



Estimating the Costs and Profit/Loss of Providing Adult Vaccination Services

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Disclaimer

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Background

- Little is known about the costs of providing vaccinations to adults at the practice level
- Costs are difficult to estimate, because they are primarily driven by staff time which occurs at different points in a patient visit
- Because of this little is known about the profit or loss associated with adult vaccination
- We recently conducted two studies assessing the costs and profit/loss associated with providing vaccinations at a sample of practices

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Methods: Data

Both studies had a similar design with three components:

- 1. Time-study**
 - One week in each practice
 - Data collector shadowed practice staff for each patient visit where a patient was recommended for vaccination
 - Recorded the time spent on all vaccination related activities
- 2. Management survey**
 - Time on administrative activities such as ordering, managing inventory, and activities that happen in batches daily
 - Annualized cost of storage equipment
 - Costs of materials such as sharps
 - Disposal costs
- 3. Finance survey**
 - Payments for vaccines
 - Cost of vaccine doses

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Methods: Analysis

- We used the data to construct measures of the cost per vaccination of
 - Time with patients that were vaccinated
 - Time with patients that were not vaccinated
 - Management time and materials
- We examined total cost as the sum of the three cost metrics
- We examined profit/loss as average payment for vaccination administration minus cost per vaccination

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Sample

Table 1. Number of Practices and Observed Patients, by Type

Type	Study 1		Study 2	
	Practices	Observed Patients	Practices	Observed Patients
Internal Medicine	4	101	4	74
Family Medicine	4	108	5	130
Community Health Clinic	2	38	-	-
OBGYN	2	35	7	247
Total	12	282	16	451

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Results

Table 2. Time Costs of Vaccination-Related Activities for Adults, by Provider Type – Study 1

Practice type	Cost for Vaccinated Patient	Cost for Patient not Receiving Vaccination	Management Cost	Total Cost
Study 1				
Internal medicine	\$6	\$4	\$14	\$23
Family medicine	\$6	\$4	\$6	\$17
OBGYN	\$14	\$1	\$7	\$23
Community Health Clinic	\$10	\$3	\$3	\$15
Study 2				
Internal medicine	\$2	\$<1	\$4	\$7
Family medicine	\$4	\$3	\$2	\$8
OBGYN	\$12	\$8	\$25	\$43

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Results: Fraction of Patients not Receiving a Vaccination

Table 4. Fraction of Patients Declining Vaccination, by Provider Type

Practice type	Study 1	Study 2
Internal medicine	44%	49%
Family medicine	15%	32%
Community Health Clinic	32%	-
OBGYN	37%	69%

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Results: Fraction of Patients not Receiving a Vaccination

Table 5. STUDY 1 - Income from Vaccine Administration, by Practice Type and Payment Type

Practice type	At Minimum Payment	At Maximum Payment
Internal medicine	\$0	\$20
Family medicine	\$20	\$41
OBGYN	\$1	\$21
Community Health Clinic	-\$4	\$14

Table 6. STUDY 2 – Income from Vaccine Administration, by Practice Type and Payment Type

Practice type	Medicare	Medicaid	Private Payers
Internal medicine	\$20.47	\$9.62	\$19.37
Family medicine	\$15.14	\$9.67	\$16.7
OBGYN	\$-0.28	\$-12.45	\$6.77

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Limitations

- These studies were based on convenience samples of practices. Results may not be generalizable to a different sample of practices.
- The studies were conducted in a random week at each practice, but may not represent a typical week in the practice especially for small practices

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Conclusions

- The two primary drivers of variation in costs across the studies were:
 1. Number of vaccines administered
 - More vaccinations reduces average fixed cost per vaccination leading to economies of scale
 2. Fraction of patients that decline vaccination
 - Time spent with patients not receiving a vaccination can be substantial but are generally not able to be recouped through billing.

- These are actionable findings for reducing costs and increasing financial viability of vaccination
 - Practices can seek ways to maximize identification of patients that are recommended for vaccination
 - Practices can work to improve counseling for vaccination to increase acceptance of vaccination