

# The Business of Immunization: Protecting Kids Without Destroying Your Practice

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In the past 12 months, I have had the following financial relationships with the manufacturer(s) of any commercial product(s) and/or provider(s) of commercial service(s) discussed in this CME activity:

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I do not intend to discuss an unapproved/investigative use of a commercial product/device in my presentation.

# Learning Objectives:

At the conclusion of the session, participants should be able to:

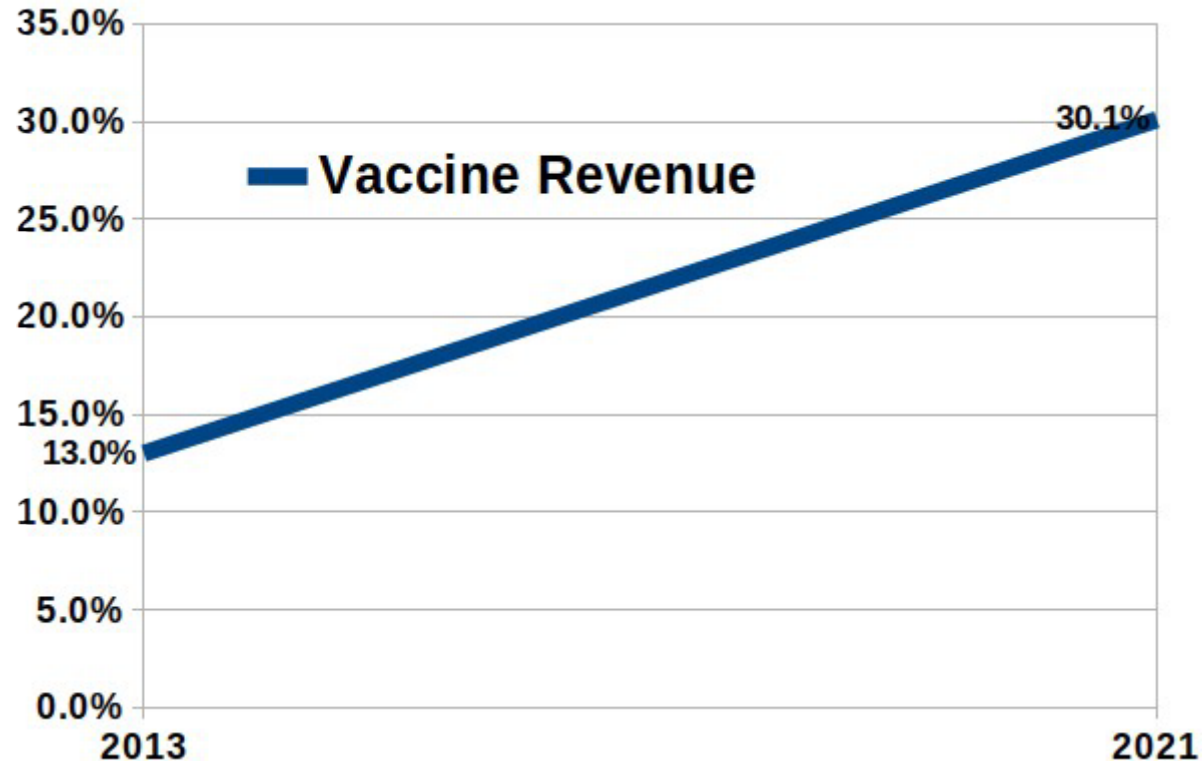
1. Identify various expenses related to, but not covered by, vaccine product purchase and administration.
2. Measure and calculate distributed practice expenses.
3. Change practice workflow to protect the practice financially.



*To be able to sustain administering vaccines, providers must be paid at a level that ensures recovery of the total direct and indirect expenses. After all, pediatric practices spend a significant cost on vaccines, which are the second highest expense following payroll for many practices. Furthermore, public and private sector payers must recognize that a pediatric practice is a business entity and must run on sound, generally accepted business principles. **For practices to remain viable, they must be paid for the full costs of vaccine-related expenses and generate a margin for all components of vaccination.***

[https://downloads.aap.org/AAP/PDF/The\\_Business\\_Case\\_for\\_Pricing\\_Vaccines.pdf](https://downloads.aap.org/AAP/PDF/The_Business_Case_for_Pricing_Vaccines.pdf)

# How much of your revenue is vaccine product?



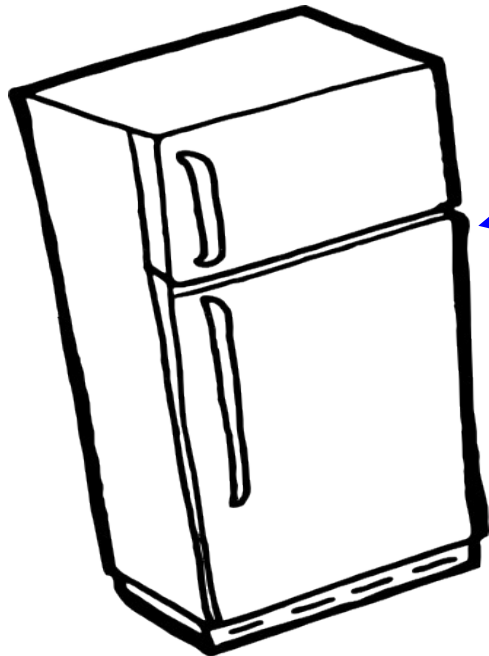
# The AAP's Business Case

## The Business Case for Pricing Vaccines:

*“When the direct and indirect expenses for the vaccine product are combined, this results in total expenses at 17% to 28% over acquisition cost. To sustain and support vaccination in the medical home, payments for the vaccine product should be at the level that covers the total vaccine expenses plus a reasonable margin.”*



[https://downloads.aap.org/AAP/PDF/The\\_Business\\_Case\\_for\\_Pricing\\_Vaccines.pdf](https://downloads.aap.org/AAP/PDF/The_Business_Case_for_Pricing_Vaccines.pdf)



COST TO GO IN HERE



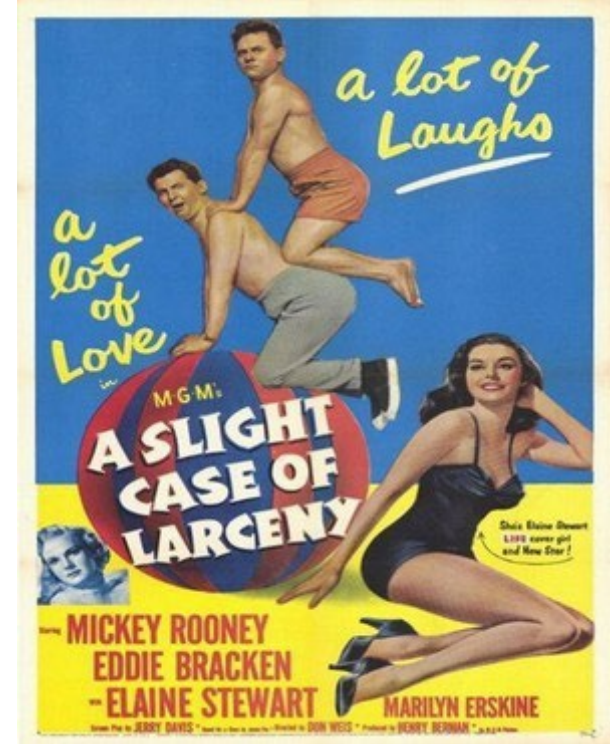
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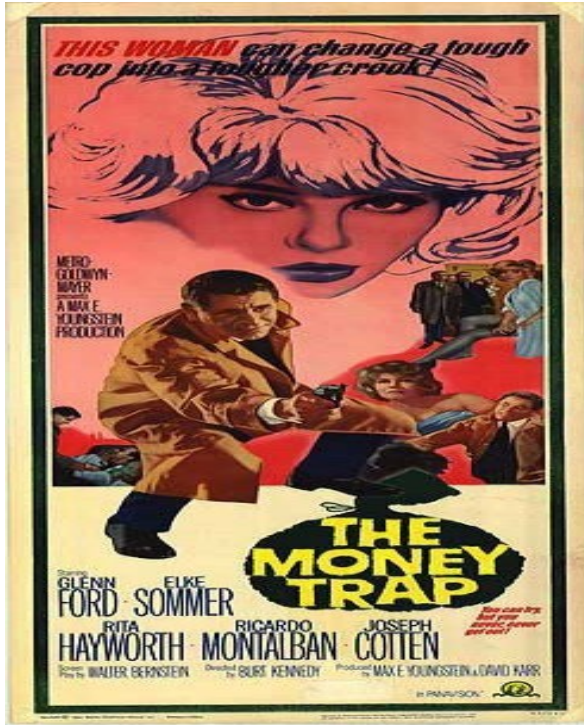
# Unfortunate Reality

You Are  
Not Paid  
For  
“Carrying Costs”





# The Real Cost of Vaccines



What you actually paid, *plus* “carrying costs:”

- Fridge Costs+
- Exam Table
- Sharps and Waste management
- Waste Insurance
- Wastage, Shrinkage
- Denials, non-payment, collections
- Opportunity

# The Real Cost of Vaccines

...and more!

- Personnel Costs
- Negotiation and Research
- Ordering, Delivery, and Payment
- Inventory and Storage Management
- etc.



# Intermission



# But wait, what about admins?

CMS/CPT Derived:

- Gloves, Paper, VIS
- Syringe, Needle, Swab, Band-aid
- Nurse Time\*
  - Drawing, Preparation, Administration, Counseling, Documentation
- Physician Time\*
  - Drawing, Preparation, Administration, Counseling, Documentation

\* first and subsequent immunizations distinguished

[https://www.aap.org/en-us/Documents/payeradvocacy\\_business\\_case\\_pricing\\_imm\\_admin.pdf](https://www.aap.org/en-us/Documents/payeradvocacy_business_case_pricing_imm_admin.pdf)

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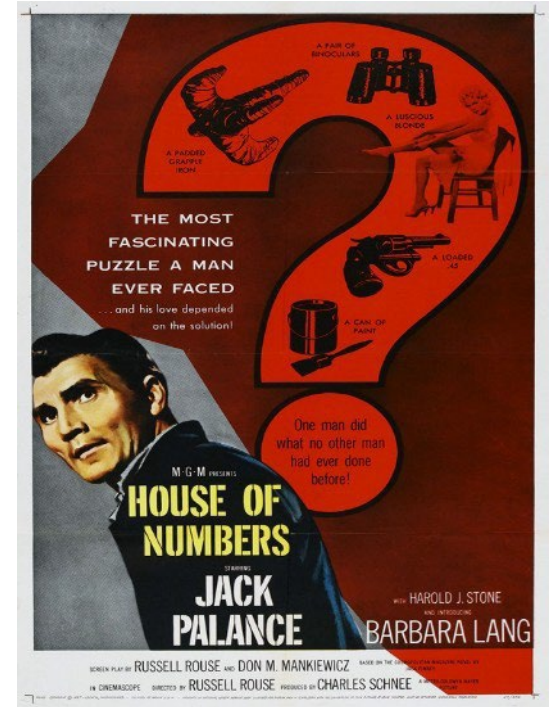


# Real Life Calculations

- Many of the costs must be averaged across vaccines
- Approximations required in some instances
- A handful of CMS-derived guidelines

## Example Calculation Assumptions:

- 6-8 clinician practice
- ~\$45/vaccine
- 13,000 vaccines/year



Hazardous Waste Costs	\$3,500/year
% of Hazardous Waste due to vaccines	50.00%
\$1,750 divided by 13,000 vaccines	<b>\$.13 / vaccine</b>
Denial/Unpaid Rate	1.00%
Annual Vaccine Product Volume	\$585,000.00
\$5,850 divided by 13,000 Vaccines	<b>\$.45 / vaccine</b>

**AAP:** “...there is an estimated wastage/nonpayment of at least 5%...”

[https://downloads.aap.org/AAP/PDF/The\\_Business\\_Case\\_for\\_Pricing\\_Vaccines.pdf](https://downloads.aap.org/AAP/PDF/The_Business_Case_for_Pricing_Vaccines.pdf)



# Real Life Calculations - Admin

What are the clinicians' hourly wages?

How much time is spent administering the shot?

Preparation, administration, counseling, billing, recording, registry, etc.

“The total documented variable cost per injection (excluding vaccine cost) averaged \$11.51...”

**Cost of Vaccine Administration Among Pediatric Practices**, Judith E. Glazner, Brenda Beaty and Stephen Berman, Pediatrics 2009;124;S492-S498 ([http://pediatrics.aappublications.org/cgi/content/full/124/Supplement\\_5/S492](http://pediatrics.aappublications.org/cgi/content/full/124/Supplement_5/S492))



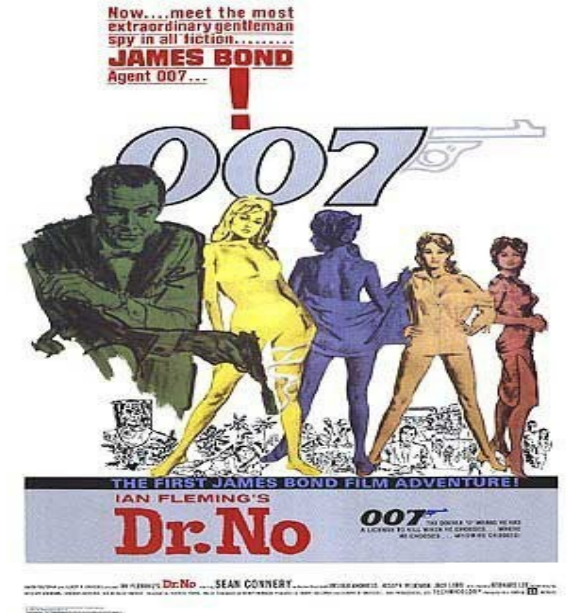
Nurse 1 Annual Cost	\$45,000.00
% of job spent on vaccine management (research, delivery, inventory, logging, etc.)	10.00%
\$4,500/year divided by 13,000 vaccines	<b>\$.35 / vaccine</b>
Nurse 2 Annual Cost	\$35,000.00
% of job spent on vaccine management (research, delivery, inventory, logging, etc.)	20.00%
\$7,000/year divided by 13,000 vaccines	<b>\$.54 / vaccine</b>



# Real Life Examples

## Reconciliation Costs:

- “12 Hours, annually” (\$588)
- “8 Hours, annually” (\$114)
- “325 hours, annually” (\$5950)
- “104 hours, annually” (\$20,300)



Based on sample responses from survey data, 2009, supplied by the Verden Group

Staffing	Salary and Benefits	% of Carrying Cost Work	Staff Carrying Costs	Average Cost
Nurse 1	\$50,000.00	30%	\$15,000.00	
Nurse 2	\$45,000.00	25%	\$11,250.00	
Nurse 3	\$38,000.00	10%	\$3,800.00	
Doc 1	\$250,000.00	1%	\$2,500.00	
Doc 2	\$300,000.00	1%	\$3,000.00	
			\$35,550.00	<b>\$2.73</b>
Waste Management	Attributable to Vaccines		Total Waste Management	
\$3,000.00	70.00%		\$2,100.00	<b>\$0.16</b>
Value of Imms On Site		Interest	Total Cost of Capital	
\$75,000.00		5.00%	\$3,750.00	<b>\$0.29</b>
Physical Overhead (Fridge, etc.)				
\$3,000.00				<b>\$0.23</b>
<b>TOTAL PER VACCINE</b>		Per Vaccine		<b>\$3.42</b>

Vaccine	Invoice	Units	Wasted/ Missing Value	Unpaid Value	Distributed Carrying Costs	Estimated Cost	%age Of Cost	125% Of Direct Cost
Tdap	\$100.00	1000	\$1.00	\$3.00	\$12.69	\$116.69	117%	\$125.00
HPV	\$180.00	500	\$1.80	\$5.40	\$12.69	\$199.89	111%	\$225.00
IPV	\$8.95	2000	\$0.13	\$0.27	\$12.69	<b>\$22.04</b>	246%	\$11.19
		<b>3500</b>	<b>\$2,169</b>	<b>\$6,237</b>				



Vaccine	Units	Actual Product Payments	Actual Admin Payments	Invoice	Calculated Carrying Costs	Calculated Antigen-Admin Costs	Total Calculated Antigen Costs	Actual Antigen Payment	Calculated Difference
Tdap	1000	\$30	\$18	\$28	\$8.75	\$14.25	\$51.00	\$48.00	\$3000.00
MMR	2000	\$10	\$22	\$8	\$6.75	\$14.25	\$29.00	\$32.00	\$6000.00
DTaP	500	\$100	\$22	\$101	\$10.75	\$14.25	\$126.00	\$122.00	-\$2000.00

<https://chipsblog.pcc.com/estimating-the-cost-of-your-vaccine-business>



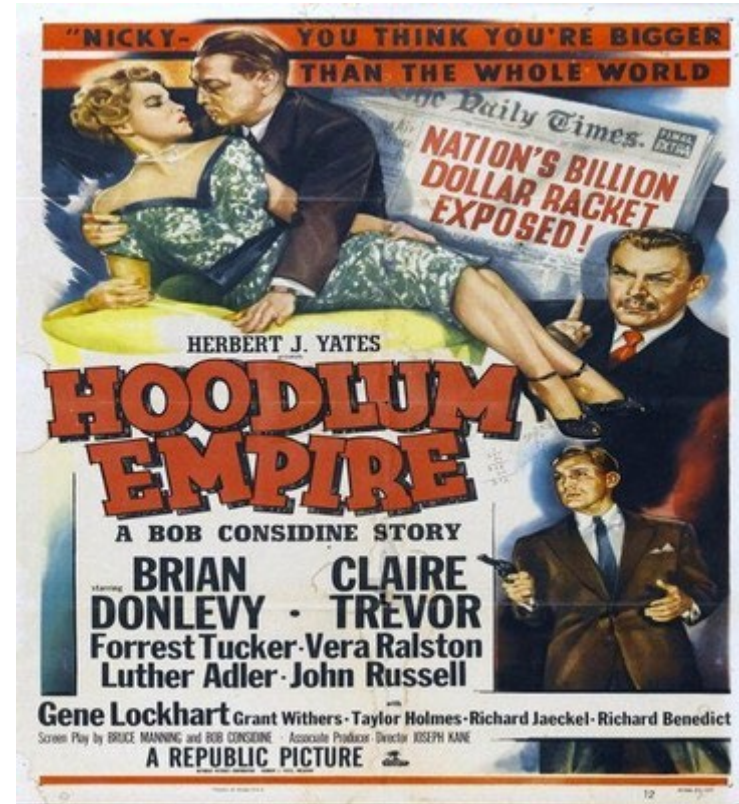
Immunization Cost Comparison Calculator v1.5 (Dec 2019)														
Instructions at: <a href="https://chipsblog.pcc.com/estimating-the-cost-of-your-vaccine-business">https://chipsblog.pcc.com/estimating-the-cost-of-your-vaccine-business</a>														
Estimated Costs														
Payor		BCBS of AL												
Admins		Estimated Cost	Actual Payments											
90460		\$14.50	\$12.00											
90461			\$5.50											
90471			\$11.50											
90472			\$5.50											
90473			\$10.00											
90474			\$10.00											
				Costs					Payments			Results		
				Estimated Markup Requirement	125%									
CPT		Name	Vaccine	90461 Usage	Units	Per-Unit Invoice	Estimated Per-Unit Product Costs	Estimated Per-Unit Admin Costs	Total Per-Unit Vaccine Costs	Actual Per-Unit Vaccine Payments	Actual Per-Unit Admin Payments	Total Per-Unit Vaccine Payments	Total Per-Unit Difference	TOTAL DIFFERENCE
90700	Daptacel	DtaP	2	500	\$63.00	\$78.75	\$14.50	\$93.25	\$74.50	\$23.00	\$97.50	\$4.25	\$2,125.00	
90700	Infanrix	DtaP	2				\$14.50							
90698	Pentacel	DTaP-Hib-IPV	4				\$14.50							
90696	Kinrix	DtaP-IPV	3				\$14.50							
90696	Quadracel	DtaP-IPV	3				\$14.50							
90713	IPOL	E-IPV	0				\$14.50							
90632	HAVRIX-ADULT	Hep A Adult	0				\$14.50							
90632	VAQTA-ADULT	Hep A Adult	0				\$14.50							
90633	HAVRIX-PEDS	Hep A Pediatric	0				\$14.50							
90633	VAQTA-PEDS	Hep A Pediatric	0				\$14.50							
90636	Twinrix	Hep A-Hep B Ad	1	400	\$37.70	\$47.13	\$14.50	\$61.63	\$39.00	\$17.50	\$56.50	-\$5.13	-\$2,050.00	
90743	ENGERIX-B-ADULT	Hep B Adult	0				\$14.50							
90739	HEPLISAV-B	Hep B Adult	0				\$14.50							
90744	ENGERIX B-PEDS	Hep B Pediatric	0				\$14.50							
90744	RECOMBIVAX-PEDS	Hep B Pediatric	0				\$14.50							
90648	ActHIB	Hib	0				\$14.50							

Immunization Cost Comparison Calculator v1.5 (Dec 2019)														
Instructions at: <a href="https://chipsblog.pcc.com/estimating-the-cost-of-your-vaccine-business">https://chipsblog.pcc.com/estimating-the-cost-of-your-vaccine-business</a>														
Estimated Costs														
Payor		BCBS of AL												
Admins		Estimated Cost	Actual Payments											
90460		\$11.00	\$12.00											
90461			\$5.50											
90471			\$11.50											
90472			\$5.50											
90473			\$10.00											
90474			\$10.00											
<b>\$6,019.80 ← The Bottom Line!</b>														
					Costs			Payments			Results			
					Estimated Markup Requirement	119%								
					Estimated Per-Unit Invoice	Estimated Per-Unit Admin Costs	Total Per-Unit Vaccine Costs	Actual Per-Unit Vaccine Payments	Actual Per-Unit Admin Payments	Total Per-Unit Vaccine Payments	Total Per-Unit Difference	TOTAL DIFFERENCE		
CPT	Name	Vaccine	90461 Usage	Units	Per-Unit Invoice	Estimated Per-Unit Product Costs	Estimated Per-Unit Admin Costs	Total Per-Unit Vaccine Costs	Actual Per-Unit Vaccine Payments	Actual Per-Unit Admin Payments	Total Per-Unit Vaccine Payments	Total Per-Unit Difference	TOTAL DIFFERENCE	
90700	Daptacel	DtaP	2	500	\$63.00	\$74.97	\$11.00	\$85.97	\$74.50	\$23.00	\$97.50	\$11.53	\$5,765.00	
90700	Infanrix	DtaP	2				\$11.00							
90698	Pentacel	DTaP-Hib-IPV	4				\$11.00							
90696	Kinrix	DtaP-IPV	3				\$11.00							
90696	Quadracel	DtaP-IPV	3				\$11.00							
90713	IPOL	E-IPV	0				\$11.00							
90632	HAVRIX-ADULT	Hep A Adult	0				\$11.00							
90632	VAQTA-ADULT	Hep A Adult	0				\$11.00							
90633	HAVRIX-PEDS	Hep A Pediatric	0				\$11.00							
90633	VAQTA-PEDS	Hep A Pediatric	0				\$11.00							
90636	Twinrix	Hep A-Hep B Ad	1	400	\$37.70	\$44.86	\$11.00	\$55.86	\$39.00	\$17.50	\$56.50	\$0.64	\$254.80	
90743	ENGERIX-B-ADULT	Hep B Adult	0				\$11.00							
90739	HEPLISAV-B	Hep B Adult	0				\$11.00							
90744	ENGERIX B-PEDS	Hep B Pediatric	0				\$11.00							
90744	RECOMBIVAX-PEDS	Hep B Pediatric	0				\$11.00							
90648	ActHIB	Hib	0				\$11.00							



# How Do I Fix This?

- Vaccine Payments?
  - *Negotiate*
  - Determine methodology
  - Use CDC public pricing, not your invoice!
  - Manage price increases
  - Multiple CPT options




# How Do I Fix This?

- Administration Payments?
  - Code properly
  - Negotiate
- Vaccine Costs?
  - GPO
  - Fridge-based purchasing
  - Maximize purchasing/inventory
  - Credit Cards, payment terms



<https://chipsblog.pcc.com/a-little-imms-admin-analysis-tool>



	A	B	C	D	E	F	G	H	I
1			V1.2	12/15/19					
2		Pediatric EHR Solutions							
3									
4	<b>Results</b>								
5			<b>Count</b>	<b>Total Imms</b>	3500				
6	90460		3200	<b>Total Primary Admins</b>	3560				
7	90461		1200						
8	90471		350			<b>60</b>	← Unit difference between admins and vaccines		
9	90472		10			<b>1.7%</b>	← %age difference between admins and vaccines		
10	90473		0						
11	90474		0						
12	<b>Total</b>		4760				<b>If the number is negative, that means there were more shots recorded than primary administrations.</b>		
13									
14		2.7	← Ratio of 90460:90461						
15		8.9	← Ratio of 90460:90471-4						
16									
17	<b>Manually enter your data in Column D or cut and paste your CPTs and unit volume into the 'Imms' tab</b>								
18	<b>Admin Data</b>								
19	<b>CPT_Code</b>	<b>CPT_description</b>	<b>Additional Antigen</b>	<b>Count</b>	<b>Expected 90460</b>	<b>Expected 90461</b>			
20	90460	Admin, 1 <sup>st</sup> Component	0	3200	-	-			
21	90461	Admin, 2 <sup>nd</sup> and Addl	0	1200	-	-			
22	90471	Immunization admin	0	350	-	-			
23	90472	Immunization admin, Addl	0	10	-	-			
24	90473	Immune admin oral/nasal	0	0	-	-			
25	90474	Immune admin oral/nasal, Addl	0	0	-	-			
26	<b>Vaccine Data</b>								
27	90696	Diphtheria, tetanus toxoids, acellu	3	1000	1000	3000			
28	90697	Diphtheria, tetanus toxoids, acellu	5	0	0	0			
29	90703	Tetanus toxoid adsorbed, for intra	0	0	0	0			
30	90707	Measles, mumps and rubella virus	2	2000	2000	4000			
31	90708	Measles and rubella virus vaccin	1	0	0	0			
32	90710	Measles, mumps, rubella, and var	3	0	0	0			
33	90712	Poliovirus vaccine, (any type[s]) (C	0	500	500	0			



# How Do I Fix This?

- Administration Costs?
  - Improve Efficiency
  - 2D Barcoding
  - Inventory Management



# Changes You May Wish To Make In Practice

- Calculate your “carrying costs” and apply them to the cost of your vaccines.
- Determine what your true overhead for vaccines is – does it match the AAP expected value of 17-25% above invoice costs?
- Review your vaccine delivery workflow to look for \$\$ leaks.
- Confirm that you are on an actively managed and effective GPO.
- Use the AAP literature to support your negotiations with payors.



# References

For more information on this subject, see the following publications:

[https://www.aap.org/en-us/Documents/payeradvocacy\\_business\\_case\\_pricing\\_imm\\_admin.pdf](https://www.aap.org/en-us/Documents/payeradvocacy_business_case_pricing_imm_admin.pdf)

<https://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/immunization/Pages/payment-coding-billing.aspx>

<https://www.aap.org/en-us/my-aap/Documents/VaccineAddendumtoPayerContracts.pdf>

[https://www.aap.org/en-us/Documents/gettingpaid\\_paymentprinciples.pdf](https://www.aap.org/en-us/Documents/gettingpaid_paymentprinciples.pdf)

[https://www.aap.org/en-us/Documents/immunization\\_bus\\_case\\_vacc\\_in\\_state\\_supplied\\_environment\\_apr\\_2014.pdf](https://www.aap.org/en-us/Documents/immunization_bus_case_vacc_in_state_supplied_environment_apr_2014.pdf)

<http://www.cdc.gov/vaccines/programs/vfc/awardees/vaccine-management/price-list/>

Cost of Vaccine Administration Among Pediatric Practices, Judith E. Glazner, Brenda Beaty and Stephen Berman, Pediatrics 2009;124;S492-S498

[http://pediatrics.aappublications.org/cgi/content/full/124/Supplement\\_5/S492](http://pediatrics.aappublications.org/cgi/content/full/124/Supplement_5/S492)

<https://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/immunization/Pages/managing-costs.aspx>

<https://practicewell.org/immunization-vaccine-survival-guide.pdf>

<https://www.cdc.gov/vaccines/programs/iis/2d-vaccine-barcodes/downloads/2D-Findings-Report-508.pdf>

[all of the AAP documents above are presently unavailable]

# Great Old Movie Poster

