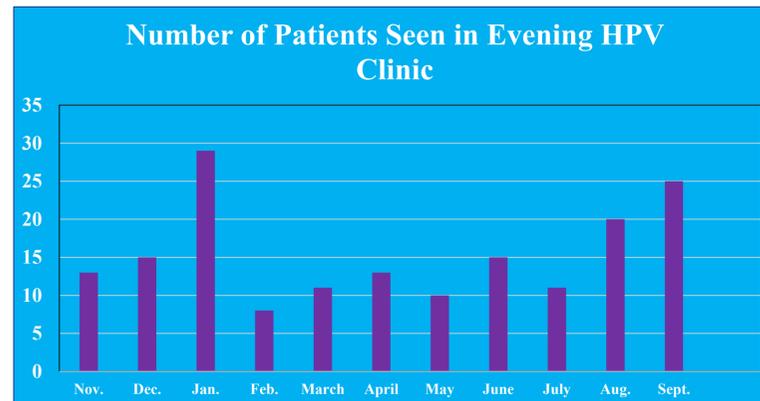


Figure 1: Monthly totals of the weekly patients seen at the evening HPV clinic.

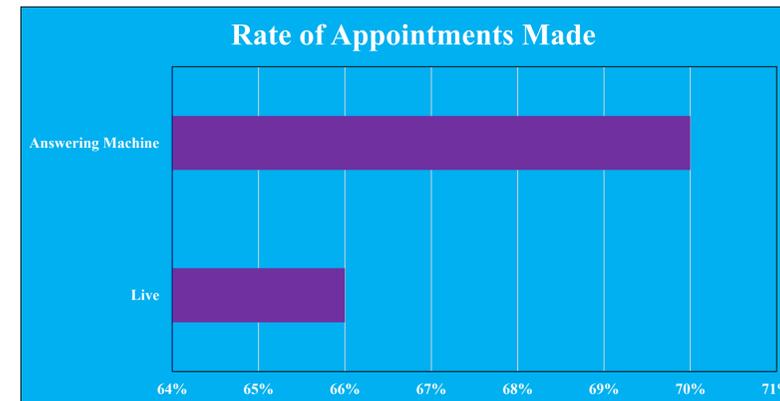


Figure 2: Comparing the success rates of appointments made based upon a live conversation with the patient or family member versus a message left on an answering machine.

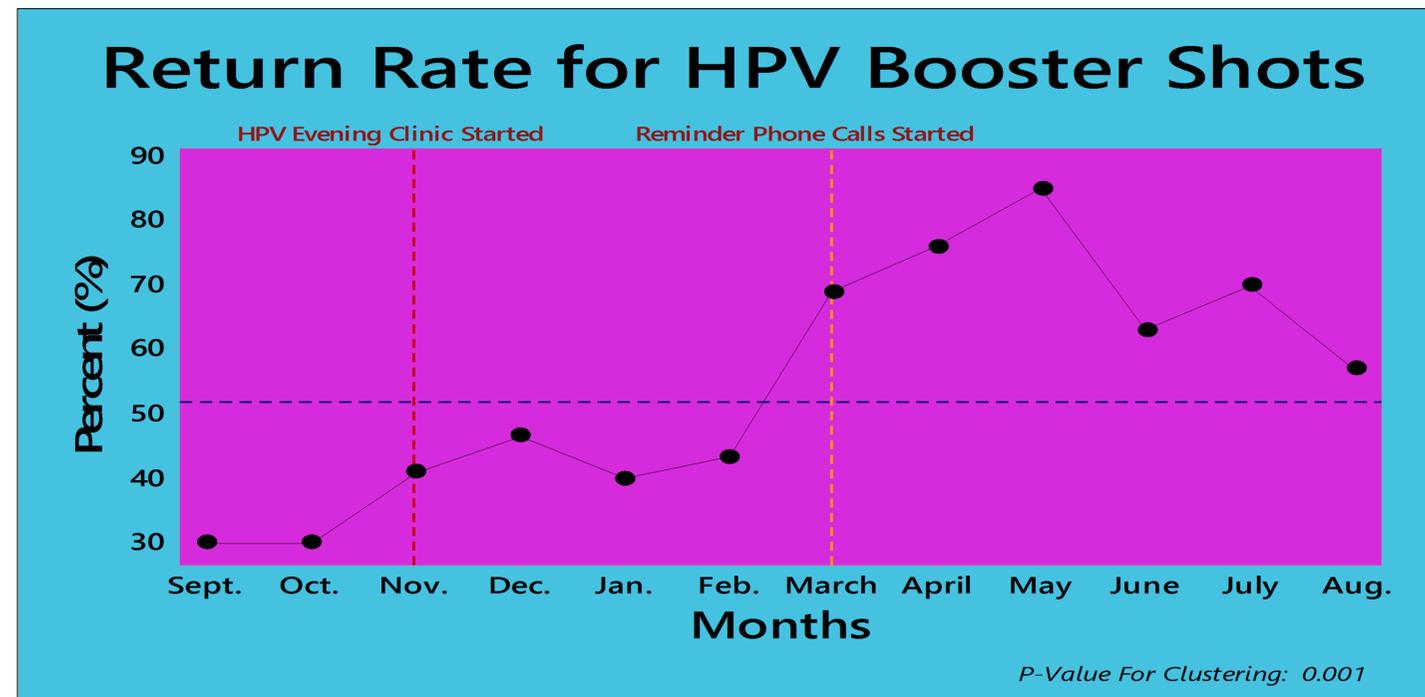


Figure 3: Run chart with marked interventions and improvements noted after each initiative.

Results:

- The evening clinic averaged 15 patients per month
- After both interventions were implemented, we improved appointments made by 40%
- Parent satisfaction for the clinic was high.
- Resident satisfaction for running the clinic was also high.
- Parental opinion about the reminder phone call was mixed.

Discussion:

- Following our quality improvement initiative, we surpassed our goal of 20% of reminder phone calls resulting in follow-up appointments. We increased appointments made from 30% to 70%. We did notice a slight improvement in return rates when the evening clinic was initiated, but the major improvement happened with the automated phone calls and evening clinic together.
- There were higher return rates when the message went to voicemail compared to live. This might be due to the cell phone being a primary contact for most people, and calls are answered at any and all times. Parents might not be prepared to schedule appointments when put on the spot when compared to listening to a message and having time to gather your thoughts/schedules.
- Resident buy-in and satisfaction with running an evening clinic were unexpectedly high. In total, 15 residents volunteered to participate out of 39.

Implication/Future Directions:

- Further develop automated messages to decrease confusion for families.
- Change timing of phone messages to have higher likelihood of going to voicemail.
- Possibly increase evening clinic to twice weekly depending on demand
- Develop further infrastructure to assist other clinics within Advocate.
- Use voice automated messaging systems for other follow-up related illnesses ie. Asthma, obesity, childhood vaccines.
- Utilize resident clinics to start new initiatives using resident physicians as a pivotal part of the process.

References:

1. US Department of Health and Human Services, Healthy People 2020. Immunization and infectious disease. Accessed on March 20, 2011.
2. CDC. National and state vaccination coverage among adolescents aged 13-17 years—United States, 2014. MMWR Morb Mortal Wkly Rep 2015;784-792.



Improving HPV Vaccine Completion Rates in a Pediatric Resident Based Clinic: A Quality Improvement Initiative.

Advocate Children's Hospital

Murphy, M. D.O., Lewis, J. M.D.

Department of Pediatrics Advocate Children's Hospital - Park Ridge

Background:

The CDC recommends 80% of both the male and female adolescent populations to be vaccinated against HPV by 2020.¹ Currently, based upon national data, 60% have started the vaccination series, and 21% of boys and 40% of girls are completing the series.² We reviewed data from our clinic and found we are below the national average with having ~20% of our adolescent patients completing the series within a year of starting.

Aim:

Using quality improvement techniques, our goal was to initiate a new reminder system, which would increase patients making return appointments by 20% and, subsequently, increase our HPV completion rate.

Methods:

- After surveying families in our clinic, we targeted two of the main drivers for failure to complete the HPV vaccine series. Interventions were developed in two phases to address each problem.
- Phase 1 addressed adolescents unable to return to clinic during normal business hours due to school and extracurricular activities. We created a weekly resident-run HPV evening clinic. During phase 1, we monitored the data weekly, trending the numbers of patients in the evening clinic, as well as surveying families who attended the clinic.
- Phase 2 addressed family forgetfulness to make appointments due to length of time between shots. We developed an automated physician voice messaging system to give reminders at the 2 and 4 month intervals. Phase 2 data was monitored weekly and tracked percentage of phone calls and patients who made appointments.
- All patients and families involved were at our general academic outpatient combined resident and faculty practice in the northwest suburbs of Chicago. The clinic has a volume of approximately 18,000 patient visits per year, with over 1500 HPV vaccinations given annually. This clinic is a part of Advocate Health Care, a large multi-site health system in the Chicago area.

Measures and Improved Performance:

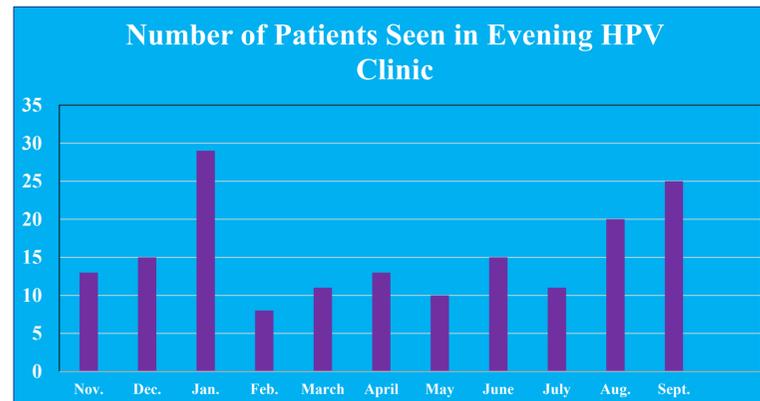


Figure 1: Monthly totals of the weekly patients seen at the evening HPV clinic.

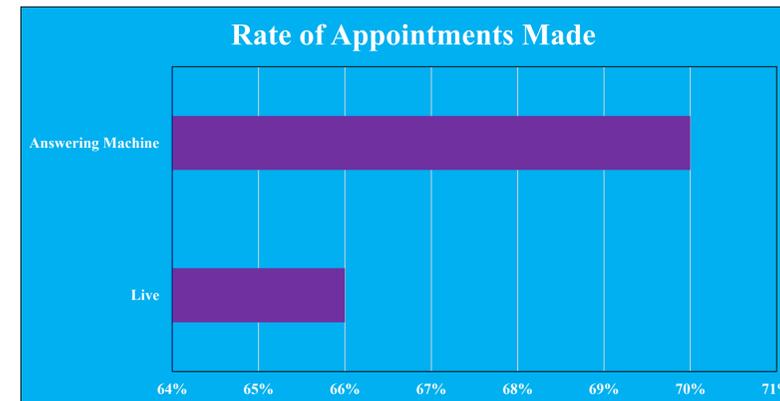


Figure 2: Comparing the success rates of appointments made based upon a live conversation with the patient or family member versus a message left on an answering machine.

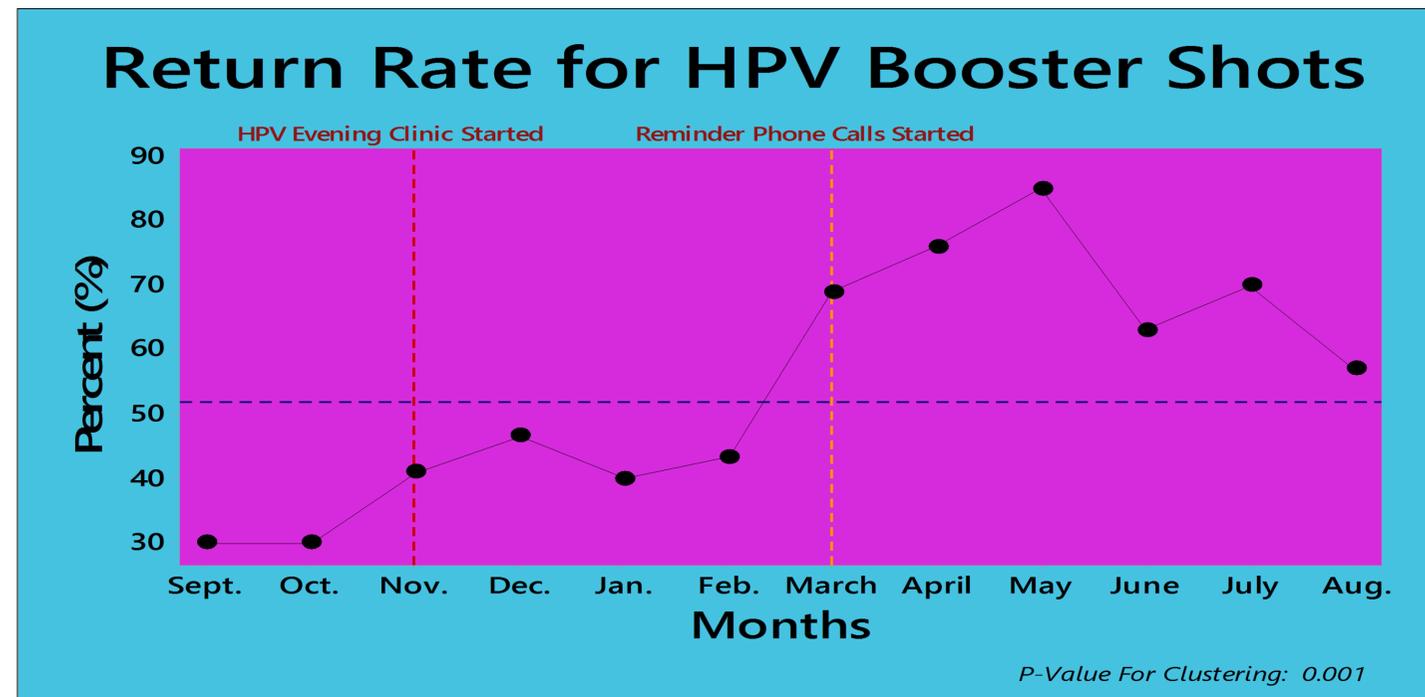


Figure 3: Run chart with marked interventions and improvements noted after each initiative.

Results:

- The evening clinic averaged 15 patients per month
- After both interventions were implemented, we improved appointments made by 40%
- Parent satisfaction for the clinic was high.
- Resident satisfaction for running the clinic was also high.
- Parental opinion about the reminder phone call was mixed.

Discussion:

- Following our quality improvement initiative, we surpassed our goal of 20% of reminder phone calls resulting in follow-up appointments. We increased appointments made from 30% to 70%. We did notice a slight improvement in return rates when the evening clinic was initiated, but the major improvement happened with the automated phone calls and evening clinic together.
- There were higher return rates when the message went to voicemail compared to live. This might be due to the cell phone being a primary contact for most people, and calls are answered at any and all times. Parents might not be prepared to schedule appointments when put on the spot when compared to listening to a message and having time to gather your thoughts/schedules.
- Resident buy-in and satisfaction with running an evening clinic were unexpectedly high. In total, 15 residents volunteered to participate out of 39.

Implication/Future Directions:

- Further develop automated messages to decrease confusion for families.
- Change timing of phone messages to have higher likelihood of going to voicemail.
- Possibly increase evening clinic to twice weekly depending on demand
- Develop further infrastructure to assist other clinics within Advocate.
- Use voice automated messaging systems for other follow-up related illnesses ie. Asthma, obesity, childhood vaccines.
- Utilize resident clinics to start new initiatives using resident physicians as a pivotal part of the process.

References:

1. US Department of Health and Human Services, Healthy People 2020. Immunization and infectious disease. Accessed on March 20, 2011.
 2. CDC. National and state vaccination coverage among adolescents aged 13-17 years—United States, 2014. MMWR Morb Mortal Wkly Rep 2015;784-792.