



STATE AND LOCAL APPROACHES TO VACCINE FINANCING AND DELIVERY

In May 2013, the Colorado General Assembly passed [Senate Bill 13-222](#) (SB 222), which aims to improve access to childhood immunizations by addressing the current challenges in vaccine delivery and financing. Among other things, SB 222 directs the Colorado Department of Public Health and Environment (CDPHE) to address:

1. Options for the state to “more effectively purchase, distribute, and deliver vaccines to insured, underinsured, and uninsured individuals.”
2. The ability of the Colorado Department of Health Care Policy and Finance (HCPF) to purchase recommended vaccines through a purchasing system, if one is developed, for children enrolled in the Children’s Basic Health Plan.

The legislation directs CDPHE to convene a diverse coalition of stakeholders to address these issues, examine the current financing and delivery system, consider options, and make recommendations on the financing, ordering and delivery of childhood immunizations. SB 222 identifies several methods for the task force’s consideration (see right).

As directed, the SB 222 Task Force convened in August 2013 to establish an inclusive stakeholder process to address these issues. The Colorado Children’s Immunization Coalition (CCIC) has developed this brief to identify existing vaccine and finance delivery systems and strategies and provide a diverse array of approaches for consideration and discussion. Some strategies may align with Colorado’s political, economic, and vaccine infrastructure realities and some may not. They are presented here as a starting point to facilitate stakeholder dialogue about what is needed to improve access to vaccines for Colorado children. First, some background is provided to explain the basics of vaccine financing and delivery and issues and opportunities that affect access to vaccines in Colorado.

SB 222: Financing and Delivery Methods for Consideration

- Public-private models
- Just-in-time delivery
- Inventory management
- Outbreak response
- Linkage between the Colorado Immunization Information System (CIIS) and vaccine inventory
- Vaccine shortage response
- Vaccine delivery in the medical home
- Mechanisms for local public health agencies (LPHAs) to bill insurers
- Continuation of current models

OVERVIEW: VACCINE FINANCE AND DELIVERY SYSTEMS AND ISSUES

Vaccines are funded and administered through a combination of private and public systems. Nationwide, private health insurance and public programs share the cost equally—each paying approximately 50 percent¹—for vaccinating children in the United States. Vaccines are administered in various settings, including private practices—which immunize over 84 percent of children in the U.S.²—as well as public, safety-net and other sites such as federally qualified, rural, school-based and community health centers, LPHAs, schools, immunization events and retail locations. While private practices account for the majority of vaccinations, public, safety-net and other settings are a critical source of vaccines for individuals who experience financial, geographic, or other access barriers.

As shown in Table 1, a patient's insurance coverage determines how their vaccines are financed and often where they are obtained. The table describes the coverage sources in general, and provides Colorado-specific information in blue.

For more info:

Two recent publications available on the CCIC website (childrensimmunization.org) offer in-depth information about vaccine financing and delivery in Colorado.

- CDPHE's October 2013 report, "[Overview of Vaccine Access in Colorado](#)," takes an in-depth look at the current system, issues and challenges, and strategies to improve access.
- CCIC's October 2013 report, "Assessing the Impact of the 317 Immunization Grant Program Changes on Colorado's 317 Providers and Patients" looks at federal policy changes and their impact on Colorado vaccine providers and patients served by LPHAs.

Table 1. Overview of Vaccine Coverage Sources

Insurance Coverage	Description
Privately insured	<p>Nationwide, an estimated 84 percent of vaccines are administered in private practices. Providers typically negotiate vaccine prices with vaccine manufacturers or distributors and then seek reimbursement from insurers to cover the vaccine and its administration. (See text box below for definition of fully insured.)</p> <ul style="list-style-type: none">➤ In 2013, 59 percent of Coloradans had employer-sponsored insurance.³➤ An estimated 10.5 percent of young children in Colorado had insurance that did not cover all the costs of immunizations in 2007.⁴➤ By 2014, the Affordable Care Act (ACA) will require all new health plans to cover recommended preventive services—including vaccines recommended by the Advisory Committee on Immunization Practices—without charging a deductible, copayment or coinsurance. The change did not affect so-called "grandfathered" plans sold before

March 23, 2010, however.

Public vaccine coverage

The Vaccines For Children (VFC) Program and the Section 317 program are two federal programs that cover eligible individuals and are administered in Colorado by CDPHE's Immunization Section.

- In 2013, over one million doses of vaccines, totaling \$43 million, were distributed through these programs.

VFC Program

The VFC program is a federally-funded entitlement program that provides low or no-cost immunizations to eligible children who are Medicaid eligible, uninsured, or American Indian/Alaskan Native. Underinsured children are eligible if vaccines are administered in a federally qualified health center, rural health center or other deputized provider, such as an LPHA.

- Over 475,000 Colorado children, or 37 percent of all children in the state, are eligible to receive VFC vaccines.
- VFC vaccines are distributed to nearly 600 Colorado private and public providers at no cost.

Section 317

The Section 317 program provides grants to immunization programs in 64 states, cities and territories for vaccine purchase, as well as other functions, such as technical assistance, infrastructure support and vaccine purchase for time-sensitive and urgent public health vaccination needs. As a result of recent CDC policy changes, eligible individuals primarily include uninsured or underinsured adults and fully insured individuals during a disease outbreak, preparedness exercise or disaster relief effort.

- Since 2008, the state's Section 317 budget has been cut over 70 percent to approximately \$1.4 million; it represents less than three percent of public vaccine distributed in Colorado.
- Because of eligibility changes and budget cuts, 317 vaccines are targeted to uninsured and under-insured adults.

State/Local Funds

Contributions for childhood vaccines vary from state to state. They include Medicaid (vaccine administration fees only), State Children's Health Insurance Program, support for vaccine programs and state vaccine purchases from the CDC's federal contract.

- States are allowed to purchase vaccines from the federal contract to take advantage of discounted, federal vaccine rates.⁵ Vaccines for Colorado's Child Health Plan Plus (CHP+) are purchased in the commercial market currently.
- Children enrolled in CHP+ are considered to be fully insured and are, therefore, not eligible for Section 317 or VFC vaccines.

Source: Compiled from information in "Overview of Vaccine Access in Colorado," CDPHE, October 2013.

Issues and Challenges. Several factors affect whether providers stock vaccines and whether patients

have adequate access to services. As summarized below, challenges include cost, coverage, and availability of vaccine providers who offer the complete range of recommended vaccines.

- *Cost, administrative and operational burdens on LPHAs and vaccine providers.* As the number of recommended vaccines have increased, so too has the average cost to vaccinate a child. The cost to fully vaccinate a child has risen from \$155 in 1995 to \$2,138 in 2012.⁶ Vaccine providers struggle to afford the costs associated with ordering, purchasing and storing vaccines, as well as the increased provider and staff time to counsel patients, manage inventory, enter data into the registry, contract with insurers and submit claims. Purchasing vaccines is costly for LPHAs which typically lack the volume to qualify for vaccine discounts.
- *Cost burdens on patients.* Patients also struggle with the rising costs of vaccines. The full series of recommended immunizations can exceed \$1,000 in an infant's first year of life, a prohibitive cost for families who to pay out-of-pocket vaccines. For some patients, transportation costs and inability to take time off of work create additional financial burdens.
- *Coverage.* Adequate coverage removes some of the financial barriers that impede access for many families, but health insurance does not guarantee access to vaccines. As a result of gaps in coverage (resulting from plans that do not cover all vaccines or impose cost sharing), many children and adults are underinsured.
- *Contracting with Insurers.* Negotiating contracts with insurers is a challenge for LPHAs which typically lack staff capacity and contracting experience. Some insurers will not certify LPHAs as "preferred providers" which effectively precludes the LPHA from contracting for services.
- *Reimbursement.* Adequate reimbursement—which varies considerably among providers—is an important factor for private and public providers. Smaller LPHAs struggle to train staff and develop billing and collections functions for what can amount to a relatively small volume of vaccines.
- *Access to services.* Many communities lack access to vaccine providers. According to a 2013 report about the role of LPHAs in the state, about 70 percent of Colorado's 54 LPHAs are "a primary provider of childhood and adult immunizations in their communities—regardless of insurance status."⁷ In addition to the shortage of vaccine providers in some areas, other access barriers result when primary care providers do not stock all recommended vaccines, offer convenient office hours, or accept new patients.
- *Uncertainties about the future.* Although ACA coverage expansion provisions are expected to improve access to immunization coverage, it is not clear how soon—or to what extent—the access challenges will resolve (see text box below).

Addressing Challenges: Opportunities and Options. SB 222 offers an important vehicle for addressing the challenges and barriers that impede access to vaccines in Colorado. As described in the next section, Colorado and other states and localities have adopted a wide range of options and strategies to fill gaps in their immunization systems and mitigate access barriers.

VACCINE DELIVERY AND FINANCING APPROACHES

States have adopted a wide range of strategies to support efficient and cost-effective vaccine purchase and delivery. As described below, these include state-level funding and policy approaches (e.g., purchasing vaccines from the federal VFC contract) as well as educational, operational and financing strategies aimed at helping public and private vaccine providers.

1. Develop resources and information clearinghouses. Several states have assessed unmet needs and challenges facing vaccine providers. For example, an [Oregon survey](#) of LPHAs identified several resources that LPHAs needed to increase billing capacity, including: help with contracting and credentialing; example billing procedures and policies; insurer resources and contact information; and vaccine fee cost calculators.

National and state entities have addressed these unmet needs by producing online resources and information clearinghouses. In 2011, CDC funded the National Association of City and County Health Officials (NACCHO) to develop an online [billing toolkit](#) to promote exchange of information and provide sample materials that can be adapted for use by LHDs. States have developed resources to share best practices and support state and local vaccine delivery. For example, the **Kansas** Foundation for Medical Care has an [online toolkit](#) that provides resources for coding, contracting, fee schedules and rate setting, insurer resources and more.

2. Adopt evidence-based interventions. Vaccine stakeholders in the public and private sectors want to invest resources wisely in cost-effective and evidence-based interventions. *The Community Guide* (www.thecommunityguide.org) is one resource that provides evidence-based recommendations about public health programs, services and policies that have been proven effective at improving health. The Community Preventive Services Task Force—an independent, unpaid panel of experts appointed by the Director of the Centers for Disease Control and Prevention—provides a variety of recommended best practices for vaccination programs and policies. Some of the interventions recommended by the task force include:

- Home visits to increase vaccination rates
- Vaccination programs in schools and childcare settings
- Vaccination programs in WIC settings
- Reducing client out-of-pocket costs
- Client reminder and recall systems
- A combination of community-based interventions, which could include client reminders and recalls, expanded access to vaccination services, and mass and small media

Some states and localities have used *The Community Guide* to identify solutions that address their specific vaccine issues and challenges. For example, the **Missouri** Department of Health and Senior Services (DHSS) has implemented eight recommendations included in *The Community Guide* to increase immunization rates and increase provider participation in the statewide immunization registry (Table 2).

Table 2. Missouri's Evidence-Based Approach to Increasing Immunization Rates

Description of Intervention(s)	Task Force Recommendations
Implement community-based multiple interventions, including: client reminder and recall systems; media and educational activities; and expanded access to services through non-traditional clinics in 89 counties.	Community-based interventions implemented in combination
Use the registry to generate automated provider reminders for patients needing vaccinations.	Provider reminders
Implement a statewide ShowMeVax immunization information system to record vaccines administered by participating providers.	Immunization information systems
Utilize home visits in 22 counties to promote recommended vaccines and provide referrals to vaccine service providers.	Home visits to increase vaccination rates
Implement vaccination programs in schools and child care centers to educate and promote vaccines, track status and refer under-immunized children to vaccine providers.	Vaccination programs in schools and organized child care centers
Provide immunization assessment, education, promotion and referrals in the Special Supplemental Nutrition Program for Women, Infants and Children (WIC).	Vaccination programs in WIC settings
Use ShowMeVax to deliver client reminders and recalls and educational information.	Client reminder and recall systems
Use ShowMeVax to analyze and evaluate provider performance with delivering vaccines to their patients.	Provider assessment and feedback
Sources: The Association of State and Territorial Health Officials, " Missouri Team Uses Evidence-Based Recommendations to Target Immunization Rates ," 2013.	

3. Build sustainable billing systems. According to a [2012 strategic plan](#) by the New York State Department of Health, three critical components form the foundation of effective billing by local

health departments: information system capacity; third party relationships; and workforce capacity and capability.⁸ In reality, many LPHAs struggle with all of these. For many LPHAs, credentialing—the process used to evaluate a facility in order to become affiliated with insurers and accept reimbursement—and contracting with insurers are major challenges. Other barriers that hinder billing include staff knowledge and capacity, low transaction volume, and staff time and funds to purchase vaccines, software and related personnel costs.⁹

In response, several states have participated in federal and state billing projects to develop sustainable billing systems. The CDC's [Billables Project](#) has awarded more than \$27.5 million to 38 grantees, including Colorado, to help them develop plans to bill insurance companies for vaccine services provided to privately insured patients. States and communities have invested in needs assessments, strategic planning, and implementation of pilot billing projects.

Centralized Billing. Several states have developed strategies to improve billing capacity in public health agencies. Centralized billing consolidates billing—typically for several public health agencies—in a centralized entity that contracts with insurers and processes claims. Centralized billing benefits local agencies by removing billing functions and providing a revenue stream to cover essential vaccine services. By consolidating functions, centralized billing generates economies of scale to support billing staff and systems. Examples of centralized billing projects follow.

- The [Arizona Partnership for Immunization](#) (TAPI) is a coalition of state and local health departments, provider organizations and other immunization stakeholders. TAPI developed an efficient billing system that bills health plans more than \$150,000 monthly in vaccine claims for a total of \$2.5 million in revenue to date.¹⁰ Whereas each county health department struggled to bill on its own, the centralized approach strengthened public health's ability to contract with insurers as network providers.¹¹
- The **Georgia** Department of Public Health's billing program bills Medicaid and insurance payers for immunization services, generating \$1.9 million in revenue.¹²
- The **Massachusetts** billing program contracted with the Commonwealth Medicine Center for Health Care Financing, which submits claims to nine participating public and private health plans. In July 2013, the program expanded to bill for all recommended adult vaccines.¹³

Strengthening LPHA Capacity. Other strategies seek to strengthen local agency capacity to contract with health plans and bill for services.

- A billing and collections pilot program in **Kansas** provides funds to four local public health departments to train staff on billing procedures.¹⁴
- In 2011, **Colorado** established the Reimbursement Immunization Opportunity (RIZO) project to support LPHAs to contract with, and bill private health insurers for vaccinations. The RIZO project awarded grants to 27 LPHAs. In 2013, 46 LPHAs had contracts with Medicaid, Medicare, CHP+ or private health plans. The Colorado Immunization Section also

supported LPHAs by working with some health plans to develop contract templates that eliminated the need for credentialing.

Federal and State Policies to Ensure LPHA's In-Network Status. In general, providers must contract with health plans in order to receive reimbursement, and health plans may deny providers' requests to be considered an in-network provider. Local health departments frequently cite this as a significant barrier that stands in the way of reimbursement for vaccine services. In response, some states have enacted policies to require insurers to recognize public health departments and other vaccine providers as in-network providers or reimburse providers for the full cost of vaccinations, including vaccine administration.

- **Arizona** enacted legislation ([Section 36-673](#)) that enables LPHAs to enter into a contract with private health insurers for the purpose of immunizing school children; it states that insurers that deny or do not respond to an LPHA request to contract must reimburse LPHAs at the rate of an in-network provider.
- In **New York**, the Medicaid Managed Care contract between health plans and the New York State Department of Health requires insurers to reimburse LPHAs for specific public health services provided to Medicaid enrollees, including immunizations. LPHAs do not need to contract with the insurers to receive reimbursement.¹⁵

4. Consider state vaccine purchasing systems. State vaccine purchase financing systems fall into one of four categories: VFC-only, enhanced VFC, universal purchase, and limited universal purchase, also known as universal select (Table 3).

Table 3. Vaccine Finance Systems Defined

Insurance Coverage	Description
VFC-Only	Several states use federal VFC funds to purchase vaccines for VFC-eligible children in the public and private sector.
Enhanced VFC	Like VFC-only systems, the enhanced VFC system uses VFC funds to purchase vaccines for VFC-eligible children in the public and private sector. In addition, enhanced VFC states may use 317 and/or state funds to purchase vaccines for non-VFC eligible and underinsured children in public clinics and private offices. Some states have a partial enhanced VFC approach in which the state purchases some, but not all vaccines.

Universal Purchase (UP)	UP states purchase all recommended vaccines from the CDC federal contract and supply them to providers, free of charge, to administer to all children regardless of insurance status. UP states use VFC funds to purchase vaccines for VFC-eligible children and often rely on a combination of 317 funds and state funds to buy vaccines for non-VFC eligible children. According to the National Conference of State Legislatures (NCSL), as of 2010, six states have universal purchase policies. Insurer fees and assessments support universal systems in Washington and Vermont . ¹⁶
UP Select / UP Limited	UP-select programs purchase vaccines with the exception of one or more vaccines. Once purchased, these vaccines are distributed to all public and private providers, who may charge an administration fee.

State financing approaches are in a state of flux as a result of federal vaccine policy changes, state budget constraints and other factors. Lacking sufficient state funds to support universal programs, several states have ended them, including **North Dakota**, **Wyoming** and **North Carolina**. Wyoming transitioned from a universal purchase state to a universal-select in 2011. In addition to the overarching financing system, states have adopted strategies for purchasing vaccines for non-VFC eligible populations.

Purchase Vaccines from the Federal Contract. Some states purchase vaccines from the federal VFC contract for children enrolled in state children’s health insurance (SCHIP) programs. Because SCHIP enrollees are considered insured, they are not eligible for VFC vaccines. As part of their annual federal SCHIP allotment, states with free-standing SCHIP programs are required to cover vaccines and their administration for SCHIP enrollees. However, states are allowed to purchase vaccines from the federal contract to take advantage of discounted, federal vaccine rates.¹⁷

Several states have established agreements to enable the immunization program to purchase vaccines from the federal VFC contract. In **Colorado**—which currently purchases vaccines from the commercial market—SB 222 removed a statutory prohibition against a vaccine purchase system and authorized CDPHE to purchase vaccines through such a system, should one be developed as a result of the stakeholder process. Among other things, by eliminating the statutory prohibition against vaccine purchase systems, SB 222 enables the HCPF to purchase vaccines from the federal VFC contract for children enrolled in Colorado’s state health insurance program for children, known as Child Health Plan Plus (CHP+). The **New Mexico** VFC Operations Guide includes a [sample inter-agency agreement](#) between state immunization program and the SCHIP program to purchase vaccines from federal and state contracts.

Develop or facilitate participation in state-level purchasing pools. States have sought to increase their purchasing power by joining multi-state or intra-state buying groups or collaboratives. Purchasing pools offer access to discounts and strategic procurement processes.

- Operated by the state of Minnesota, the [Minnesota Multistate Contracting Alliance for Pharmacy](#) (MMCAP) is a consortium of **46 states and cities**, including **Colorado**, that join together to negotiate reduced prices from vaccine and healthcare manufacturers. In addition to MMCAP, there were four operating multi-state purchasing pools in 2012, according to the National Conference of State Legislatures.¹⁸
- The **California** Department of General Services established a new statewide pharmaceutical contract to leverage the purchasing power of several state agencies. Through the [Pharmacy Procurement Collaborative](#), state and local agencies are expected to save money by purchasing as a single entity.

5. Support purchasing pools for vaccine providers. Provider offices and public and safety-net health clinics experience significant differences in the costs associated with purchasing vaccines, as well as the reimbursement they negotiate with insurers. Providers that purchase large quantities of vaccines or in combination with other practices have more leverage to negotiate with vaccine manufacturers and insurers than smaller provider offices and health departments. A CDC-led study of 34 physician practices in Georgia found that solo or two-physician practices paid more, on average, for vaccines than practices that participated in a purchasing cooperative or buying group. Larger multiple-doctor practices also tended to get reimbursed at a higher level for most vaccines.¹⁹

As a result of these issues, the Vaccine Finance Working Group (a group formed by the National Vaccine Advisory Committee) recommended that providers, especially in small practices, “should participate in pools of vaccine purchasers to obtain volume ordering discounts. This may be done by individual providers joining or forming purchasing collaboratives, or through a regional vaccine purchasing contract held by professional medical organizations on behalf of providers.”²⁰

6. Expand registry to support vaccine providers and integrate ordering, tracking and monitoring. Immunization information systems, or registries, are powerful tools that have the potential to help providers in multiple ways, such as by generating patient reminders and recalls, improving provider efficiency through vaccine inventory functions, and reducing the provider’s need to review charts when patient data is complete.²¹ Promoting provider participation in registries and their full use of registry functions can support effective and timely vaccine delivery. Following are some state examples aimed at bolstering immunization outcomes through the state registry.

- The **Colorado** Immunization Information System (CIIS) collects and disseminates consolidated immunization information, forecasts needed immunizations, performs inventory management and generates patient reminders and recalls.²² In 2013, CDPHE’s Immunization Section initiated a new vaccine ordering module (VOM) in CIIS that will allow VFC providers to place online vaccine orders, and monitor shipping (among other functions).²³

- **Illinois'** system allows VFC providers to use Illinois Comprehensive Automated Registry Exchange (I-CARE) to track shipments, monitor VFC vaccine inventory, run reports, etc.²⁴
- **Missouri** has adopted several evidence-based strategies (Table 2), including implementation of a statewide ShowMeVax registry, to increase immunization rates and increase provider participation in the registry. Based on provider feedback, ascertained through provider surveys, the state is implementing client reminders and provider assessment and feedback.

7. Develop public-private models. The vaccine system in the United States has long relied on federal and state partnerships with the private sector and local public health to deliver vaccines broadly to private practices, public health agencies, health departments, health centers, schools, and retail pharmacies, among others. In times of public health emergencies, the federal government purchases and distributes pandemic vaccines to states. Recognizing the critical roles that each entity and provider plays in assuring timely access to recommended vaccines, state and local strategies commonly engage multiple stakeholders to achieve intended public health outcomes. Public-private models exist throughout the immunization system and can be found in policy and planning, immunization registry initiatives, financing and distribution strategies, and other areas.

- **Washington's** vaccine financing system relies on public and private sector collaboration. Payers contribute to a DOH-administered fund, which is eligible for reduced CDC pricing. HB 2551, signed into law in 2010, established the WA Vaccine Administration (WVA), a non-profit corporation funded by mandatory assessments from payers, including self-insured companies. The WVA oversees financing of the UP system, and the DOH maintains responsibility for purchasing and distributing vaccine to providers.
- Numerous states (e.g., **CO, ID, IN, TX**) are engaging in stakeholder engagement projects to examine financing and delivery approaches.²⁵

CONCLUSION

As the vaccine and overall health care landscape changes, states and localities have been seeking ways to improve the way that they finance and deliver vaccines. Approaches vary from educating LPHA staff and sharing best practices to systemic changes that invest public resources to achieve intended outcomes. Colorado has already taken steps in many of these areas—working with LPHAs to bill for services, for example—and the stakeholder process established through SB 222 will identify important next steps to achieve the goal of increased access to childhood vaccines.

¹ Council of State Governments' Healthy States Initiative, "[Talking Points: Paying for Vaccines](#)," Accessed in January 2014.

² Jon S. Abramson, "[National Vaccine Advisory Committee 2008 Vaccine Financing Recommendations: Different Points of View](#)," *Pediatrics* 124, Supplement 5 (December 2009): 569-570.

³ Colorado Health Institute, Colorado Health Access Survey: 2013 Key Findings (Denver, CO.: CHI, November 7, 2013).

-
- ⁴ Phillip J. Smith, Noelle-Angelique Molinari and Lance E. Rodewald, "[Underinsurance and Pediatric Immunization Delivery in the United States](#)," *Pediatrics* 124, Supplement 5 (December 2009): 507-514.
- ⁵ National Research Council, [Calling the Shots: Immunization Finance Policies and Practices](#) (Washington, D.C.: The National Academies Press, 2000), 79.
- ⁶ Colorado Department of Public Health and Environment, unpublished and draft report, *Overview of Vaccine Access in Colorado*, October 2013.
- ⁷ Edie Sohn, Lisa VanRaemdonck and Lou Ann Wilroy, [The Role of Local Public Health Agencies in Achieving Triple Aim](#) (Center for Improving Value in Health Care and Colorado Association of Local Public Health Officials, May 2013)
- ⁸ Bureau of Immunization and Office of Public Health Practice, [Immunization Billing by Local Health Departments: New York State Strategic Plan](#) (Albany: New York State Department of Health, June 2012), 12.
- ⁹ Duane Kilgus, "[Billing Program Final Plans](#)" (presentation at the billing stakeholder meeting, February 2012). meeting <http://www.cdc.gov/vaccines/spec-grps/prog-mgrs/billables-project/downloads/billing-final-plans-from-stkhldr-mtg-slides.pdf>, p 22
- ¹⁰ CDC, "[Billables Project Success Stories](#)," Sept. 24, 2013.
- ¹¹ [Ibid.](#)
- ¹² [Ibid.](#)
- ¹³ [Ibid.](#)
- ¹⁴ Kansas Health Institute, "[Pilot project aims to reduce billing errors at local health departments](#)," October 10, 2013.
- ¹⁵ Bureau of Immunization and Office of Public Health Practice, [Immunization Billing by Local Health Departments: New York State Strategic Plan](#) (Albany: New York State Department of Health, June 2012), 9.
- ¹⁶ Vermont Department of Health, "[Immunization Program VFC/VFA Overview](#)," January 2013.
- ¹⁷ National Research Council, [Calling the Shots: Immunization Finance Policies and Practices](#) (Washington, D.C.: The National Academies Press, 2000), 79.
- ¹⁸ National Conference of State Legislatures, "[Pharmaceutical Bulk Purchasing: Multi-State and Inter-Agency Plans](#)," March 2013.
- ¹⁹ AHIP, 12
- ²⁰ <http://www.hhs.gov/nvpo/nvac/cavfrecommendationssept08.html>
- ²¹ America's Health Insurance Plans, *AHIP Vaccines and Immunization Roundtable Report: Vaccine Financing* (Washington D.C.: AHIP, August 2009), 29.
- ²² Colorado Children's Immunization Coalition, "[Senate Bill 222 Frequently Asked Questions](#)," 2013.
- ²³ Diana Herrero presentation, "[CIIS Program Overview](#)" (presentation at the CIIS Expansion Stakeholder Meeting, October 10, 2013).
- ²⁴ American Academy of Pediatrics Illinois Chapter, "[VFC Illinois](#)," Sept. 2012.
- ²⁵ American Academy of Pediatrics, "[5 State Chapters Awarded Immunization Congress Grants](#)," AAP Immunization Initiatives Newsletter, May 2008.