American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN®

The Business Case for Pricing Vaccines

The American Academy of Pediatrics (AAP), a nonprofit professional organization of 67,000 primary care pediatricians, pediatric medical subspecialists, and pediatric surgical specialists dedicated to the health, safety, and well-being of all infants, children, adolescents, and young adults, has long supported vaccination as an essential preventive health measure for children and families. One of the goals of the AAP, shared by the American Academy of Family Physicians (AAFP) and the Centers for Disease Control and Prevention (CDC) Advisory Committee on Immunization Practices (ACIP), is to promote maximum vaccination coverage for all infants, children, adolescents, and young adults.

Supporting Vaccination in the Medical Home

The pediatric medical home is the backbone to the vaccination infrastructure for children. Adequate payment must support the ability to administer vaccines in the medical home to *every* child, regardless of payer. As shown by the CDC National Immunization Survey-Child[1], disparities persist in vaccination coverage for children, and there is much work to be done to close care gaps and ensure all children have equitable access to life-saving vaccines. It is essential that *every* pediatric vaccine provider receive adequate payment to capture every opportunity to provide vaccines at the point of care.

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.

Several studies published in the *Pediatrics* supplement, "Financing of Childhood and Adolescent Vaccines,"[2] underscore the need for appropriate payment to cover the total costs of vaccination. In one major study, a cross-sectional survey of private practices in 5 states (California, Georgia, Michigan, New York, and Texas) concluded that there is wide variation in payment for vaccines and administration fees by payers, resulting in the "need for providers to seek opportunities to reduce costs and increase reimbursements" for vaccination.[3]

Two Distinct Components of Vaccination

It is important to note that there are two distinct components of vaccination: the vaccine product and immunization administration. These two components must be *separately recognized* and *separately paid* at a level that supports ongoing vaccination.

The vaccine product Current Procedural Terminology (CPT®) code must be reported to capture expenses related to the product alone. The product code does not reflect the work and expense that the immunization administration codes entail. Immunization administration entails separate work, practice expense, and professional liability insurance expense and is, therefore, separately reportable, with CPT codes reported either per vaccine (90471–90474) or per component (90460–90461).

Whereas there are no direct vaccine purchase costs for universal purchase states and for publicly sourced vaccines (VFC and pandemic vaccines), the immunization administration fee must cover compensation for indirect vaccine acquisition and maintenance expenses, as well as overhead (in addition to the components already defined in the CPT codes for immunization administration).

Vaccine Product-Related Expenses

To ensure that providers can continue their vital role administering vaccines, the AAP recommends that payments to providers for the vaccine product should exceed the acquisition cost and overhead expenses associated with the vaccine product.[4] Nominal immunization administration fees cannot make up for inadequate vaccine payments due to the separate expenses captured under the product and administration codes; both need to be appropriately paid by payers.

Following are direct and indirect expenses related to the vaccine product, necessitating payment above the direct acquisition cost:

Purchase price (acquisition cost) of the vaccine

This is the amount paid by the physician for the vaccine. Although discounts may exist, these are not available to all pediatric practices and may be time limited. Additionally, larger healthcare entities often have greater leverage in purchasing power compared to smaller, independent practices. Cost and payment disparities between pediatric practices cannot be a barrier to protecting individual and public health.

An accurate and verifiable public source on the current manufacturer's price for vaccines can be accessed on the CDC vaccine price list for the private sector at http://www.cdc.gov/vaccines/programs/vfc/cdc-vac-price-list.htm. The CDC private sector vaccine price list should be used as a transparent methodologic basis for vaccine acquisition and invoice cost as part of the total cost of the vaccine. In addition, payers should subscribe to the available email updates on price changes and update their fee schedules accordingly in a timely manner[4] (within 60 days or as soon as possible based on contractual requirements, state law, or other requirements).

Personnel costs for ordering and inventory

Medical office staff (clinical and administrative) must take time to monitor vaccine stock, place orders, ensure safe storage procedures, and negotiate costs, delivery, and payment terms for vaccines.

Storage equipment and monitoring costs

Vaccines must be stored at very specific temperature ranges and, therefore, require special monitoring and storage equipment. Of note, while the practice expense component of the total immunization administration code pays for some vaccine storage costs, certain other expenses may *not* be included. These could include freezer(s), freezer lock(s), freezer alarm system(s), and generators for continued electrical supply (all of which are depreciated).

Insurance against loss of the vaccine

Professional liability malpractice insurance does not cover vaccine product, so additional insurance coverage is needed by the practice. Practices without this insurance must personally bear the expense of any vaccine lost due to equipment failure or human error in temperature control.

Recovery of costs attributable to inventory shrinkage, wastage, and nonpayment

Inventory shrinkage refers to the uncompensated loss of product due to theft, vendor error, and administrative error. Additionally, there is an estimated wastage/nonpayment of at least 5%, which practices must account for, due to situations such as drawing up the vaccine and having the patient/family reconsider and refuse, resulting in subsequent non-payment, or a loss of dose that may occur in attempting to vaccinate an uncooperative/combative patient. This would also include collection costs in response to nonpayment by the patient or third-party payer.

Lost opportunity costs

This is the cost of maintaining a large vaccine inventory. *Each pediatrician or other provider* of privately-supplied vaccines maintains a significant cost of vaccine inventory, which in some cases has been reported to be as high as $15,000 or more. Maintaining product inventory results in monies being tied up that otherwise might be available for investment or other opportunities to generate revenue. Practices must receive an appropriate return on their investment.

Total expenses

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.

As such, payment for vaccines must meet the following criteria:

- **Be based on a transparent and verifiable data source**, such as the CDC vaccine price list for the private sector, available at http://www.cdc.gov/vaccines/programs/vfc/cdc-vac-price-list.htm.
- **Cover the vaccine product acquisition price as well as all related expenses, including a return on investment** for the dollars invested in vaccine inventory.
- **Be at least 125% of the current private sector cost on the CDC vaccine price list.**

Additional Challenges and Considerations with Vaccination

Increasing number and cost of vaccines

The emergence of new vaccines and novel technologies have played an increasingly important role in the prevention and/or reduction in mortality and morbidity from infectious diseases. However, as the number of vaccines continues to rise, so does the potential for uncompensated costs. As more combination vaccines are added and the ACIP schedule is gaining increasing complexity, the process of ordering, inventory management, and making appropriate clinical decisions adds additional burden to practice teams.

Alternative Sites for Vaccination Outside the Medical Home

In part due to an inadequate payment infrastructure, the adult primary care model has experienced decreased vaccination within the medical home. In fact, in many regions of the country, pediatricians have been vaccinating adults in their community against annual influenza and eagerly stepped up to protect all ages with COVID-19 vaccine. While pharmacies and hospitals serve as alternate solutions for adults, they are not appropriate as the primary pediatric vaccination infrastructure.

Two additional burdens have emerged over the past decade: growing vaccine hesitancy and increased technology expenses for sharing of vaccination data.

Vaccine Hesitancy

Educating and counseling families on the role, indications, and safety of each vaccine product can require substantial time and resources.[5] Pediatricians are a trusted source of information, and before some families decide to get a child vaccinated, pediatricians must spend considerable time counseling them to fully address questions and concerns. This counseling may or may not result in a vaccine being administered during a particular encounter, though it may result in a vaccine being administered later after the family further considers the information. The cost of ongoing vaccine education is one that must be supported in the overhead of the pediatric medical home as an investment in individual and public health.

Increased Technology Requirements for Sharing Vaccination Data

An increasing number of states now require vaccination information exchange within a specified reporting period. This technology comes at a cost (often both set-up and maintenance fees) to the pediatric practice and must be considered as part of adequate payment. This technology infrastructure often also requires time-consuming reconciliation by staff as challenges in data exchange remain.

Conclusion

Pediatricians play a critical role in vaccination. To support pediatricians in their role of vaccinating children and the community, public and private payers must ensure appropriate payment for all aspects of vaccination. Vaccines protect children and families, and it is imperative to remove all barriers to children receiving life-saving vaccines.

References

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