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Implementing the Universal Vaccine Purchasing Program in New Jersey: Policy and Practice Considerations

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Executive Summary

Immunizations are vital for public health, as they play a crucial role in safeguarding communities from vaccine-preventable diseases, with the downstream benefit of mitigating more substantial healthcare costs. The COVID-19 pandemic and NJ's vaccine distribution efforts highlighted the importance of a centralized, accessible, and equitable public health infrastructure. However, recent shifts, such as the commercialization of COVID-19 vaccines and the rising costs of other vaccines recommended by the Centers for Disease Control and Prevention Advisory Committee on Immunization Practices (ACIP), pose challenges to vaccine providers operating within a multi-payer system. These challenges can result in the unintended consequence of reducing access to vaccines and lowering vaccination rates across the state, which is obviously counter to New Jersey's efforts to sustain a robust public health infrastructure.

These concerns prompted the New Jersey Department of Health (NJDOH) to engage the Rutgers Center for State Health Policy (CSHP) to conduct an analysis of Universal Vaccine Purchasing (UVP) programs to inform the Department's and the state's planning. These programs, implemented in several states, allow for state-purchased vaccines to be distributed to all children and in some cases adults. This report explores how these programs have evolved since CSHP's previous analysis of UVP programs shared in a 2005 report.

This report identifies best practices in other state UVP program designs and highlights the policy tradeoffs, stakeholder impact and financial and operational considerations that should be explored prior to pursuing a UVP strategy for New Jersey.

Methods

To evaluate current UVP programs and the potential for implementing one in NJ, we interviewed state officials in nine states with a current UVP program: Alaska, Connecticut, Idaho, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont, and Washington, and one state considering implementing a program (Oregon). Additionally, we interviewed NJ state officials, vaccine program leaders, and a broad array of stakeholder constituencies, including providers, insurance companies/health plans, and advocacy organizations. Moreover, we conducted an extensive document review of peer-reviewed and gray literature produced related to state and federal vaccine policies and programs since CSHP's 2005 report.

Key Findings from UVP States

Program Structure and Importance of Stakeholder Support

As all nine states interviewed established their UVP programs decades ago, they have modified their eligibility and scope of coverage to address changes in vaccine requirements and funding challenges. Most states continue limiting the UVP program to children, but a few states - Alaska, Rhode Island, and Vermont - now include adults. For ACIP schedule vaccines, most states permit participating providers to choose any vaccine brand on the ACIP schedule (choice states), while others limit the brand choice (RI, AK).

Financing & Sustainability

In contrast to 2005, when most state UVPs were supported through a combination of federal and state general funds, all UVP states have transitioned to an insurer assessment funding model that mandates all or most health insurers/payers in the state to pay an assessment for privately insured children (and adults if applicable) covered by their plans into a state vaccine program. The state uses these assessment funds in combination with federal Vaccines for Children (VFC) and Section 317 of the Public Health Service Act funds to procure vaccines at a reduced price under the VFC federal contract for all eligible children/adults, which are distributed to participating providers. **This modification is the most significant change to other state UVP programs since our last report**.

All state authorizing **legislation for the vaccine fund** included the creation of a governing board comprised of key stakeholders to set policy and ensure transparency in fund collection and assessment setting, monitoring expenses, and tracking key performance metrics for the legislatures. Before mandating legislation was passed, all states indicated the need for **strong coalition building and extensive stakeholder engagement** with key constituencies, including payers, providers, and state health officials, and the identification of a legislative program champion.

Garnering Payer, Manufacturer and Provider Participation

All UVP states reported **minimal pushback from payers** when the financing shifted to the assessment model. Similarly, vaccine **manufacturers were also largely supportive** and active in the discussion particularly on the issue of choice/non-choice of what vaccines the program would cover. However, program experts acknowledged that securing manufacturer's support could be challenging due to higher vaccine costs and market competition for states intending to implement a UVP program. While the vaccine funding assessment is mandatory for private health plans, **providers are not mandated** to participate. The challenge, however, is that providers purchasing vaccines outside of the UVP program will not be reimbursed by private insurers for vaccines except for vaccines that are not covered by the UVP program. This becomes the financial incentive or "carrot" for providers to participate in the UVP program.

Insights from NJ Stakeholders

Many interview participants recognized that a UVP model could offer several advantages, particularly in **reducing administrative burdens for smaller provider practices** that struggle with the costs and logistics of maintaining separate vaccine stocks. Though there has been considerable consolidation of practices being absorbed by larger health systems in New Jersey, the state has had a history of small or micro primary care practices for which vaccine planning and purchasing has gotten more difficult. Several stakeholders have noted a decline in provider participation in New Jersey's current VFC program, partly due to the perceived excessive oversight and administrative burden. All stakeholders felt the need for a transparent planning

process engaging all stakeholders (i.e., payers, providers, manufacturers) to define goals and secure strategic buy-in. The success of such a program would depend heavily on broad provider and payer participation and commitment to the program. Some stakeholders suggested conducting periodic evaluations of the program's effectiveness and appropriateness post-implementation to ensure that it continues to drive value for the state and contributes to the improvement of public health.

Considerations for New Jersey

Should New Jersey decide to pursue a UVP, we would recommend the following preparatory steps based on other states' experience and guidance from NJ stakeholders:

- **Develop a comprehensive stakeholder engagement strategy to build coalitions**: early and consistent engagement with key stakeholders, including healthcare providers, payers, and manufacturers is essential to build support and develop a clear program framework.
- **Design an achievable plan and remain flexible**: starting with a UVP program focused on children may help build consensus and demonstrate proof of concept, allowing for smoother statewide implementation.
- **Identify a sustainable funding strategy**: New Jersey should consider adopting an assessment-based funding model, which has proven successful in other states. This model should account for both vaccine management and operational costs.
- **Create a multi-pronged public education plan**: develop timely, accurate, culturally sensitive, and evidence-based information in plain language for families and communities, particularly in response to the politicization of vaccination during the COVID-19 pandemic. Provide education to healthcare providers to address misconceptions about state VFC requirements. Additionally, transparent messaging is essential to address concerns from the anti-vaccine community regarding individual participation mandates.
- **Legislative and oversight considerations**: establishing a transparent governance structure and ensuring flexibility in program design will be crucial to the long-term success of a UVP program. Additionally, it is vital to ensure that the statutory language allows for the purchase of all state-supplied vaccines at a CDC discounted price.

- **Develop a comprehensive operational plan that includes training and evaluation**: enhancing the New Jersey Immunization Information System (NJIIS) infrastructure will be essential for monitoring and tracking vaccine orders. Strategic planning and proper resource allocation are vital for overcoming initial fiscal and implementation challenges.

As New Jersey turns the page, continuing to fortify a strong public health infrastructure in a post-COVID-19 world, vaccine strategy planning is a core component and exploring the option of a UVP is a timely consideration.

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Introduction

Achieving universal and equitable access to vaccination is crucial for public health. Ensuring that everyone, regardless of their socioeconomic status or geographic location, has access to vaccines helps prevent the spread of infectious diseases and protects vulnerable populations. To ensure comprehensive vaccine coverage, some states have implemented Universal Vaccine Purchasing Systems (UVPS) or Universal-Select programs (collectively UVP). These programs provide state-purchased access to all or selected Advisory Committee on Immunization Practices (ACIP) recommended vaccines at the federal discounted rate offered by the Centers for Disease Control and Prevention (CDC). Healthcare providers can obtain these vaccines free of charge to administer to their patients.[1]

In 2005, Rutgers Center for State Health Policy (CSHP) examined the feasibility of New Jersey implementing a UVP program but concluded that the costs of implementation outweighed the potential benefits to the state at that time.[2] More recent lessons learned from the COVID-19 pandemic and the successful distribution of the COVID-19 vaccine to the entire population in the state has precipitated new interest in considering a UVP program in New Jersey to address limitations and gaps within the existing multi-payer vaccine coverage system. Financial and administrative burdens on vaccine providers to purchase new and more expensive ACIP recommended vaccines that are not fully reimbursed by payers threaten their participation going forward. This in turn could reduce access to vaccines for consumers and ultimately lower vaccination rates in the state.

In January 2024, the New Jersey Department of Health (NJDOH) engaged CSHP through a Memorandum of Agreement (MOA) to conduct an updated analysis of current UVP programs in

other states to assess how these programs have evolved or been adapted over time and document best practices and lessons learned that may be applicable to vaccine policymaking in New Jersey. This report highlights the policy tradeoffs and operational and financing considerations that should be explored prior to the state pursuing a UVP program model.

Background

Immunizations are essential for public health, protecting communities from vaccine-preventable diseases and reducing healthcare costs. Routine childhood vaccinations have a profound impact on public health outcomes by preventing a significant number of lifetime illnesses, hospitalizations, and fatalities among children.[3] According to recent estimates, routine vaccinations among children born between 1994 and 2023 have prevented approximately 508 million lifetime cases of illness, 32 million hospitalizations, and 1,129,000 deaths, resulting in a net savings of $540 billion in direct costs and $2.7 trillion in societal costs.[4] Ensuring universal and equitable access to vaccinations is critical to protecting all individuals from vaccine-preventable diseases by addressing economic, logistical, and attitudinal barriers.[5]

In recent decades, federal policies have improved access to vaccines by reducing financial barriers. Established by Congress in 1993, the Vaccines for Children (VFC), a federal entitlement program administered by the CDC and the states, has been instrumental in reducing financial and logistical barriers to immunization for uninsured, underinsured, Medicaid-enrolled children, as well as American Indian/Alaska Native populations.[6] Under this VFC model, the CDC purchases vaccines directly from manufacturers at a federally discounted price and distributes them to state grantees who then provide the vaccines at no charge to VFC providers.[7] Significantly, more than half of children (52.6%) born in 2020 in the US were eligible to receive vaccinations through this program.[8] In NJ, 750 providers currently participate in the VFC program.[9]

Section 317 of the Public Health Service Act provides federal grants to support immunization program operations and infrastructure support, and vaccine purchases for the uninsured and underinsured. Originally intended to purchase pediatric vaccines, the Section 317 program has

changed over time after VFC and the Affordable Care Act (ACA) and is currently the only source of federal funding to support vaccine purchase for un- and under-insured adults. Section 317 funding is discretionary, unlike the VFC program, which is an entitlement program. Funding levels for Section 317 have not kept pace with rising costs and the growing number of new vaccines recommended by ACIP for all eligible adult populations.[10, 11]

The landscape of commercial insurance vaccine coverage has undergone significant changes due to the ACA. Since 2014, all individual and employer-sponsored private health plans under the ACA's preventive services coverage standards must cover ACIP-recommended vaccines without any additional cost.[12] While the ACA required first dollar vaccine coverage by private insurance plans, it did not extend those same requirements to the Medicare or Medicaid populations.[13] A 2020 study by Shen et al. found that fewer than half of state Medicaid programs covered all CDC-recommended vaccines for eligible adults, and nearly a third allowed cost-sharing for vaccines.[14] In 2022, the Inflation Reduction Act (IRA) sought to address some of these gaps in Medicare and Medicaid adult vaccine coverage by including provisions to align Medicare's vaccine coverage with those required of private insurers through the ACA (i.e., first-dollar vaccine coverage at no cost to the consumer). The IRA also provides incentives to state Medicaid programs to make similar changes and requires states to remove those financial barriers to access as of October 2023. Once these coverage barriers are removed, it is estimated 9 out of 10 Americans will have access to vaccines at no cost.[15, 16]

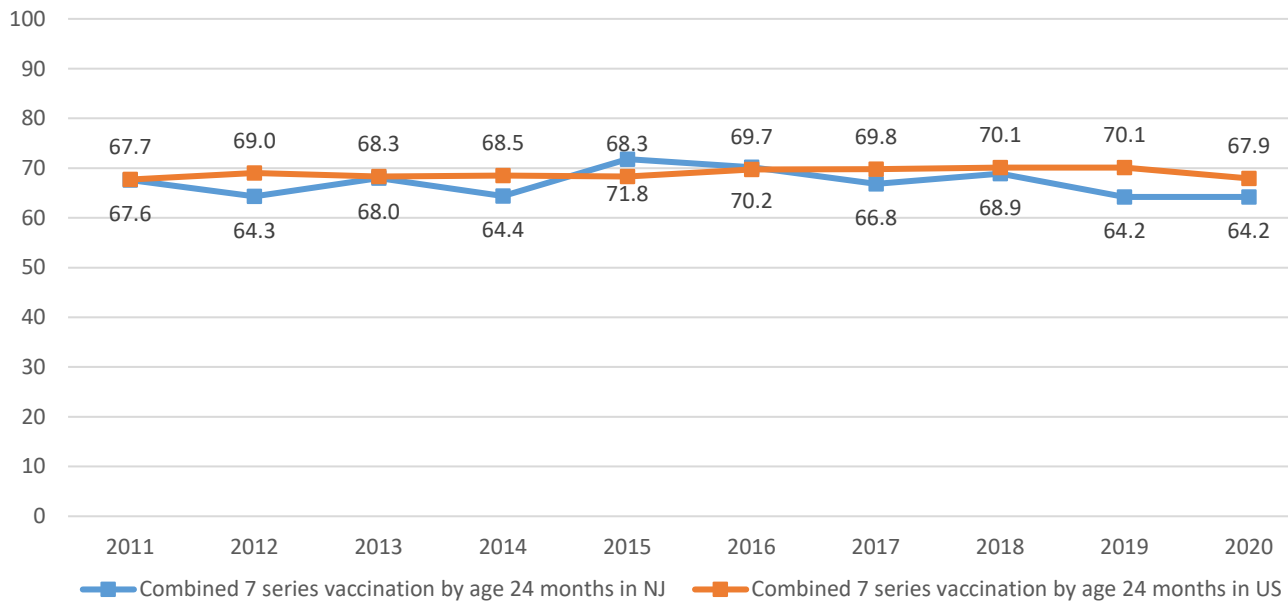
The COVID-19 vaccine required a Herculean effort to design and implement fast and efficient distribution mechanisms to make vaccinations available to the entire population. The COVID-19 pandemic revealed inherent gaps and inequities in the existing insurance-dependent immunization strategy. Given the urgency and imperative for rolling out the vaccine quickly and on a scale never seen before, under the Public Health Emergency (PHE), the federal government entered into bulk purchasing agreements with manufacturers that guaranteed large-scale purchase and accessible distribution. Moreover, with the commercialization of the COVID-19 vaccines, the federal government aimed to maintain adult immunization rates and reduce health disparities among economically and socially marginalized groups by continuing to provide free vaccines through the Health and Human Services Bridge Access Program, which

ensures access for adults without adequate insurance coverage.[17, 18] The Biden administration also proposed in both the FY23 and FY24 budgets to create a Vaccines for Adults program, making immunization infrastructure investments, extending VFC to all children younger than the age of 19 enrolled in the Children's Health Insurance Program (CHIP), and consolidating vaccine coverage for older adults under Medicare Part B.[19]

Despite these federal policy advancements in coverage, gaps remain in the implementation and accessibility of vaccine programs. For example, the cost to providers to purchase and administer expensive vaccines such as pneumococcal, respiratory syncytial virus, human papilloma virus, COVID-19, etc. in a complicated multi-payer system is a challenge and may not be sustainable. A 2017 survey of pediatric and family practices found payment across payers was insufficient to cover the cost of vaccine delivery, with 21-39% reportedly being paid less than the vaccine purchase price and low or no reimbursement for vaccine administration fees.[20]

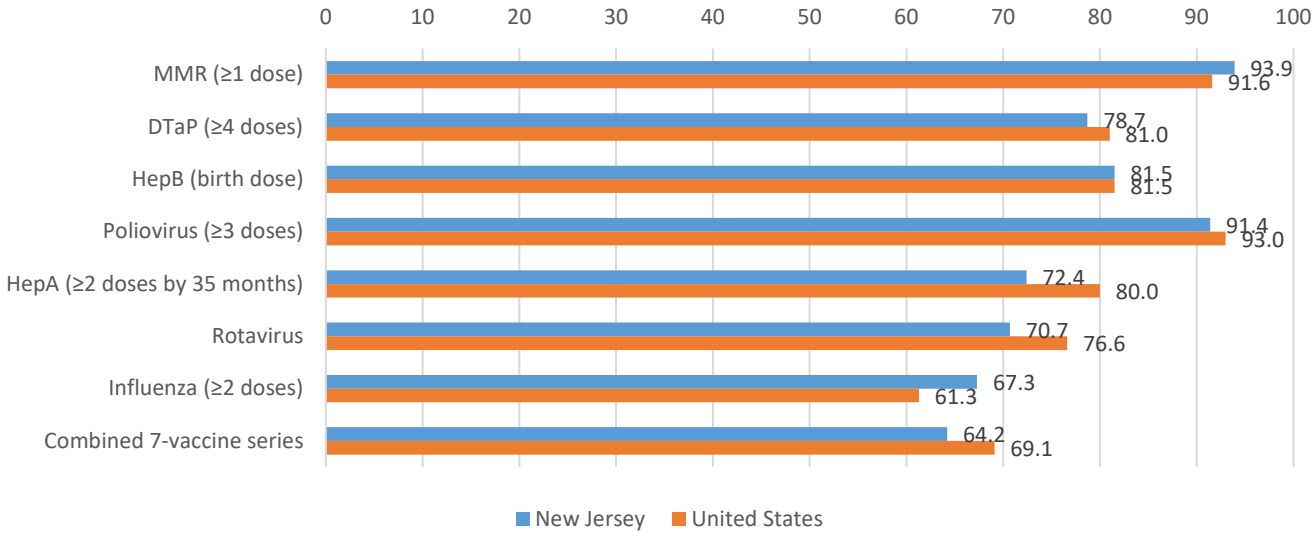
The pandemic-related disruptions in access to medical care in New Jersey, as well as nationally, have led to a sustained decrease in ACIP-recommended childhood vaccination rates.[21] As shown in Figures 1 and 2, New Jersey's combined 7-vaccine series yearly trend by birth year and the rate for children born in 2019-2020 was lower than the national average in 2022 (Figures 1-2).[22]

Figure 1: Vaccination Rates for Combined 7 Series Vaccines by Birth Year by Age 24 Months



Data source: National Immunization Survey-Child 2020-2022, United States (MMWR (11/03/2023)).
The combined 7-vaccine series (4:3:1:3:3:1:4) includes ≥4 doses of DTaP, ≥3 doses of poliovirus vaccine, ≥1 dose of measles-containing vaccine, the full series of Hib (≥3 or ≥4 doses, depending on product type), ≥3 doses of HepB, ≥1 dose of VAR, and ≥4 doses of PCV.

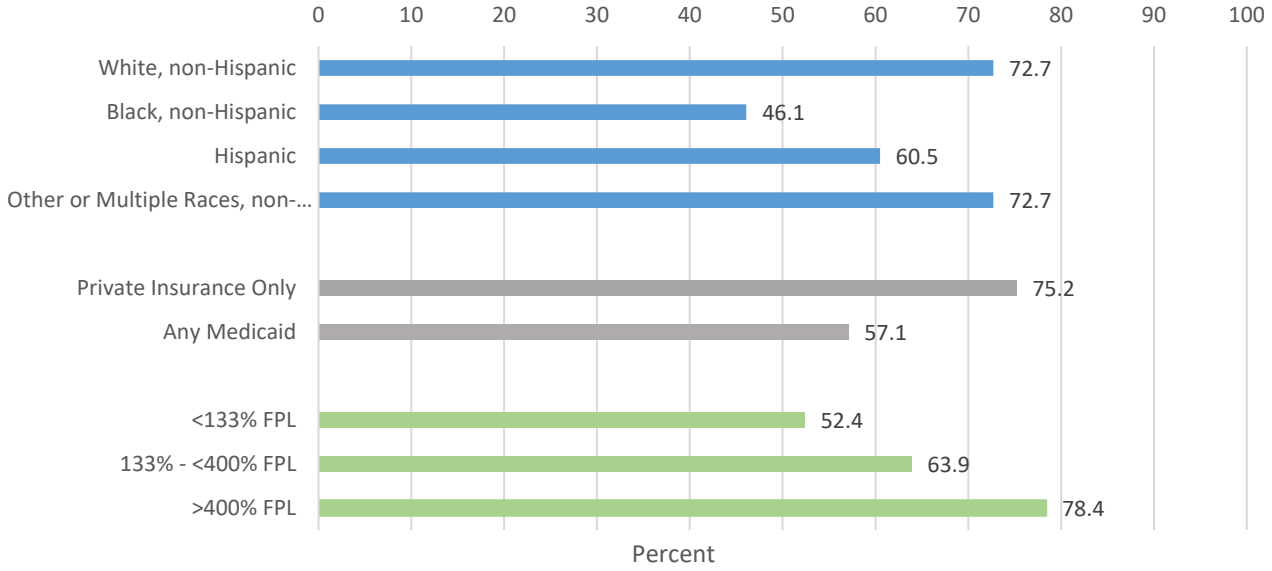
Figure 2: Estimated Vaccination Coverage with Selected Individual Vaccines and a Combined Vaccine Series* by Age 24 Months Among Children Born in 2019-2020



Data source: National Immunization Survey-Child 2020-2022, United States (MMWR (11/03/2023)).
The combined 7-vaccine series (4:3:1:3:3:1:4) includes ≥4 doses of DTaP, ≥3 doses of poliovirus vaccine, ≥1 dose of measles-containing vaccine, the full series of Hib (≥3 or ≥4 doses, depending on product type), ≥3 doses of HepB, ≥1 dose of VAR, and ≥4 doses of PCV.

Vaccination rates also showed stark discrepancies based on race, income, and insurance status (Figure 3). As New Jersey continues to advance population and public health strategies to achieve health equity, these disparities along racial, income and insurance lines are both troubling and a call to continued policy action.

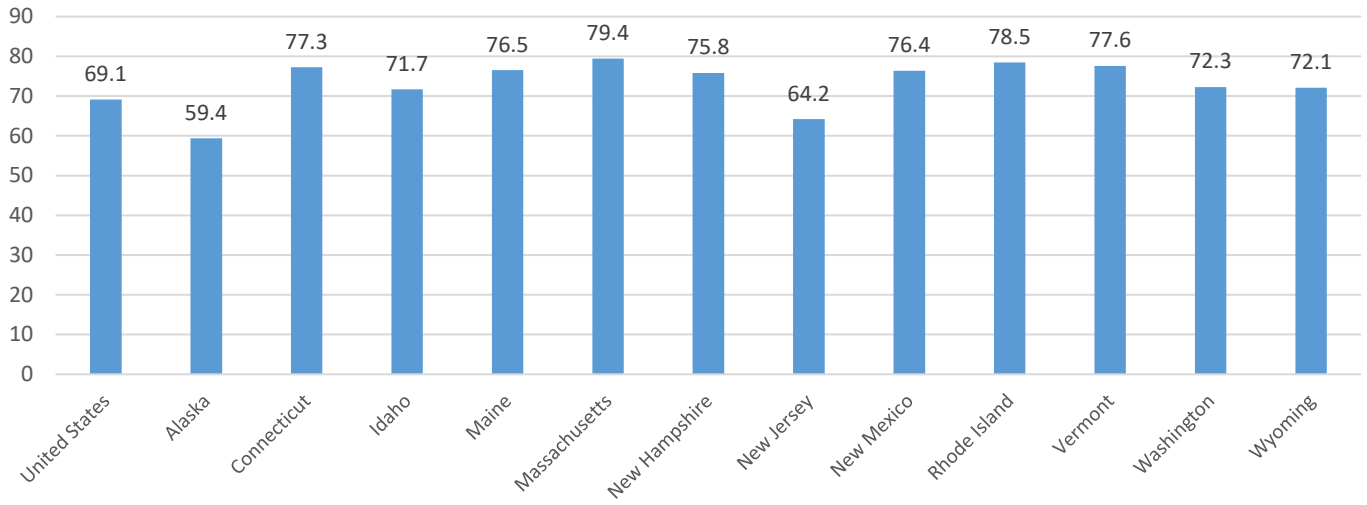
Figure 3: Estimated Vaccination Coverage with a Combined Vaccine Series* by Age 24 Months Among Children Born 2016-2019 in New Jersey by Demographic Characterisitics



Data source: National Immunization Survey-Child 2020-2022, United States (MMWR (11/03/2023)).
The combined 7-vaccine series (4:3:1:3:3:1:4) includes ≥4 doses of DTaP, ≥3 doses of poliovirus vaccine, ≥1 dose of measles-containing vaccine, the full series of Hib (≥3 or ≥4 doses, depending on product type), ≥3 doses of HepB, ≥1 dose of VAR, and ≥4 doses of PCV.

Additionally, New Jersey's combined 7-vaccine series rate for children born in 2019-2020 by 24 months was lower than most states with UVP programs, further prompting an interest in revisiting this program model (Figure 4).

Figure 4: Estimated Vaccination Coverage with a combined vaccine series* by age 24 months among children born in 2019-2020 in UVPS States and New Jersey



Data source: National Immunization Survey-Child 2020-2022, United States (MMWR (11/03/2023))
The combined 7-vaccine series (4:3:1:3:3:1:4) includes ≥4 doses of DTaP, ≥3 doses of poliovirus vaccine, ≥1 dose of measles-containing vaccine, the full series of Hib (≥3 or ≥4 doses, depending on product type), ≥3 doses of HepB, ≥1 dose of VAR, and ≥4 doses of PCV.

Methods

The project team conducted an extensive document review of peer reviewed and gray literature produced since CSHP's 2005 report to document changes in UVP programs. Additionally, the team reviewed UVP program documentation from various states gathered through internet searches or obtained directly from program staff. The protocol for this study was reviewed by the Rutgers Institutional Review Board (IRB) and determined to be non-human subjects' research.

As of June 2022, based on NJDOH information, the team identified 11 states with either UVPS (N=9) or universal-select programs (N=2). Semi-structured interviews were conducted with officials from nine states: Alaska, Connecticut, Idaho, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont, and Washington. Most of these states, with the exception of CT and VT, were also interviewed for the prior report. During our interviews, state UVP program officials recommended outreach to officials in Oregon, a state that is currently contemplating a universal program, and program staff at KidsVax, a vendor for administrative services for several of the states. Finally, the team interviewed New Jersey policymakers and vaccine

program leaders as well as a broad array of stakeholder constituencies including providers, insurance companies/health plans, and advocacy organizations about their support, concerns, perceived facilitators/barriers, and logistical challenges for implementing a UVP program in New Jersey. The team conducted 22 Zoom interviews with 32 participants, all of whom gave informed consent. The interview protocol can be found in the Appendix.

In addition to reaching out to learn from more "mature" UVP programs around the country, the study team also gathered reflections and feedback from New Jersey program and policy leaders and other relevant stakeholders to better understand the current environment in NJ including challenges with vaccine availability, uptake and provider participation in NJ's VFC and 317 programs. The study team also analyzed National Immunization Survey data to compare immunization rates between the 11 UVP states and New Jersey.[24]

Results

Insights from New Jersey Stakeholders

Insights from New Jersey Department of Health officials, stakeholders, and subject matter experts highlight significant challenges in implementing a Universal Vaccine Program, particularly financial strain, administrative burdens, and the need for legislative support. Although VFC vaccines come at no cost to providers, poor Medicaid administration fees pose a barrier to participation. As a result, some practices have significantly limited their Medicaid patient intake, shifting the burden to the state's 22 federally qualified health centers (FQHCs) that now serve as a critical support system for these children. One stakeholder explained that "a lot of practices have stopped giving VFC vaccines out for various reasons, a lot because of Medicaid reimbursement rates." Enforcement mechanisms are weak, while providers are supposed to comply with state regulations, enforcement is largely driven by complaints from third parties rather than proactive oversight.

Despite these concerns, many interview participants recognized that a UVP model could offer several advantages, particularly in reducing administrative burdens for smaller practices that

struggle with the costs and logistics of maintaining separate vaccine stocks. From the interviews we conducted, we learned that there is an opportunity for provider education. Some stakeholders expressed that a UVP model could lead to simplified rules and lower costs, believing that everything would be easier without the need to place vaccines in different refrigerators or follow multiple sets of rules. However, this reflects a common misconception. While VFC vaccines do need to be kept separate, this can be achieved by using different containers or shelves within the same unit—there is no requirement for a separate refrigerator. Addressing this misunderstanding through education could reduce unnecessary concerns about the VFC program and encourage broader provider participation.

However, the interviews also brought to light various administrative and political obstacles to implementing a UVP. Challenges related to procurement, storage, and distribution logistics were frequently mentioned, along with significant resistance from anti-vaccine groups in New Jersey. This resistance complicates efforts to mandate participation in the program, as illustrated by one stakeholder's comment: “Any change to the vaccine policy triggers them,” highlighting the potential opposition to any new initiative. Additionally, New Jersey faces unique procurement challenges that further complicate the implementation of a UVP. State laws currently prevent the direct purchase of vaccines from the CDC contract, requiring a formal bidding process instead. Although temporary workarounds were used during COVID-19, these do not extend to routine vaccines. As one stakeholder noted, "there might need to be legislation in order for us to be able to order routine vaccines off the CDC contract." This legislative change is essential for implementing a universal vaccine program (UVP) in New Jersey. It would enable access to the CDC’s discounted vaccine prices and established distribution network, which would help control costs and streamline logistics. Without it, higher costs and operational inefficiencies could undermine the success of the UVP.

Additionally, interviewees expressed concerns about the capacity of the current immunization infrastructure, including the VFC program, which is already strained. Many providers voiced apprehension about their ability to handle the increased demands of an expanded UVP. As one

provider shared, "We have barely enough staff to do what we need to do for the VFC program as it exists."

Further insights from these interviews emphasized the importance of learning from other states with established UVPs to understand best practices and potential pitfalls. Successful implementation would require legislative backing, comprehensive planning, and a clear understanding of funding and administrative responsibilities. Stakeholders also underscored the necessity of regular evaluations to ensure the program remains effective over time. As one stakeholder observed, “They should start now... building some trust and momentum from the pediatricians so they understand what it is and how it affects them. The current system is held together by some band-aids... but I think it'd be a great thing to do.”

Overall, all interviewees favored implementing the program. They said that a UVP program could address current challenges by improving vaccine distribution, alleviating provider burdens, and enhancing public health outcomes across the state. However, they also underscored substantial political, financial, and administrative obstacles to implementation.

What we Learned from Other UVP States

Initial Program Designs Were Modified Over Time

As in 2005, most states with UVP programs offer universal coverage for children only (CT, ID, MA, ME, NH, WA). Currently, only three states (AK, RI, VT) provide universal vaccines for both children and adults, though ME and MA are planning to expand to adults. For states that cover adults, some states limit the adult vaccines covered on the ACIP schedule. For instance, VT covers all adult vaccines for ages 19-64, while RI covers all age groups excluding RSV and Shingles. In 2007, CT switched from a universal to a universal-select program due to the high cost of adding the Pneumococcal Conjugate Vaccine (PCV), though PCV was later reinstated. Applying the lessons learned from this experience, CT adopted a phased approach for adding HPV, ensuring coverage for all relevant age groups. Beginning July 1, 2024, CT became a universal vaccine state, covering all ACIP-recommended vaccines for children. In contrast, ID,

which has been a universal purchase state, became universal- select in October 2023. This change was prompted by the addition of newer biologic products such as nirsevimab to the ACIP-recommended list. These products did not fit the state's existing definition of vaccines, which only included killed microorganisms, living attenuated organisms, or living fully virulent organisms according to their enabling statute.[23]

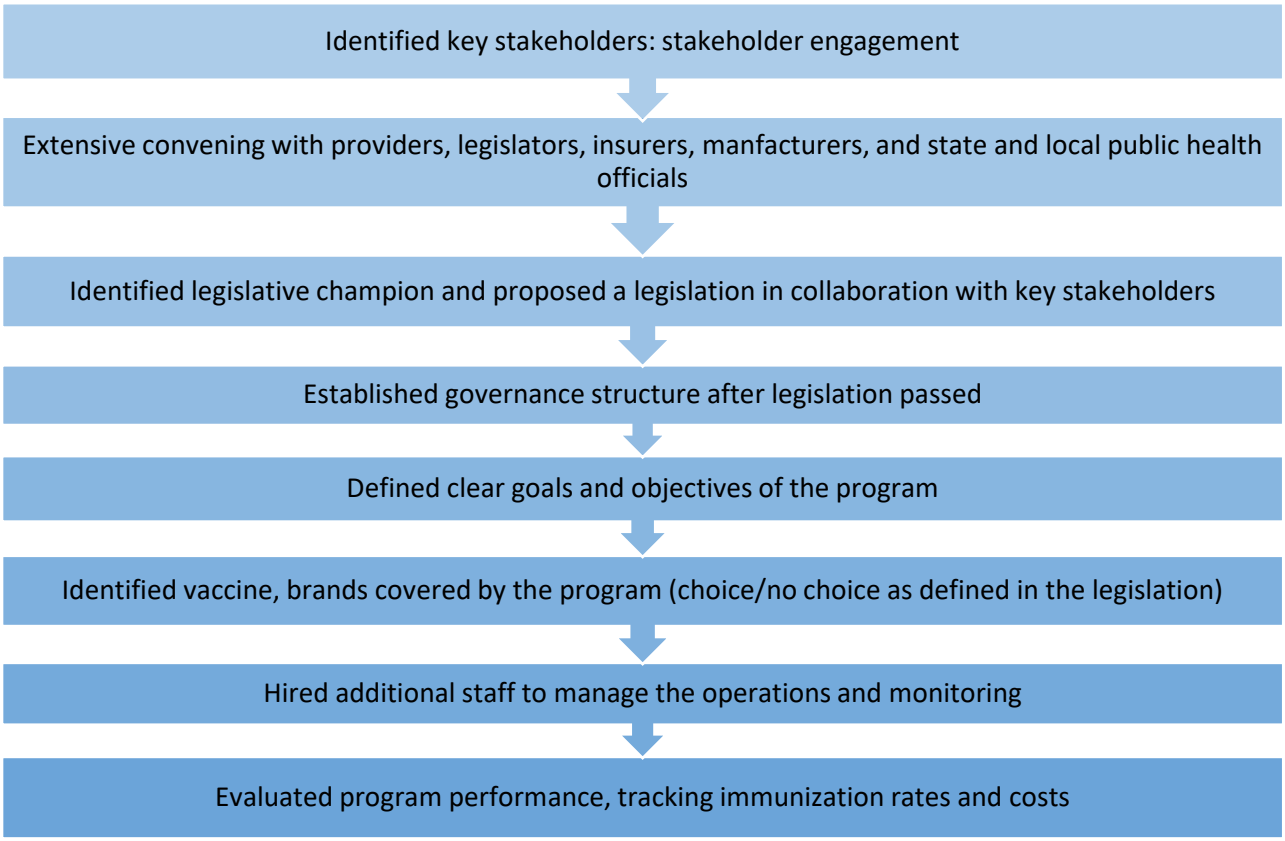
All nine states interviewed established their UVP programs decades ago, most predating the VFC program. Initially funded by a combination of federal, state, and private sources, many of these programs have encountered financial sustainability issues due to shrinking budgets and increasing vaccine costs. Consequently, some programs have modified the scope of their immunization activities and funding mechanisms to adapt to the changing landscape. For example, 2 years prior to the passage of its Vaccine Purchase trust fund, MA became universal-select due to escalating costs of newer HPV and pneumococcal vaccines. In 2008-2009, budget cuts in ID and WA prompted the need for alternative funding mechanisms to maintain their universal status. Additional detail about state vaccine programs and selected quotes from interviews can be found in Tables 1-3 below.

Program Structure and Importance of Stakeholder Support

In contrast to 2005, when most state UVPs were supported through a combination of federal and state general funds, nearly all UVP states interviewed for this report have transitioned to a funding model based on assessments from health care payers in the state. For the sustainability of the UVP program, it was essential to enact state legislation to mandate payers, including insurers and third-party administrators, to contribute their share to the state fund. Prior to enacting legislation, all states underscored the vital importance of building coalitions and actively engaging with stakeholders, including payers, providers, and state officials, all while identifying a legislative champion. In addition, the legislation required states to establish a governance structure for setting policies, ensuring transparency in fund collection and assessment setting, monitoring expenses, and tracking key performance metrics for the legislatures. The state vaccine program oversees day-to-day operations, such as managing the Immunization Information System (IIS), ordering vaccines, tracking orders, monitoring, conducting site visits, evaluating programs, and providing education to providers. Most UVP

states contract with an external vendor for assistance with assessment rate setting and to provide administrative support to the Vaccine Board (see Figure 5). When asked about opposition from anti-vaxxers, most states reported minimal resistance. All states emphasized the importance of conveying a clear message that the legislation does not mandate vaccinations but instead focuses on funding mechanisms.

Figure 5: Standard UVP Program Implementation Steps (as synthesized from state interviews)



Garnering Payer and Manufacture Buy-in

State UVP programs that transitioned to a financing model based on insurer assessments suggested the need for a comprehensive planning process that included all stakeholders and transparency about the goals and process to ensure full buy-in. All UVP states interviewed had already been supporting vaccines for all children and certain adult populations through a combination of federal and state funding. This approach resulted in minimal resistance from

payers, who recognized the state had been covering the vaccine costs for their privately insured patients.

When asked about manufacturers' support/opposition to financing or other modifications to program design, most state UVP programs indicated the vaccine manufacturers were largely supportive and active in the discussion, particularly on the issue of choice/non-choice of what vaccines the program would cover. UVP states acknowledged that this may be less true for larger states that do not have an existing UVP. When many of these programs were first initiated in the 1990s, there was little opposition from manufacturers. This may have been because many of the initial states implementing these programs were relatively small, less populated, or had lower vaccination rates. The implementation of a UVP program in a state could help improve vaccination rates, which would translate to increased demand for the vaccine supply and would ultimately benefit manufacturers.

Impact of Statutory Vaccine Definition and Brand Choice Option

In six states (CT, ID, ME, NH, VT, WA), healthcare providers can choose any vaccine brand listed on the ACIP schedule. Offering a vaccine brand choice helped secure the manufacturer's buy-in and allowed providers to select their preferred brands. In VT, there is a designated period for providers to select the brand they wish to order for the upcoming year, and once chosen, this selection cannot be changed for that year. In MA, providers have a choice for 95% of the vaccine formulary. Conversely, RI and AK are non-choice states for most ACIP-recommended vaccines. However, RI permits brand choice for COVID vaccines, while AK allows brand choice for both COVID and RSV vaccines. Some state statutes still use a traditional definition of vaccines, which does not include newer biologics such as RSV. Washington state has successfully amended its legislation to include all vaccines approved by ACIP. Meanwhile, ID and NH have submitted amendments to broaden their definitions of vaccines.

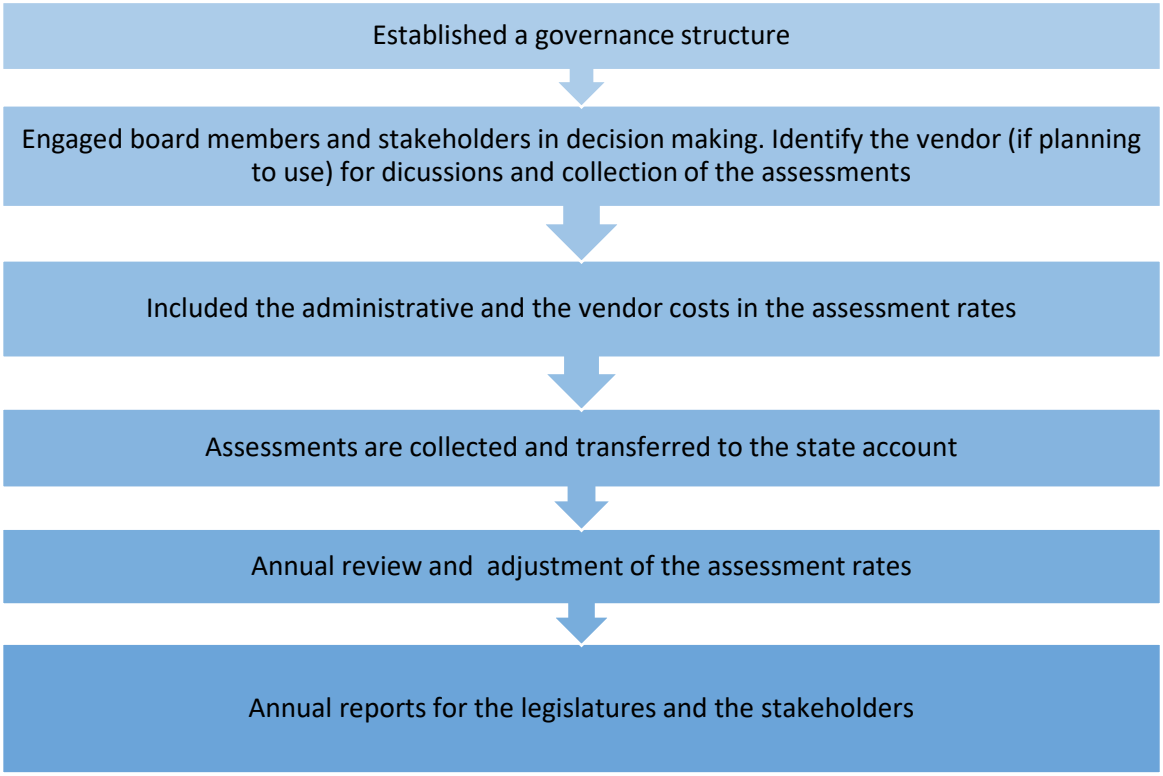
Financing & Sustainability

One of the key considerations in designing and implementing a UVP is the financing and sustainability strategy. State-level funding support for immunization programs varied, and the introduction of newer and more expensive vaccines posed a challenge for all states interviewed

to cover the vaccine costs under the universal program. Consequently, they enacted legislation to fund the program through an assessment-based model (see Figure 6). The legislation mandates health plans, insurance companies, and other payers to contribute advanced payments into a state fund for UVP vaccines for privately insured children (and adults if covered under UVP). These vaccines are procured by the state at a reduced price under the VFC federal contract. This financing framework allows UVP to ensure that all children aged ≤18 years (and adults if covered under UVP) receive all the vaccines recommended by ACIP. Important to note, participation in the UVP program is mandatory for private health plans but not for providers. However, the motivation for participation is that providers will not be reimbursed by private insurers for vaccines purchased outside of the UVP, as payers have already paid into the fund for vaccine purchase for their members. Insurers will only reimburse providers for vaccines purchased that are not covered under the universal program.

Most states calculate their assessment rates based on the number of covered lives, except for WA, which uses vaccine dosage-based assessment rates. This means that assessment rates are established on an annual basis to buy ACIP-recommended vaccines, and they differ for children and adults. For example, the monthly assessment rate in AK for children is $14.89 per child, per month and for adults it is $3.71 per adult, per month. Five states (RI, MA, VT, AK, and WA) include some percentage of the state's operating costs related to procurement in the assessment rates. Additionally, RI maintains a financial reserve in the UVP equal to the 3-month total of vaccine costs for emergency situations. Six states (AK, ME, NH, RI, VT, WA) use an external vendor for essential administrative and governance support (see Table 2 below). The assessment rates also include the service cost of the external vendor in these states (AK, ME, NH, RI, VT, WA). The study team found that in four states (ME, CT, ID, WA) the UVP program covers vaccinations for children under the Children's Health Insurance Plan (CHIP). There is a separate contract with Medicaid agencies to reimburse the costs of vaccines for CHIP kids. The AK program is funded based on the assessments of the insurers, doses administered, and/or providers if they are trying to cover uninsured adults.[24] Medicaid and Medicare do not participate in the program.

Figure 6: Developing UVP Financing Strategies (as synthesized from state interviews)



Promoting Provider/Pharmacy Participation

All states interviewed for this assessment reported more than 90% provider participation, likely attributed to the reduced administrative burden, the cost savings and the improved efficiency of not having to manage multiple stocks of vaccine dependent on payer source. For example, NH reported that by having state officials manage the supply of vaccines, it has lowered providers' administrative costs and ensured providers' supply vaccines to vulnerable patient groups during emergencies or vaccine shortages. Additionally, the providers retain the ability to receive reimbursement for the fees associated with vaccine administration.

A few states (MA, RI, and WA) also reported small independent pharmacies participate in the program. The big chain pharmacies, which are certainly more ubiquitous in NJ, have their own mechanism of purchasing vaccines and there is a minimal interest in participation. During the pandemic, most states relaxed their policies and amended their regulations to allow pharmacies to vaccinate younger children. However, many of the states have reverted back to

pre-pandemic policies. Similarly, NJ empowered pharmacies to administer ACIP-recommended immunizations and related emergency medications, limited to epinephrine and diphenhydramine, to eligible individuals aged 3 and above.[25]

Procurement Strategies

Procurement and centralized purchasing are one of the most important components of the UVP program. Feedback from UVP states indicates that the program has improved the efficiency of vaccine ordering, tracking, delivery, and monitoring as providers are required to submit their orders to the state through a centralized IIS portal. The state then processes the order, assigns a funding split at the back end based on the funding type (VFC or UVP) to ensure the correct funding source is identified and uploads the information to the CDC portal. The state tracks funding sources by the patient population of each provider. Similar to VFC vaccines, the UVP vaccines are shipped through McKesson directly to the providers as a combined inventory of vaccine stock for children enrolled in the VFC and UVP programs. Furthermore, VT uses a Minnesota multi-state purchase program for any needs outside the CDC contract. This was relevant when NY had a polio case, and VT received special funding to purchase adult polio vaccines. Since it was not on the CDC contract, VT turned to the Minnesota multi-state purchase plan for the vaccine.

Integrating Monitoring and Evaluation

All states apply VFC monitoring requirements for their UVP programs, and all providers are treated as VFC providers. Since most providers are enrolled in both programs, there is no separate monitoring requirement for UVP. For example, in RI, compliance visits and storage and handling visits are alternated so that providers do not have to prepare for multiple compliance visits in one year.

Policies regarding vaccine "restitution" differ among states that were interviewed:

- In AK, ME, and NH, over ordering from the sites is monitored.
- CT, MA, and VT, have specific restitution policies in place. Providers are required to use private funds to replace doses if waste occurs due to neglect or improper storage and handling.[26-28]

- Providers in CT and ME can post extra doses to the IIS, and the state facilitates transfer to other providers as needed so unused vaccines can be reallocated before they expire. In WA, providers who exceed certain thresholds and waste are required to attend additional training and education.

As part of the monitoring process, four states (CT, AK, ME, and NH) produce an annual report to inform their legislatures and stakeholder constituencies. Most states track immunization rates, vaccine costs, and cost savings per year. Since all the states that were explored for this study have had their UVP programs in place for considerable periods of time, it is difficult to attribute the higher vaccine rates to the state's universal status.

The overall program cost savings to payers were substantial when compared to private sector vaccine prices. New Hampshire experienced a 27% reduction in costs, while ID reported over $70 million in savings for insurers over a five-year period. In ME, annual savings ranged between 20% and 30%, with an average yearly savings of approximately $4 million per year.[29] While the benefits for providers from a single vaccine source may not be quantified in dollars, they experience cost savings due to decreased administrative time, storage and maintenance of one vaccine stock, and reduced vaccine wastage.

UVP Impact on Immunization Rates

Most states believed their UVP programs contributed to higher immunization rates, sometimes exceeding national averages. However, due to the programs' long-standing presence, they acknowledged the difficulty in demonstrating a clear before-and-after impact (see Figure 4 above). They also acknowledged that other state policy changes, including school vaccine mandates and the reduction in the number of vaccine exemptions, likely impacted vaccination rates more than UVP. While evidence of their impact on immunization rates is relatively limited and the studies that do exist have been criticized as being biased due to being funded by the manufacturer industry, UVP states underscored their importance in easing financial and administrative burdens on providers and also offering state officials more flexibility in allocating supply to vulnerable patients in times of crisis or shortage.[30] Additionally, requiring providers to order all UVP vaccines through the state IIS systems allows the state to better track all vaccines

being provided to their residents, which is a benefit for public health surveillance and tracking.[31]

Selected quotes from the interviews are listed in Table 1, and subtle differences in the states' UVP programs are detailed in Table 2. Table 3 provides links to the states' UVP legislation.

Table 1: Selected Quotes from the UVP States	
Domain	**Selected Quotes**
Modifications over time	*"So, when we add a new vaccine, it has unique challenges because they are so expensive, but we've been very fortunate to be able to maintain our universal status with these newer vaccines that have come on board."*
Program structure and importance of stakeholder support	*"if you can find a strong champion and someone that can share the benefits and the reasons why the program is a good idea and what it can do to help and to protect the kids in any state or jurisdiction. I really think that was key for us when we started is we had some strong champions that wanted to see this succeed."* *"We have eyes on the universe of what vaccines and how many are in our state, right. That's a big kind of gap with non-universal states is that they have no idea how many doses have been provided and administered in their private market."*
Garnering payer and manufacturer buy-in	*"Payers are mandated [to participate in] the universal [program] through the legislation. They're mandated to participate. But there's never any push back from them because they see the figures of what they would have had to pay if they were reimbursing full cost for the vaccine."* *"I think payers know just to be patient and know that if we over calculate our assessment one year, they know that they just have to wait, and we'll be good stewards of their money and dial it back the next year."* *"The argument for the manufacturers is that universal purchase ultimately leads to higher immunization rates because you have more access for vaccine and higher immunization rates leads to more vaccine sales, which, you know, contributes to their bottom line. However, they are not in favor of expanding to other states."*
Financing & Sustainability	*"it's not only a cost savings for the vaccine, it's also a cost savings if your patient doesn't get flu or COVID or any of the other vaccine preventable diseases. So, the insurance companies, even if they're a secondary payer, they're more than willing to pay into UVP."* *"It slid through because ultimately it saved providers from upfront costs and it eventually saves the insurance companies money by [purchasing at] the reduced CDC price."*
Promoting Provider/ Pharmacy Participation	*"This helps ensure every child who enters a medical provider's office, clinic, or hospital can receive life-saving vaccines at no out of pocket expense as the program makes vaccines available to all health care providers. In turn, more providers offer immunization services because providers no longer have to finance the up-front costs of vaccines out of their own pockets or be burdened with complex ordering systems."* *"It really takes a lot of the liability off the shoulders of the healthcare providers. And that's huge."*
Procurement Strategies	*"So, for providers, you know, the whole process is completely kind of blind to them. So, when they get vaccine shipped to them from McKesson, they don't know..., which doses are state funded and which doses are federal VFC funded. And that's kind of the beauty of a universal program. There's no need to separate your inventory."*
Integrating monitoring and evaluation	*"{Our UVP] team doesn't just look at the VFC supply, they look at the, the entire inventory. This offers a high level of quality to assure that the product that you are giving is going to be active and able to protect to its best ability."*
Impact on immunization rates	*"I think we wouldn't have the high rates we have right now without our universal program. I think it's, it's a great policy. That being said, I understand that it could be a very heavy lift in a state that historically has not been universal."* *"I don't think we would argue that just being universal is going to really be the driver of a bump up. I don't know that we have good data to show that universe being universal itself is the key to higher rates."*

Table 2: Summary of Universal Vaccine Purchasing Systems by State*									
	Alaska	**Connecticut**	**Idaho**	**Maine**	**Massachusetts**	**New Hampshire**	**Rhode Island**	**Vermont**	**Washington**
Year initially established	1980s	1993	1990s	1990s	Always	1990s	1990s	1990s	1990s
Year assessment process was established	2014	2012	2010	2012	2014	2002	2016	2014	2010
Coverage	All children and adults	all children under 19 years of age	Universal-select for children under 19 years of age	all children under 19 years of age	all children under 19 years of age	all children under 19 years of age	All children and adults (except for RSV and Shingles) Long-term care facilities enrolled in the program	all children and adults 19 through 64 years	all children under 19 years of age
Offers Choice	No except for COVID and RSV	Yes	Yes	Yes	Yes (for 95% vaccines)	Yes	No except for COVID	Yes	Yes
Assessment method	Per member per month for each covered life. It is also calculated on the number of vaccines administered/and or providers if covering uninsured adults	Per member per month for each covered life	Per member per month for each covered life	Per member per month for each covered life	Per member per month for each covered life	Per member per month for each covered life	Per member per month for each covered life	Per member per month for each covered life	Doses based assessment
Inclusion of state operational costs and external vendor administrative costs in the assessment rates	Both included	State's operational costs included	No additional costs included	Only external vendor administrative costs included	State's operational costs included	Only external vendor administrative costs included	Both included	Both included	Both included
Additional variations in UVP financing	Providers have the option to act as a payer for their uninsured adult population	Not reported	Not reported	Not reported	Not reported	Allocates some state funds ($300,000/year) to purchase vaccines for situations like outbreaks, or for	Collects a three-month vaccine cost reserve that is recalculated annually based on expenses	Not reported	Not reported

Table 2: Summary of Universal Vaccine Purchasing Systems by State*									
						vaccines not normally included in the CDC contract			
Pharmacy participation	Independent pharmacies	No participation	No participation	No participation	Small independent pharmacies	No participation	Small independent pharmacies	No participation	Independent pharmacies
Medicaid participation	No participation	Covers children under CHIP	Covers children under CHIP	Covers children under CHIP	Not reported	Not reported	Provides some administrative costs	Provides funding to the UVP program	Covers children under CHIP
Total UVP vaccine budget (2024-2025)	Approximately $27 million	Approximately $63 million	Approximately $20 million	Approximately $21 million	Approximately $163 million	Approximately $21.5 million	More than $55 million	Approximately $31 million	Approximately $85 million
Antivaxxers/ other opposition	Religious pockets have low vaccine coverage	Opposition to adding new vaccines	No opposition	No opposition	No opposition	Opposition to adding nirsevimab	Some opposition to the school requirements	No opposition	Opposition to opening the statue to add new vaccines
*As of 9/16/2024									

Table 3: States Universal Vaccine Purchasing Program Links		
States	**Legislation**	**Vaccine Board**
Alaska	https://akvaccine.org/data/get_doc/a822efe56ce910fd19aa535d44fb82dc	https://akvaccine.org/ui
Connecticut	https://www.cga.ct.gov/2012/rpt/2012-R-0514.htm	https://portal.ct.gov/immunization/knowledge-base/articles/vaccine-providers/connecticut-vaccine-program-cvp/vaccine-purchase-fund?language=en_US
Idaho	https://legislature.idaho.gov/statutesrules/idstat/Title41/T41CH60/SECT41-6001/	https://doi.idaho.gov/information/public/boards/
Maine	https://mevaccine.org/data/get_doc/3fc334b2fa2fd68fb2db2291b5211981	https://mevaccine.org/ui
Massachusetts	https://www.mass.gov/doc/dph-legislative-report-fy19-dph-vaccine-purchase-trust-fund-report-0/download	https://www.mass.gov/info-details/massachusetts-vaccine-purchasing-advisory-council-mvpac
New Hampshire	https://nhvaccine.org/wp-content/uploads/2018/08/CHAPTER-126-Q-NEW-HAMPSHIRE-VACCINE-ASSOCIATION_printed-09-01-2018.pdf	https://nhvaccine.org/
Rhode Island	https://rivaccine.org/data/get_doc/aa4f9dd0258f3e65ef839cf12548e043	https://rivaccine.org/ui
Vermont	https://vtvaccine.org/data/get_doc/3a9647a001497c26374bcf3d7b13ae6c	https://vtvaccine.org/ui
Washington	https://app.leg.wa.gov/rcw/default.aspx?cite=70.290	https://wavaccine.org/about/

Considerations for New Jersey

Based on the literature review and discussions with state officials, implementing a UVP program is a cost-effective way to expand vaccine access and reduce provider burden and costs of vaccine purchase. Should policymakers in New Jersey in this administration or the next reconsider exploring the feasibility of implementing a UVP program, we would recommend the following preparatory steps to ensure successful implementation:

Develop Comprehensive Stakeholder Engagement Strategy to Build Coalitions

- It may take 1-2 years to lay the foundation, build partnerships and collaboration and identify champions who could move the plan forward.
- Build trust with the vaccine provider community and engage them in designing the model.
- Include all key stakeholders and champions including providers (large group and individual providers), payers (both private and NJ Medicaid), manufacturers, and advocacy groups to engage them from the outset in establishing clear goals, objectives and priorities for a UVP program in New Jersey.
- Transparency and clear messaging are crucial to emphasize that the initiative is not state driven, but rather, the state is a convener and a supporter. The goal is to identify benefits and challenges to make vaccine access easier.
- Consider offering a choice of vaccine brands to ensure commitment from manufacturers and convince providers.

Design an Achievable Plan & Remain Flexible

- Consider focusing the UVP for children only to build consensus and proof of concept.
- For a smoother and more effective transition, take incremental steps with the full support of key stakeholders to ensure successful statewide implementation.

Identify a Sustainable Funding Strategy

- Create a funding source that is consistent and immune from political and budget pressures.
- Include vaccine management costs as well as operational costs of the governance and assessment collection in the prospective insurer assessment rates to account for costs related to maintaining day-to-day operations.
- Consider maintaining a reserve in the state fund to provide flexibility for potential new product additions mid-year if needed. Please refer to Rhode Island's financing model.
- Account for inflation and increase in vaccine costs when setting the assessment rates.

Create a Multi-pronged Public Education Plan

- Develop timely, accurate, culturally sensitive, and evidence-based information in plain language for families and communities, particularly in response to the politicization of

vaccination during the COVID-19 pandemic, which has influenced some public perspectives about routine childhood vaccination, including school vaccination requirements.

- Develop clear messaging on the program's purpose and vaccination requirements, with a focus on addressing concerns from the anti-vaccine community. The UVP program does not mandate individuals and providers to participate. It only requires payers to contribute to fund the program, thereby facilitating provider participation and ensuring widespread availability of vaccines.
- Provider education to dispel misconceptions about the strict VFC requirements in New Jersey.

Legislative & Oversight Considerations

- Identify a legislative champion who believes in the program.
- Ensure that the statutory language allows for flexibility to account for changes as the program evolves. Keep definition of vaccine broad to include all ACIP recommended vaccines.
- Ensure that the statutory language allows for the purchase of vaccines at a CDC discounted price through contracts intended for the VFC and Section 317 programs.
- The vaccine board positions should be carefully selected and should include providers, payers, manufacturers, pharmacies, and advocacy groups to represent the community's voice.
- Develop and empower the vaccine board so that they can make decisions regarding the program as needed.

Develop Comprehensive Operational Plan that Includes Training and Evaluation

- Effective strategic planning and proper resource allocation are essential to address initial fiscal and implementation challenges.
- Enhancing surveillance capacity is vital for tracking program impact and improving the quality of immunization data collected through IIS.
- Provide periodic training to providers and staff for meeting monitoring requirements.
- Expand the vaccination workforce through policies that allow school nurses and pharmacies to vaccinate children.
- Plan periodic evaluations to assess the impact of the program in achieving these goals in increasing access, broader provider participation, and to track immunization rates.

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Appendix

UVP State Subject Matter Experts Interview Guide

Draft introduction

The interview aims to gather diverse perspectives from stakeholders, including officials from states with established vaccine purchasing programs and subject matter experts from New Jersey agencies. It seeks to understand implementation challenges, assess impacts on immunization rates, especially among underserved communities, and explore financial considerations. The insights will inform vaccine purchasing policies in New Jersey and will be documented in a report outlining key findings, opportunities, challenges, and recommendations for policymakers.

Position/Role:

Length of Time in Current Role:

Program Implementation

1. When was the UVP program implemented in your state? Was it always universal coverage, or did it change from universal select to universal or vice-versa?
2. Why did the state implement a UVP program (beyond VFC/317)?
    a. Is there a legislative mandate for providers to participate?
    b. In your opinion, what are the financial implications for the providers if they purchase the vaccines directly?
    c. Who is purchasing the vaccines under the UVP program? How are the vaccines distributed to the providers?
    d. Do pharmacists (who vaccinate) receive vaccines from the UVP program?
    e. What was the conversation like with the providers and payers? What are some pros and cons for them?

<u>Opportunities/Challenges</u>

3. What are the strengths/challenges of your UVP program?
    a. What populations are covered under the UVP program?
    b. Has there been a marked improvement in vaccination rates across the lifespan since the implementation of the UVP program (Child/ Adult rates)
4. How does your state adapt the universal vaccine purchasing strategy to accommodate changes in vaccine availability, new vaccines, emerging diseases, or public health priorities?
5. Did you face any backlash from anti-vaxxers for the universal program? What exemption policies are in place for anti-vaxxers?

Strategies for NJ

6. New Jersey is evaluating the feasibility of implementing a UVP program and would like to learn from your experience.
    a. Who were the essential parties/partners needed to get support for the program initially? What were the initial challenges, and facilitators in moving the program forward?
    b. How is the program funded in your state? Has program financing changed over time? (probe: what is the total budget for the UVP program).
    c. Is there a state account? Who is responsible for managing the account?
    d. What is the governance structure and management of the UVP program??
    e. How do you monitor compliance with regard to revaccination and restitution?

Procurement and Distribution

7. What procurement methods are employed to acquire vaccines under the universal purchasing strategy?
    a. If you purchase the vaccine directly from the manufacturers, how are pricing negotiations conducted with vaccine manufacturers?
    b. What changes have you made to the procurement process to facilitate buying vaccines through a CDC contract? What challenges (if any) have you faced? (probe: when new products are introduced)?
8. How are vaccines distributed among different healthcare providers and facilities within the state?
    a. How do you address disparities in vaccine access or coverage for e.g., there was a vaccine shortage, and vaccines were available for VFC children and not available for privately insured patients.
9. How do you track VFC/317/UVP vaccines?

Monitoring and Evaluation

10. How do you monitor the storage and administration of vaccines?
11. How is the effectiveness of the universal vaccine purchasing strategy assessed?
    a. Are there specific metrics or indicators used to measure the program's success?
12. How frequently are evaluations conducted, and what actions are taken based on the findings?

Lessons Learned and Recommendations

13. Beyond those already discussed, what are the key lessons learned in implementing a universal vaccine purchasing strategy?
14. What recommendations would you offer NJ for implementing a UVP program? What fiscal and implementation challenges should NJ consider?
15. Additional Comments: Please feel free to provide any further comments, insights, or suggestions related to universal vaccine purchasing strategies that have not been covered in the previous questions.

Thank you for your participation and valuable input in this survey. Your responses will contribute significantly to our understanding of best practices for UVP program implementation.

Table I: UVP States Estimated Vaccination Coverage with Selected Individual Vaccines and a Combined Vaccine series[*] by Age 24 Months[†] Among Children Born 2019-2020,[§] – National Immunization Survey-Child (2020-2022)

States	N	Vaccine / Vaccine Series, % (95% CI)							
		MMR (≥1 dose)[¶]	DTaP (≥4 doses)[**]	HepB (birth dose)[††]	Poliovirus (≥3 doses)	HepA (≥2 doses by 35 months)	Rotavirus[§§]	Influenza (≥2 doses)[¶¶]	Combined 7-vaccine series[*]
United States	27,733	91.6 (90.8–92.2)	81.0 (79.9–82.0)	81.5 (80.5–82.4)	93.0 (92.3–93.6)	80.0 (78.4–81.6)	76.6 (75.6–77.7)	61.3 (60.1–62.5)	69.1 (67.9–70.2)
Alaska	455	84.5 (78.9–89.3)	74.7 (68.3–80.7)	78.6 (73.4–83.1)	84.7 (79.1–89.5)	68.5 (57.6–78.9)	64.4 (57.8–70.5)	66.7 (60.4–72.8)	59.4 (52.9–66.0)
Connecticut	466	93.7 (89.9–96.4)	86.9 (81.8–91.2)	84.4 (79.1–88.5)	95.8 (92.8–97.7)	89.6 (83.7–94.0)	84.5 (79.3–88.6)	85.9 (81.0–90.1)	77.3 (71.3–82.7)
Idaho	501	89.0 (84.4–92.7)	80.6 (75.3–85.4)	80.3 (75.1–84.7)	89.4 (84.7–93.2)	79.1 (72.0–85.4)	79.0 (73.6–83.6)	61.7 (55.3–68.0)	71.7 (65.8–77.3)
Maine	378	94.4 (91.3–96.7)	86.9 (82.4–90.7)	85.5 (80.5–89.4)	96.8 (94.5–98.4)	90.9 (82.3–96.3)	80.0 (74.7–84.4)	74.5 (68.6–80.0)	76.5 (70.7–81.8)
Massachusetts	465	95.9 (93.1–97.9)	85.5 (79.8–90.3)	83.7 (78.0–88.1)	95.8 (93.0–97.7)	91.2 (84.3–96.0)	82.1 (76.0–86.8)	76.1 (69.7–82.1)	79.4 (73.3–84.9)
New Hampshire	330	93.2 (88.9–96.2)	82.6 (76.7–87.8)	84.9 (78.5–89.6)	96.1 (93.0–98.1)	77.8 (67.6–86.5)	83.3 (77.5–87.9)	68.5 (61.5–75.3)	75.8 (69.3–81.8)
New Jersey	451	93.9 (89.9–96.7)	78.7 (72.2–84.6)	81.5 (75.3–86.4)	91.4 (86.4–95.2)	72.4 (58.7–84.7)	70.7 (64.0–76.6)	67.3 (60.7–73.8)	64.2 (57.5–71.0)
New Mexico	583	91.0 (86.9–94.2)	83.4 (78.4–87.8)	76.2 (70.6–81.0)	95.8 (93.4–97.5)	87.3 (81.5–92.0)	81.6 (76.2–86.0)	65.4 (59.7–71.1)	76.4 (71.1–81.4)
Rhode Island	458	96.3 (93.7–98.0)	88.5 (84.5–91.9)	77.1 (71.5–81.9)	97.8 (95.4–99.1)	86.3 (79.9–91.5)	92.0 (88.0–94.8)	83.9 (79.3–87.9)	78.5 (73.2–83.4)
Vermont	524	94.6 (91.5–96.9)	88.2 (84.0–91.6)	78.7 (73.5–83.0)	96.9 (94.8–98.3)	82.7 (75.8–88.6)	82.8 (78.0–86.8)	77.3 (71.6–82.6)	77.6 (72.1–82.6)
Washington	696	91.0 (87.3–94.0)	81.8 (77.0–86.0)	84.5 (80.2–88.0)	94.8 (92.0–96.9)	78.8 (72.7–84.3)	77.9 (73.0–82.2)	72.5 (67.6–77.2)	72.3 (67.4–77.1)
Wyoming	427	88.9 (83.5–93.1)	80.1 (74.1–85.4)	80.5 (74.3–85.5)	91.8 (87.9–94.8)	74.4 (62.5–85.0)	80.9 (75.5–85.3)	61.0 (54.3–67.7)	72.1 (65.9–78.0)

Abbreviations: CI = confidence interval; DTaP = diphtheria and tetanus toxoids and acellular pertussis vaccine; HepA = hepatitis A vaccine; HepB = hepatitis B vaccine; Hib =Haemophilus influenzae type b conjugate vaccine; MMR = measles, mumps, and rubella vaccine; PCV = pneumococcal conjugate vaccine; VAR = varicella vaccine.

* The combined 7-vaccine series (4:3:1:3*:3:1:4) includes ≥4 doses of DTaP, ≥3 doses of poliovirus vaccine, ≥1 dose of measles-containing vaccine, the full series of Hib (≥3 or ≥4 doses,depending on product type), ≥3 doses of HepB, ≥1 dose of VAR, and ≥4 doses of PCV.

† Includes vaccinations received by age 24 months (before the day the child turns 24 months), except for the HepB birth dose, rotavirus vaccination, and ≥2 HepA doses by 35 months.

For all vaccines except the HepB birth dose and rotavirus vaccination, the Kaplan-Meier method was used to estimate vaccination coverage to account for children whose vaccination history was ascertained before age 24 months (35 months for ≥2 HepA doses).

§ Data for the 2019 birth year are from survey years 2020, 2021, and 2022; data for the 2020 birth year are considered preliminary and are from survey years 2021 and 2022 (2023 data are not yet available).

¶ Includes children who may have been vaccinated with measles, mumps, rubella, and varicella combination vaccine.

** Includes children who may have been vaccinated with diphtheria and tetanus toxoids vaccine or diphtheria and tetanus toxoids and pertussis vaccine.

†† One dose HepB administered from birth through age 3 days.

§§ Includes ≥2 doses of Rotarix monovalent rotavirus vaccine (RV1), or ≥3 doses of RotaTeq pentavalent rotavirus vaccine (RV5). (If any dose is RotaTeq or unknown, default to the 3-
dose series.) The maximum age for the final rotavirus dose is 8 months, 0 days.

¶¶ Doses must be at least 24 days apart (four weeks with a four-day grace period); doses could have been received during two influenza seasons.

Table II: Comparison of Combined vaccine series* coverage trend in New Jersey in New Jersey and Nationally by Birth Year – National Immunization Survey-Child (2020-2022)				
Year	Combined 7 series vaccination by age 24 months in NJ	Combined 7 series vaccination by age 24 months in US	Combined 7 series vaccination by age 35 months in NJ	Combined 7 series vaccination by age 35 months in US
2011	67.6	67.7	74.6	74.4
2012	64.3	69.0	78.5	75.9
2013	68.0	68.3	76.1	74.8
2014	64.4	68.5	71.5	74.1
2015	71.8	68.3	79.6	74.9
2016	70.2	69.7	73.7	75.3
2017	66.8	69.8	75.0	74.9
2018	68.9	70.1	71.4	76.1
2019	64.2	70.1	69.4	76.0
2020	64.2	67.9	68.4	73.9

* The combined 7-vaccine series (4:3:1:3*:3:1:4) includes ≥4 doses of DTaP, ≥3 doses of poliovirus vaccine, ≥1 dose of measles-containing vaccine, the full series of Hib (≥3 or ≥4 doses, depending on product type), ≥3 doses of HepB, ≥1 dose of VAR, and ≥4 doses of PCV.

Table III: Estimated combined vaccine series* coverage in New Jersey by demographic characteristics by age 24 months† among children born in 2019-2020,§ – National Immunization Survey-Child (2020-2022)		
Category	Vaccine Coverage by Age 24 Months Among Children Born 2016-2019 in New Jersey	
	%	N
Race and Ethnicity		
White, non-Hispanic	72.7 (66.9-78.5)	506
Black, non-Hispanic	46.1 (30.8-61.5)	59
Hispanic	60.5 (52.6-68.4)	276
Other or Multiple Races, non-Hispanic	72.7 (62.6-82.7)	167
Insurance Coverage		
Private Insurance Only	75.2 (70.5-80.0)	695
Any Medicaid	57.1 (49.7-64.4)	286
Poverty Level		
<133% FPL	52.4 (43.7-61.0)	203
133% - <400% FPL	63.9 (56.0–71.8)	290
>400% FPL	78.4 (73.1-83.6)	515

* The combined 7-vaccine series (4:3:1:3*:3:1:4) includes ≥4 doses of DTaP, ≥3 doses of poliovirus vaccine, ≥1 dose of measles-containing vaccine, the full series of Hib (≥3 or ≥4 doses, depending on product type), ≥3 doses of HepB, ≥1 dose of VAR, and ≥4 doses of PCV.

† Includes vaccinations received by age 24 months (before the day the child turns 24 months), except for the HepB birth dose, rotavirus vaccination, and ≥2 HepA doses by 35 months.

§ Data for the 2019 birth year are from survey years 2020, 2021, and 2022; data for the 2020 birth year are considered preliminary and are from survey years 2021 and 2022 (2023 data are not yet available)

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