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EXECUTIVE SUMMARY

Policymakers and leaders in state government have a fiduciary responsibility to manage resources on behalf of the public, some of which are becoming scarce. Escalating healthcare costs are placing significant pressure on already stretched state budgets, with Medicaid often at the center of the debate. However, assessing and understanding costs and utilization trends at a population level present a significant challenge to decisionmakers, particularly given the lack of uniformity between provider and payer contractual agreements within a multi-payer healthcare system. Thus, understanding Medicaid’s costs in the context of the surrounding healthcare market was a priority for New Hampshire’s state leaders. These analyses have the potential to inform both policy decisions and create an environment of transparency, allowing for the examination of healthcare costs by consumers, payers, employers, government officials, and researchers. This formidable task requires the aggregation of disparate data sources into a timely, accurate, and readily accessible form.

In 2005, the state of New Hampshire launched one of the first all-payer claims databases (APCDs) in the United States. This initiative came about through a cooperative effort between the New Hampshire Department of Health and Human Services (DHHS) (including the Division of Public Health Services (DPHS) and the Office of Medicaid Business and Policy (the Medicaid agency)), and the New Hampshire Insurance Department resulting in legislation that was subsequently enacted and implemented through extensive rulemaking. Policymakers, insurance company representatives, and providers convened over an approximate one-year time period to create the administrative rules. Funding for New Hampshire’s APCD was not designated in the statute; however, the state’s capital budget and grants for rate setting through the Affordable Care Act provided variable short-term resources. Once the development of the APCD was underway, state officials created two applications: the NH Health Web Reporting and Query System (NH HealthWQRS), a tool for community health assessments for public health purposes, and NH HealthCost (a public-facing price transparency tool). As part of these efforts, DPHS worked with other DHHS staff in order to understand how best to use APCD data for public health purposes.

New Hampshire’s experience with the APCD goes back 12 years, with multiple lessons learned and modifications made over time. Partnership and open communication with insurance carriers were essential for establishing the APCD, as the nature of the work required a mix of content expertise in information technology, claims entry and analysis, and clinical medicine to be successful. An initial challenge to establishing the APCD was resistance from insurance carriers who were concerned about the data revealing sensitive business information. These carriers have since come to mine the data for their own competitive purposes, integrate the data into contract negotiations, and see the APCD as delivering value rather than harm. Other lessons learned included the importance of data integrity and quality insurance and the need for improved data visualization and support for novice and experienced users.
In addition to private use, state officials have been able to use the APCD in a number of ways—including understanding how Medicaid reimbursement rates compare to commercial insurers, commercial marketplace dynamics, and several public health analyses. Despite the success of the APCD and analyses underway, interviewees noted that the APCD has yet to be fully leveraged by public health professionals, and consumer use of the NH HealthCost website and its transparency tools has yet to impact prices. However, as the dataset becomes more robust, consumers are better able to use NH HealthCost for healthcare cost comparisons. Additionally, population health data appears ready for enhanced use in terms of driving policy decisions.

Interviewees noted that the APCD is currently sustainable and more robust data will further demonstrate its value. Moving forward, the state officials who work on the APCD will need to identify additional opportunities for its use, prove its value given limited state funds, and prepare against any potential political threats in order to maintain this resource and support future opportunities, such as linking clinical and community level data to manage population health.
## Glossary of Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tr>
<td>ACA</td>
<td>Affordable Care Act</td>
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<td>Anthem</td>
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<td>APCD</td>
<td>All-Payer Claims Database</td>
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<td>ASTHO</td>
<td>Association of State and Territorial Health Officials</td>
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<tr>
<td>BRFSS</td>
<td>Behavioral Risk Factor Surveillance System</td>
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<td>CMS</td>
<td>Centers for Medicare and Medicaid Services</td>
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<td>CHCF</td>
<td>California Health Care Foundation</td>
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<td>CHIP</td>
<td>Children’s Health Insurance Program</td>
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<td>CHIS</td>
<td>Comprehensive Health Care Information System</td>
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<td>DHHS</td>
<td>New Hampshire Department of Health and Human Services</td>
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<td>DFA</td>
<td>New Hampshire Division of Family Assistance</td>
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<td>DPHS</td>
<td>New Hampshire Division of Public Health Services</td>
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<tr>
<td>ERISA</td>
<td>Employee Retirement Income Security Act</td>
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<tr>
<td>IHPP</td>
<td>Institute of Health Policy and Practice</td>
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<td>JLCAR</td>
<td>Joint Legislative Committee on Administrative Rules</td>
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<td>MOU</td>
<td>Memorandum of Understanding</td>
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<td>NH CHIS</td>
<td>New Hampshire Comprehensive Health Care Information System</td>
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<td>New Hampshire Health Web Reporting and Query System</td>
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<td>OMBP</td>
<td>Office of Medicaid Business and Policy</td>
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<td>ROI</td>
<td>Return on Investment</td>
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<td>RWJF</td>
<td>Robert Wood Johnson Foundation</td>
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INTRODUCTION

Project Overview
With support from the de Beaumont Foundation, ASTHO has created a series of six case studies designed to describe successful collaborations between state public health departments and Medicaid agencies in which a state implemented an innovative policy change. For the purpose of this series, success is defined as demonstration of—or evident promise of—improvements in population health, cost savings to Medicaid, or both.

ASTHO and the de Beaumont Foundation convened a diverse expert group in May 2014 and provided essential guidance in choosing the programs featured in the series of case studies. This case study describes the innovations undertaken in New Hampshire related to implementing an all-payer claims database (APCD).

The de Beaumont Foundation
The de Beaumont Foundation believes that a strong public health system is essential. The foundation works to transform the practice of public health through strategic and engaged grant-making. Programs funded by the foundation build the capacity and stature of the public health workforce, improve public health infrastructure, and advance the distribution and relevancy of information and data in the field. Please visit www.debeaumont.org for more information.

ASTHO
ASTHO is a 501(c)(3) nonprofit membership association serving the chiefs of state and territorial health agencies and the more than 100,000 public health staff that work in those agencies. Its mission, from which its organizational strategy flows, is to transform public health within states and territories to help members dramatically improve health and wellness. ASTHO tracks, evaluates, and advises members on the impact and formation of policy—public or private—pertaining to health that may affect state or territorial health agencies’ administration and provides guidance and technical assistance to its members on improving the nation’s health. ASTHO supports its members on a wide range of topics based on their needs, including, but not limited to, ASTHO’s leadership role in promoting health equity, integrating public health and clinical medicine, responding to emergencies, and bringing voluntary national accreditation to fruition through Public Health Accreditation Board. Please visit www.astho.org for more information.
METHODS

Interviews
The project team, consisting of Lisa Dulsky Watkins, Brian Costello, and Megan Miller, interviewed eight individuals involved in the development and implementation of New Hampshire’s APCD:

- Two New Hampshire Medicaid senior leaders.
- A former lead at the New Hampshire Division of Public Health Services (DPHS).
- A policy analyst at New Hampshire Insurance Department (NHID).
- A current member of the New Hampshire House of Representatives.
- Three current or former staff at the Institute for Health Policy and Practice (IHPP) at the University of New Hampshire (UNH).

A project team member, Lisa Dulsky Watkins, led forty-five minute to one-hour phone interviews using identical questions from a standardized interview tool. Two additional team members served as note-takers, listening to and documenting each conversation. The interviews were recorded (with one exception at the interviewee’s request) and, if necessary, transcribed for clarification. Data gathered from interviews was recorded into a data collection tool for analysis.

Document Review
With assistance from the interviewees and through independent research, the team collected government documents, news articles, and educational material on the case study topic. Project team members selected the most relevant documents for further review. All documents are listed in the references.
**DATA MANAGEMENT**

**Data Synthesis**
The project team developed three tools to facilitate data collection for the case studies: (1) the interview instrument, (2) the interview data collection tool, and (3) the document review data collection tool. These items are located in the appendices.

The interview instrument (see Appendix 2) included a structured set of questions designed to address the domains of interest suggested by the expert group (see Appendix 1), and focused on three primary domains: the interviewee’s interaction with the policy change, the processes by which the policy change was implemented, and the impact of the policy change. Following each interview, the two note-takers entered their notes into the interview data collection tool (see Appendix 3), which designated where content from the interview fit best into the various coding categories. Next, the two note-takers collaborated to create a consensus document for each interview. To do this, they compared summary documents and reached agreement regarding any discrepancies in their accounts of the content of the interview and categorization of the content. The primary interviewer then reviewed the consensus document. The team created a similar tool to gather information from documents reviewed for each case study (see Appendix 4). The document was double-coded by two researchers and reviewed by a third, primary researcher.

**Data Analysis**
The project team entered interview content and consensus data collection tool documents into NVivo 10 (QSR International, Cambridge, MA), a qualitative research software, assigning codes and reviewing the content from the interviews and documents. These codes facilitated organization and analysis for each case study in the series and the cross-case study analysis. The team used a multiple-case replication approach to examine major points of interaction between Medicaid and public health which resulted in (1) population health improvement or (2) Medicaid cost savings. Additionally, the team analyzed interview and document review data to examine points of convergence and divergence, with respect to the processes and drivers of several significant policy changes at the state and local levels.
NEW HAMPSHIRE BACKGROUND

Demographics
New Hampshire has an approximate population of 1.3 million residents, of which 91.3 percent are non-Hispanic white, 3.3 percent are Hispanic, 2.5 percent are Asian, 1.5 percent are African American, and 0.3 percent are American Indian. New Hampshire is a small state in Northern New England, covering just over 9,000 square miles. The majority of the population lives in or around Manchester, Nashua, and Concord. New Hampshire’s median household income is nearly $12,000 higher than the national average.

Administrative Infrastructure
The New Hampshire Department of Health and Human Services (DHHS) is the largest agency in New Hampshire’s state government. DHHS administers a variety of services including federally-enacted health and social service programs. DHHS has many divisions and offices, including the Office of Medicaid Business and Policy (OMBP), the Division of Family Assistance (DFA), and DPHS.

OMBP oversees the Medical Assistance program, which is New Hampshire’s Medicaid. OMBP is responsible for health planning, reporting, and research related to assessing the healthcare and social services delivery systems. DFA also has a role in New Hampshire’s Medicaid, responsible for determining financial eligibility for Medicaid and coordinating with OMBP, DHHS’ Bureau of Elderly and Adult Services, and DHHS’ Disability Determination Unit. DPHS is housed within DHHS and receives and distributes federal and state funds and actively works with private and public partners throughout the state.

In contrast, NHID is an independent regulatory agency within the state government. It is responsible for promoting and protecting a competitive insurance marketplace in the state through the enforcement of insurance laws.
The New Hampshire Healthcare Marketplace
There are 26 acute care hospitals in New Hampshire, 13 of which are critical access hospitals.

In a 2014 NHID report reflecting 2012 data, New Hampshire’s privately insured market covered approximately 65 percent of the state’s population, of which 55 percent were in self-insured plans. Self-insurance is an arrangement between an employer, who covers the cost, and an insurance carrier, who administers the plan.

Provider competition in rural areas is limited. However, competition for market share in cities such as Nashua and Manchester is also dampened due to traditionally strong cultural and consumer preferences. In the fully insured arena, Anthem Blue Cross Blue Shield (Anthem) has the largest market share at 60 percent of covered lives, followed by Harvard Pilgrim at 27 percent and CIGNA at 6 percent. These numbers have been changing since the Affordable Care Act (ACA) health exchanges went into effect. As of May 2015, 13.3 percent of New Hampshire’s population was either enrolled in Medicaid or the Children’s Health Insurance Program (CHIP). This is a 38.6 percent increase compared to enrollees prior to New Hampshire’s 2013 Medicaid expansion.

Like the rest of the United States, New Hampshire has a multitude of insurers:

- Public payers such as Medicare, Medicaid, and CHIP.
- Private insurers, including national and regional commercial health insurance companies.
- Employers through self-insured plans.

Creating contractual relationships between payers and healthcare providers or systems is complex and there has not been much uniformity. There also has not been a central authority responsible for aggregating data from the numerous payers, making it difficult for states or the federal government to regularly, accurately, and transparently track total healthcare spending. Policymakers need these data to create appropriate and effective policy, and consumers need it to make informed decisions regarding where they obtain healthcare services.
ALL-PAYER CLAIMS DATABASES

All private and public payers collect and analyze claims information on members in entity-specific repositories; this information is derived from individual billable health encounters. These repositories are not generally interoperable systems, and the information they yield is only about each plan’s specific members. Within Medicaid itself, it can be difficult to collect claims data that accurately represents utilization of Medicaid enrollees. Information is often incomplete as people frequently become eligible for Medicaid and then later lose eligibility; this is also known as “churn.” Medicaid claims data does not include information from other payers about healthcare spending and utilization prior to and after Medicaid enrollment. In an APCD issue brief published by The Commonwealth Fund, the authors claim that “State Medicaid directors have noted that the ability to aggregate data on their beneficiaries, and to combine and compare those data with data on commercial insurance enrollees, will be crucial in improving the management of state Medicaid programs.”

In an effort to improve this situation, many states have developed APCDs, which combine the aggregate claims and databases from public and private payers within a state. The All-Payer Claims Database Council defines APCDs as “databases, created by state mandate, that typically include data derived from medical claims, pharmacy claims, eligibility files, provider files, and dental claims from private and public payers. In states without a legislative mandate, there may be voluntary reporting of these data.” APCDs can provide policymakers with comparative information regarding healthcare spending, patterns of utilization, and access to care. If there is public data access, patients can potentially make healthcare decisions by comparing cost and quality.

FIGURE 1: States with All-Payer Claims Databases

Source: APCD Council, a collaboration between the University of New Hampshire and the National Association of Health Data Organizations.
Maine established the first statewide APCD in 2003. Since then, interest and investment in APCDs have grown substantially; there are currently 14 states (Colorado, Connecticut, Kansas, Maine, Maryland, Massachusetts, Minnesota, New Hampshire, Oregon, Rhode Island, Tennessee, Utah, Vermont, and Virginia) with existing APCDs, and six states (Arkansas, Connecticut, Nebraska, New York, Washington, and West Virginia) in the process of implementation. Most of these states have passed legislation to support their APCDs. New York state took a novel approach and modified its existing statutory authority to collect hospital discharge data. Some states (California and Wisconsin) have established and maintained voluntary APCD-like systems through collaboratives of healthcare payers, providers, government agencies, and others.

### Types of Information Collected in All-Payer Claims Databases

- Encrypted social security number.
- Patient demographics (date of birth, gender, residence, relationship to subscriber).
- Type of product (health maintenance organization, point of sale, etc.).
- Type of contract (single person, family, etc.).
- Member liabilities (co-pay, coinsurance, and deductible).
- Plan charges and payments.
- Type of bill.
- Date paid.
- Diagnosis codes.
- Procedure codes.
- Revenue codes.
- Service dates.
- Service provider (name, tax identification number, payer identification number specialty code, city, state, and zip code).
- Facility type, pharmaceutical information (National Drug Code or other information).
- Prescribing physician.

While this table shows types of information collected in APCDs, it is not a comprehensive list. For more about APCD data collection, visit [https://www.apcdcouncil.org/claims-data-collection-rules](https://www.apcdcouncil.org/claims-data-collection-rules).
DATA NEEDS

New Hampshire’s policymakers had difficulty understanding the healthcare marketplace, which led to two main problems: (1) it was hard for them to make informed health policy decisions, and (2) there was a lack of price transparency of health services. Prior to the launch of New Hampshire’s APCD, the health department collected information through a hospital discharge database and other public health databases for vital statistics, and health status data was self-reported through the Behavioral Risk Factor Surveillance System (BRFSS) and disease registries. These systems only aggregated a little information about overall healthcare utilization, especially outpatient services. A health policy expert working on this issue stated “The problem that we were seeking to solve was how can we understand health, healthcare, utilization, care, and access ...[when] there is a dearth of information otherwise.” Other interviewees echoed this sentiment. A high-level state public health official said “You can’t understand or manage or speak to things that you do not measure,” and a health policy analyst described New Hampshire as having “a weak understanding of healthcare costs and utilization.”

Multiple interviewees noted that without pricing transparency, there would not be competition among healthcare providers and consumers would not be able to make informed choices about where to obtain the most affordable care. A health policy analyst described this as “a degree of monopolization” among some New Hampshire healthcare providers, pointing out high costs of premiums in the state relative to the rest of the country and huge price variations. These factors, the employee asserted, more so than other potential utilities of an APCD, drove support of the APCD. A New Hampshire legislator said “The claims database from my point of view was going to be an opportunity to promote price transparency and competition in healthcare...we do not price shop. When we buy TV sets, we price shop. In healthcare, we do not have a free market where we can freely get price information.”
Development and Implementation of the Policy Change

DEVELOPMENT AND IMPLEMENTATION OF THE POLICY CHANGE

For more than a decade, New Hampshire has been at the forefront of the effort to develop, and maintain and expand, a robust APCD to inform health policy and promote healthcare price transparency.

Development of the Data Release Statute\textsuperscript{25}
NHID, in partnership with DHHS, proposed language for the data release statute and facilitated its passage, which established the APCD in 2003.\textsuperscript{26} The statute did not include a step-by-step architecture outlining the database’s creation; however, it required a memorandum of understanding (MOU) between NHID and DHHS (Medicaid) to develop an APCD named the New Hampshire Comprehensive Health Care Information System (NH CHIS).\textsuperscript{27} The law did mandate that data “shall not include or disclose any data that contains direct personal identifiers.”\textsuperscript{28}

The law mandated that healthcare data be “available as a resource for insurers, employers, providers, purchasers of healthcare, and state agencies to continuously review healthcare utilization, expenditures, and performance in New Hampshire and to enhance the ability of New Hampshire consumers and employers to make informed and cost-effective healthcare choices.”\textsuperscript{29} A Medicaid employee noted that there was nothing prescriptive in the legislation, rather it was designed to “get the data, use it in whatever way…and be able to report on it.”\textsuperscript{30} A policy expert said “The meat of the legislation is to be able to collect data and share that information generated from the data, to better understand costs and utilization.”\textsuperscript{31}

There will always be concerns regarding the potential release of confidential patient information from a database, even when New Hampshire de-identifies its data. A Medicaid employee explained that to address privacy concerns, but to allow for the fullest functionality of the APCD, the statute states that “the data should be made available ‘to the extent allowed by HIPPA [the Health Information and Patient Privacy Act].’ We have lived by that. This is different from other states that restrict release of information beyond HIPPA requirements.”\textsuperscript{32}
Development – Engagement
Describing the drafting and passage of the legislation, an NHID employee said “There was a fair amount of collaboration between the administration and the legislature, but there was also a fair amount of resistance from the insurance companies.” A policy expert closely involved in this work said that the process was unusually streamlined in order to do “what was best for the state.” A health policy expert explained that once legislation is passed, then the administrative rules are developed: “The rules are then made available through a public comment period, and also formal hearings.” It is during the rulemaking process and comment period that stakeholders are engaged. Policymakers, insurance company representatives, and providers convened over an approximate one-year time period to create the relevant rules.

Learning from Experience – The Rule Change Process
Amendments were made to the rules in 2009 and 2015, but required approval from the Joint Legislative Committee on Administrative Rules. A health policy analyst explained that the 2009 changes improved reporting requirements and refined collection variables making them more appropriate for insurance-based analyses. The 2015 rule update clarified data collection requirements with additional fields including premium information.

The formal rulemaking process allows for insurance companies to ensure that the data collection process is possible, reasonable, and fair, but the length of the process may prevent expedient changes to the rules governing the APCD. An interviewed researcher explained that there are some people who would like the New Hampshire APCD rule to be a little more agile and flexible in order to make updates as the industry updates.

Data Sources
The data submitted to New Hampshire’s APCD includes claims for medical services, dental services, and pharmacy services. The New Hampshire APCD includes data from commercial payers, third party administrators for self-funded plans, private Medicaid managed care plans, and Medicaid fee-for-service. Medicare does not submit claims data to any state, but states can apply to the Centers for Medicare and Medicaid Services (CMS) for Medicare data and then it can become part of a state’s APCD. A policy expert noted that New Hampshire “has acquired Medicare data [from] 2009 to date, and receives quarterly extracts from CMS. The plan is for the Medicare data to be formatted by the consolidator and incorporated into the APCD.” A Medicaid employee said “The data use agreement with CMS is centered around integration into the APCD, and our contract for our APCD [includes] the integration.” After integration, Medicare data, like Medicaid fee-for-service data, will not be governed by the same data release rules.
APCD Participant Roles and Interactions
DHHS (Medicaid) and NHID shared responsibility for carrying out the directive of the statute. After the statute was written, NHID and DHHS had to determine the delineation of responsibilities. NHID has the authority and is in a position to enforce the regulations by holding the insurance carriers responsible. NHID can impose penalties—fines or the revocation of a carrier’s license—upon insurance carriers who do not submit claims data. NHID, however, does not have the resources to manage and collect the data. This responsibility lies with DHHS because, as a DHHS employee explained, DHHS has the personnel and resources to manage this work. The employee also noted that “Our processes are so much simpler than other states. We don’t have governing bodies overseeing this. The state agencies simply have responsibilities like any other state agency project… It’s really been quite easy in New Hampshire because it’s been between two state agencies who’ve played nice with each other.” A policy expert explained that “The way they set it up—[with] the insurance department promulgating things, but the health department carries it out—allows those two state agencies to work in partnership…this relationship between health and insurance is healthy for APCD development.”

Payers involved in APCD efforts routinely flag concerns about market share and issues about potential negative impacts on competition when data are provided, creating transparency. The insurance carriers were initially “extremely concerned about data eroding market share, or revealing margins, or revealing different provider payments,” explained a health policy expert, and now “they have less concern about the data than when [the APCD] was initially proposed.” An interviewee further noted that “At the end of the day, they have used it for competitive advantage. They are mining the data, just like everyone else is mining it. In the end it has created more value than harm… No insurance company will advocate for it …[as it is seen as] an unfunded mandate. No one is paying the carriers to submit data.” Despite these challenges, this controversy has settled down over time.

Implementation and Applications
Once development was underway, two applications were created by state officials: the New Hampshire Health Web Reporting and Query System (NH HealthWRQS) to address community health assessments for public health purposes, and NH HealthCost, a price transparency tool.
NH HealthWRQS
In 2005, IHPP and DHHS collaborated to develop NH HealthWRQS. The initial system was built, “in response to requests from public health professionals for better access to data to support community health assessment and improvement.” Through NH HealthWRQS, public health professionals can access reports on a variety of measures. These reports make use of typical public health data sources including hospital discharges (both inpatient and emergency department visits), vital records (births and deaths), and cancer registry.

In 2007, DHHS and UNH received a five-year CDC assessment initiative grant. This grant provided funding to develop additional modules for NH HealthWRQS that make use of BRFSS data and APCD data. During the grant period, a leadership group, including the director of the division of public health services, the state epidemiologist, the director the bureau of policy and performance management (all from DHHS), and the data management lead of the office of Medicaid business and policy, met regularly to discuss how best to incorporate and make use of the APCD data for public health purposes; at the time this was a novel concept. The claims module user guide notes that the module “is a web-based query tool that produces both standard indicator reports and advanced reports for indicators of access to care and population health, and measures care of chronic conditions, and care for those chronic conditions.” NH HealthWRQS facilitates public health research with claims data.

Implementation and Applications – NH HealthCost
In 2005, NHID, the Commissioner’s Advisory Committee on Health Insurance, the New Hampshire Health Information Center, and IHPP collaboratively developed the pilot of a health cost transparency website, NH HealthCost. In February 2007, NHID released a second version of the site with improved methodology and presentation of information. NH HealthCost makes use of the APCD to provide consumers with pricing information on a variety of healthcare services including office and emergency department visits and, as of January 2016, 48 outpatient radiologic procedures.

Anyone with Internet access can go to the NH HealthCost website, select a service and add additional information such as zip code, distance from the service site (from a 10 mile radius to the entire state), insurance carrier, type of plan, and level of benefit deductible. The website populates a table which informs the consumer of what they will pay, how much their insurance is likely to pay, and pricing information for uninsured patients. A health policy analyst remarked “It is worth noting there is no specific requirement for the state to produce its most visible project, HealthCost. There were general guidelines in the statute for making data a public resource, but it did not say exactly how.”
APCD OUTCOMES AND EVALUATION

There are several clear benefits to APCDs. They allow for new tools to help consumers make informed decisions about their personal healthcare choices, enhance quality improvement at the practice level and higher, allow for comparisons between providers based on cost and quality, and are valuable to consumers and policymakers. As described in the next section, use of New Hampshire’s APCD data has primarily been for assessing healthcare costs.

Population Health Utility
A public health official said that the APCD has not been used much by public health professionals, which is disappointing given its potential for population health impact, as it can “help... answer an out-of-left-field, highly unexpected question.” A Medicaid employee gave a concrete example of this, describing a study done by a New Hampshire ophthalmologist: “There was a best practice change around eye drop antibiotics. [Published evidence supported] the use of one, but not the other, and she was concerned that her colleagues were not following best practices. She got data [from the APCD] to show that providers were lagging behind in following current best practice. She was able to use this information to talk to her peers. We were able to show how the use of this antibiotic shifted after the intervention. [With the APCD] you get to see all of the providers, not just your practice. You can see all of the payers. You can really get a good picture of provider practice patterns.”

A health policy consultant described how a local public health department in Tamworth, New Hampshire was able to use the APCD to conduct a return on investment (ROI) analysis: “They used a combination of donations and taxes at the local level to fund several full-time nurses available twenty-four seven. They have an exam room in the town hall. They will go to your house, treat you, and not charge you. They do this largely from a community perspective to take care of people, but they also do it because it is a distance to get to the hospitals or service providers. [To evaluate this model], we figured out what procedures they were doing and ran that against the client claim[s] database, to get a sense of the value of the services provided... The ROI was two to one... Who would have thought we would be doing this type of analysis?”
Medicaid Utility
Low Medicaid reimbursement rates are a persistent problem for providers and patients. A health policy analytics expert described using the APCD to “understand how our rates compared to commercial insurers... At one time, our rates were a quarter of commercial insurers.” Providing data that demonstrated the difference in payment rates, which could provide support for proposing increases to Medicaid reimbursement rates, was in progress, but “the recession hit and additional funding for rates evaporated. But we were able to learn a lot about how [the Medicaid] population compared to the commercial population. In a state like New Hampshire, the providers who serve Medicaid are the same that serve the commercial population. There are no public clinics that are 95 percent Medicaid or Medicare. Even our federally qualified health centers, some of them are only a third Medicaid... We have a lot of providers like Dartmouth that are payer-blind. We really felt like you could use the [claims data to answer many questions we had]. [The claims data] showed us how much sicker, or less healthy, the Medicaid population was, looking strictly at claims to know that Medicaid kids were two to three times as likely to have been diagnosed with asthma, and adults maybe double the rate of diabetes. [We applied] health risk adjustment tools to the data, we [got] an understanding of how different the Medicaid population was and how much those challenges were not something to be brushed aside.”

New Hampshire Insurance Department Utility
NHID uses the APCD information to investigate, analyze, and better understand the insurance marketplace to improve its policies. NHID has used the APCD to investigate factors behind the increased rate of cesarean sections at New Hampshire hospitals and their role in driving healthcare costs. Additionally, NHID used APCD data to:

- Evaluate ambulance transport costs in New Hampshire.
- Determine the impact of aging on the commercial and self-insured insurance marketplace.
- Examine reimbursement contracts between providers and commercial insurers.
- Evaluate the impact of patient cost sharing on the use of healthcare services.

Of great current interest is a report on the pre-risk adjustment analysis of health status by carriers. All of these reports are available at the NHID website at https://www.nh.gov/insurance/aboutus/index.htm.
NH HealthCost Evaluation

In 2009, NHID completed an analysis to evaluate any change in price variation attributable to the NH HealthCost website. It compared claims data pre-NH HealthCost (2005 and 2006) with post-NH HealthCost claims data (2007 and 2008). This analysis indicated that in the year following the launch of the website, there was little change in price variation. The Center for Studying Health System Change found that representatives of health plans, hospitals, and provider organizations attributed this to weak provider competition in New Hampshire. Even in the southern, more urban areas of New Hampshire where there is more potential competition, patients tended to be loyal to one hospital or certain providers. According to the study, another contributing factor was lack of patient incentive to use NH HealthCost because “most consumers have little or no financial incentive to comparison shop for health services.”

A follow-up study conducted in 2014 by the California Health Care Foundation (CHCF) and Robert Wood Johnson Foundation (RWJF) relied on interviews from healthcare stakeholders and experts. It found that consumer use of NH HealthCost was not yet high enough to affect the price of healthcare services. They did find that NH HealthCost contributed to increased awareness of price variation in healthcare among policymakers. NH HealthCost helped insurers negotiate lower costs for services with high-cost providers, and it contributed to insurance carriers making benefit design changes that drive competition.

The most public example of the effect of the NH HealthCost website in combination with the NH hospital comparison report occurred during contract negotiations between Anthem and Exeter Hospital. A health policy expert stated that “NH HealthCost data showed that Exeter [Hospital] was very expensive.” From 2010 to 2011, Exeter Hospital and Anthem engaged in tense contract negotiations. Anthem threatened to terminate its contract with Exeter Hospital, citing payment rates for services and procedures nearly 50 percent higher than its regional competitors. Anthem is the state's largest insurance provider, and in 2011 it had 44 percent of the New Hampshire's commercial health insurance market. Exeter Hospital would have faced significant financial consequences if Anthem followed through with the threat to terminate its contract. Exeter Hospital countered with an offer to limit rate increases to less than 3 percent per year. Anthem rejected this offer, and in early 2011 Exeter Hospital reportedly agreed to lower its rates for their next three-year contract. Unlike previous negotiations between insurers and hospitals in New Hampshire, these negotiations took place in full view of the public eye. The NH HealthCost website enabled local media to look at data that demonstrated the price discrepancy between Exeter Hospital and its competitors. A policy analyst close to this process said that it would have been “much harder for a large insurance company to make the claim that a hospital was expensive if the insurance department had not put out a report showing that to be the case.” In the CHCF and RWJF study, the authors wrote “Heading into the Anthem contract negotiations, Exeter, which serves the state’s Seacoast Region, had long been a high-price outlier, with many observers noting that a prestigious reputation and an affluent, loyal patient base insulated the hospital from pressure to lower prices. However,
the price comparisons made available by NH HealthCost and subsequent public reports helped shine the spotlight on Exeter’s outlier status... As a result, according to a respondent familiar with the negotiations, ‘public and employer sentiment was very supportive of [Anthem] during that dispute’—a reversal of historic patterns where ‘health plans don’t usually come out on the good side of those arguments as far as public opinion is concerned.’”

Insurers in New Hampshire offered benefit design changes that respondents in the CHCF and RWJF study attributed in part to the existence of the NH HealthCost website and the APCD. Beginning in 2009, Anthem offered a tiered co-payment benefit with some of its plans, which incentivizes the use of less expensive independent laboratories and freestanding ambulatory surgery centers. Consumers were subject to no out-of-pocket costs when they used independent laboratories and co-pays of $75 to $100 for using ambulatory surgery centers. In 2013, Harvard Pilgrim Health Care began offering a similar benefit program to Anthem’s tiered co-payment benefit.

In 2010, Anthem offered another benefit change, called SmartShopper, for some of its plans that relied heavily on APCD data. SmartShopper encourages price shopping by offering about $100 to consumers when they use SmartShopper-recommended lower-cost providers for certain outpatient procedures and diagnostic tests.

The CHCF and RWJF study also found more access to information about healthcare providers, which could be attributed to the effect of the NH HealthCost website. It is more common now for hospitals to provide pricing information over the phone. In addition, some hospitals in New Hampshire now have price transparency websites, which provide the discounted prices of common services for uninsured patients. Some of these websites also include retail prices, but this information is not useful to insured patients because the price is based on the contract the provider has with the insurance company.
FUNDING, SUSTAINABILITY, AND TRANSFERABILITY

Funding for New Hampshire’s APCD was not designated in the statute; however, the state’s capital budget and grants for rate setting through the ACA provided variable short-term resources. The small size of the state and the ongoing working and personal relationships of the collaborators may have facilitated the development and maintenance of the database. An interviewee pointed out “We’re so small. The people involved in this project are maybe a total of five people (outside of contractors) at any given time.”

The structural nature of the administrative rules, and the MOU between the insurance and Medicaid departments that direct the work, created a mechanism described as business as usual by department leaders.75

Most of the individuals interviewed felt that New Hampshire’s APCD was sustainable. A public health expert said that “It adds value to all of the different things we are trying to do [in healthcare reform]... We are trying to figure out what we pay for and how we pay for it. The APCD is paramount to the success of this.” A health policy expert said “I do not think that [the APCD] is vulnerable here in New Hampshire. I think that it is here to stay.” The expert further explained that “Providers are seeing the results,” and that “it is hard to come out against healthcare price transparency and the APCD provides this.”

Although most of the interviewees thought that the APCD was currently sustainable, there are still some possible threats. The state legislator interviewed for this case study felt that the APCD is supported in the current political climate, but lobbyist and interest groups representing insurance carriers and provider groups who benefit from high healthcare prices might work to convince legislators to overturn the NHID statute mandating data submission. For example, if a rural critical access hospital is hurt by increased competition, a senator in that district might be pressured to withdrawal support from the existing legislation.81 A health analytics expert felt that if patient information is ever exposed, although very unlikely with an encrypted database, public and legislative support of the database would erode, and this could lead to an overturn of the statute. Another risk to APCD’s viability is funding; an analytics expert said “If times are tight, you need to justify the benefit of the APCD.” The expert explained that economic theory predicts that healthcare costs should go down with price transparency, “but healthcare is not a perfect market.”82 It is possible that if consumers do not respond to transparency by changing their choice of providers, then providers might increase their prices to match the highest price the market allows, driving up the average cost of healthcare services. If someone can prove that these systems cause healthcare costs to rise, then the APCD statute would likely be overturned.84

The functionality, and therefore viability, of the APCD has been debated on the national stage in the case of Gobeille vs. Liberty Mutual Insurance Company, which was argued before the U.S. Supreme Court in December 2015. On March 1, 2016, the U.S. Supreme Court held 6-2 that the Employee Retirement Income Security Act (ERISA), pre-empts Vermont’s requirement that self-funded insurance plans submit claims information to the state’s APCD. Database proponents argued that excluding ERISA plans, which
cover 60 percent of all employees receiving employer-sponsored health benefits, from APCDs will provide an incomplete understanding of healthcare service usage and costs. Opponents countered that Vermont does not have the authority to require the submission of the claims data from self-funded plans, and the Supreme Court agreed. The court did leave open the possibility of federal action to ensure that APCDs obtain the robust data they need in order to improve healthcare quality and costs. While the full impact of the decision on state APCDs is yet to be seen, this case has the potential for widespread implications for state APCDs given the high proportion of self-funded employers. As a policy analyst said “The biggest threat is whether or not we can collect data from third party administrators for self-funded parties.”

Aspects of New Hampshire’s APCD can be transferable to other states. Recognizing that there is considerable influence of the specific landscape, the projects will vary in terms of how they are started, how they are maintained, how they are used, and who uses them, although standard types of claims are used to derive the data. There are very different efforts underway in other states. In Colorado, reports are available freely to the public. In Vermont, the de-identified APCD is used to deliver specific feedback and quality improvement resources to primary care practices, with payer data submission required by state statute. In contrast, Virginia has a model successfully populated voluntarily by payers.
LESSONS LEARNED

Engagement and Resourcing
At the time of the APCD’s inception, several key people in New Hampshire’s state government drove the process forward. Engaging a wider spectrum of stakeholders came later, after the statute was already law, with some residual impacts. A policy expert suggested “Engaging carriers leads to more successful APCD [establishment] because you learn from their lessons, and you do not repeat mistakes. You start the partnership and open communication earlier rather than simply using your authority.”

The partnership is also important because of the nature of the work, since it requires a mix of content expertise in information technology, claims entry and analysis, and clinical medicine to be successful. A project manager stated that the overall effort “is harder than it looks. A lot [of] different types of talent are necessary. And if you do not have bandwidth [people and resources], it cannot be done.”

Data Integrity
The data entered into the APCD comes from insurance carriers and varies in its quality. A Medicaid employee said “The insurance company is only providing the data to the state because that is the cost of doing business in New Hampshire. They do what they need to do to comply, [and] it is a constant battle to assess the quality of the data [and to encourage] the health plans to submit and resubmit data.”

The employee also remarked that the trend in corporate merging of insurance carriers creates a challenge because data are consolidated between what were previously different systems. Reconciling this data is not a top priority following this type of event as “the insurance companies are spending more on processing claims than processing data.”

The vendor collecting the data has a data submission system that checks for quality, but it must still be reviewed to ensure that it is good information. Quality assurance is done quarterly as a final check so that the data is useful.

Patient Identifiers
According to a health policy expert, “The biggest misstep, because of political reasons, was the lack of patient identifiers in the database. It could probably never happen.”

The expert said that including patient identifiers, which should have been done from the beginning, would have improved data quality by enabling the matching of pharmacy benefit management claims data and linking to disease and other public health registries. These linkages could support population health research and operational support of healthcare innovations such as patient-centered medical homes. This was not an oversight, but rather a conscious decision reflecting concerns about privacy, and does not limit the potential for data utility.
Changing Vendors
New Hampshire generally procures outside contractors for much of the state’s work to keep the size of its government small. For the APCD, the state contracted with the same data analytics vendor, Onpoint Health Data, which Maine used for seven years. Following a standard re-bid process in 2013, DHHS and NHID hired a new vendor, Milliman. While Milliman had appreciable experience collecting data from insurance companies and analyzing data sets, they “did not anticipate the complexity of the full-bore APCD. We maybe did not do a good job of explaining the complexity or anticipating it. It took longer because they had to build it from scratch.”

This complexity has slowed the conversion process to the new vendor and delayed information dissemination. As of 2016, New Hampshire is procuring this contract again; however, at the time of this case study’s publication, the new vendor has not yet been announced.

Access to and Use of Data
A health policy expert explained that “There was a website built with one hundred canned reports—line of business, geography, and carrier. There were cost reports, quality reports, etc.” However, when the state changed data management vendors, access to this was lost due to funding constraints. Mid-level users could no longer easily access the data to complete studies. The expert also said that a data visualization tool would benefit mid-level users as one “has to be very technologically savvy to [make use] of some of [the data]. True public access is missing.” More professionals would be able to use the data and contribute meaningful research “if there were better portals. I can think of probably a dozen studies that if I had easier access to the data, I would be pawing through it and looking at stuff.”

More generally, there needs to be continuous support for novice and experienced users. An interviewee noted that “When we are actively pushing this to people, they love it. When we are not there in front of it all the time, it gets lost in the morass of all the things that people need to do. If you build it and you support it and you continually help people use it, they will continue to come back, but it’s hard. There are people who are not data people who get intimidated by it. The wave of the future is that we need to not be bounded in our thinking about what data is easily available, and create the scenarios where everything is easily available.”
Public Awareness
Although the data in NH HealthCost are publicly available, an interviewee noted “None of my friends know of it or use it… No one uses it because most of their plans are low deductible, no incentive to use it.”99 The interviewee, however, thought that as the data set becomes more robust, people will check the NH HealthCost website for the best price for lab tests or other services from their smartphones, much like shopping for other goods. It is this type of use that the interviewee claimed would drive New Hampshire’s healthcare market place to respond the way that a free market does: “I look at this nascent database that is available to the public as the first step in bringing back competition to healthcare. One of the nice things about ACA is that a lot of the plans have high deductibles, and therefore folks on those plans have an incentive to not use medical services or, if they have to, to find value. But without pricing—doctors and hospitals do not know how much they charge—only insurance companies know how much they charge.”100

Public Health Utility
A former state health official noted that the APCD “has not been properly utilized from a public health perspective.” The interviewee believed this to be a combination of inadequately trained internal staff and a culture in public health that is characterized by a lack of understanding or interest in using the data, or suspicions about its integrity. New Hampshire’s state public health team discussed using the APCD with CDC, they were not met with a great deal of enthusiasm. State public health officials also had to make their case to Medicaid colleagues “because they did not see us as a real user of the data, at that time. They do now.”101 The public health department is still struggling for use of claims data “from a mental health, disability, or from a population health perspective” because of the lack of internal analytic capacity.102
CONCLUSION

Establishing an APCD must be a state-sanctioned effort, as it needs an identified convener. Dedicated human and fiscal resources are necessary. The process is made smoother, including regarding the Health Insurance Portability and Accountability Act, if there is a law mandating data collection. Guiding legislation provided a kick-off for the development of the APCD, but New Hampshire had shifting levels of support from multiple sources, which resulted in adaptable accessibility and therefore variable uptake and utility, especially in the public health and consumer realms.

The development process leading to the statute’s enactment limited the engagement of multiple stakeholders. The payers, who were quickly subject to the rules, did have an opportunity for engagement in the legislative process and were not initially supportive.

The two goals of New Hampshire’s APCD have been realized, but not equally. Price transparency of healthcare costs is clearly being achieved as demonstrated in the yearly analysis done by Medicaid, commercial insurers, and the consumer-facing website NH HealthCost. Population health data-driven policy decisions have been lagging, but now appear ready for more robust use.

New Hampshire’s APCD has the potential for use far beyond claims data analysis. Experienced developers and users envision using clinical and community level data to manage populations from a population health management perspective. The transferability of New Hampshire’s experience remains to be seen, as other states take on the work. As of January 2016, 12 states have fully implemented and mandated APCDs, five states have voluntary APCD efforts in various stages of development, and five states have mandated APCDs that are in development. There is much to be observed, learned, and implemented in the coming years.
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82 New Hampshire Interviewee #5. Interview conducted by Lisa Dulsky Watkins, MD. July 20, 2015.

83 Ibid.

84 Ibid.


90 Ibid.


92 Ibid.

93 New Hampshire Interviewee #1. Interview conducted by Lisa Dulsky Watkins, MD. July 8, 2015.


96 Ibid.

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Appendix 1 - de Beaumont Medicaid-Public Health Expert Group Members

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## Appendix 1 - de Beaumont Medicaid-Public Health Expert Group Members

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<thead>
<tr>
<th>Name</th>
<th>Organization</th>
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<tbody>
<tr>
<td>Judith Monroe*</td>
<td>CDC Office of State, Tribal, Local, and Territorial Support</td>
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<tr>
<td>José Montero*</td>
<td>New Hampshire Department of Health and Human Services</td>
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<tr>
<td>Robert Morrison</td>
<td>National Association of State Alcohol and Drug Abuse Directors</td>
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<tr>
<td>Kelly Murphy</td>
<td>NGA</td>
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<tr>
<td>Karen Murphy*</td>
<td>The Centers for Medicare and Medicaid Services Center for Medicare and Medicaid Innovation</td>
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<tr>
<td>Kathleen Nolan*</td>
<td>National Association of Medicaid Directors</td>
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<tr>
<td>Catherine Patterson</td>
<td>de Beaumont Foundation</td>
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<tr>
<td>Harvey Perez*</td>
<td>Washington State Department of Health</td>
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<tr>
<td>Robert Pestronk*</td>
<td>NACCHO</td>
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<tr>
<td>Patricia Portzebowski</td>
<td>National Association for Public Health Statistics and Information Systems</td>
</tr>
<tr>
<td>John Robitscher</td>
<td>National Association of Chronic Disease Directors</td>
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<tr>
<td>Jeff Schiff</td>
<td>Minnesota Health Care Programs</td>
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<tr>
<td>Tom Schlenker*</td>
<td>San Antonio Metropolitan Health District</td>
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<tr>
<td>James Sprague*</td>
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<tr>
<td>Haemi Tewarson</td>
<td>NGA</td>
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<tr>
<td>Carol Thornton</td>
<td>Pennsylvania Department of Health</td>
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<tr>
<td>Laura Tobler</td>
<td>National Conference of State Legislatures</td>
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<td>Monica Valdes Lupi*</td>
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<td>Rita Vandivort-Warren</td>
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<td>Kathy Vincent</td>
<td>Aacho Consultant</td>
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<td>Kristen Wan Rego</td>
<td>Aacho</td>
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<tr>
<td>Amber Williams</td>
<td>Safe States Alliance</td>
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*previously served as representative for organization on expert group
INTERVIEW INSTRUMENT

Thank you for talking with me today. This interview is being conducted as part of a series of case studies that will reflect collaboration between Medicaid and public health that have yielded (or promise to yield) cost savings to Medicaid and/or improvements to population health. Do you have any questions at this time?

I would like to read a brief disclosure statement to you. If it sounds good, we’ll get started.

Disclosure statement: This interview will last for approximately an hour. As explained to you earlier, your participation is absolutely voluntary. You can decline to answer any question, and if you wish to discontinue your participation at any time during the interview process, please feel free to do so. With your permission, we would like to record this interview. This recording will only be used to confirm our notes, and will be deleted once the project is completed. Your identity will be confidential and any reports generated from this session will include only de-identified responses. Before verbally consenting to participate in this interview, I would like to make sure that you feel you understand the purpose of this project and have had the chance to ask any questions you’d like. If you do not have any questions, with your consent, we will begin the interview, and it will be recorded. (Consent)

In the course of this interview, we will be asking you several questions about [NAME OF POLICY CHANGE] which I’ll call “policy change” for short. The questions will include how the policy change started, how implementation happened, and what the outcomes have been.

1. What is your role in your agency, and how did you come to be aware of the policy change?

2. What was the problem the policy change sought to address?
   a. (Identify vision, mission and values)

3. In two or three sentences, could you summarize what the policy change was?

4. Thanks for the overview. As part of this case study, I’ll be trying to figure out when the various stages of the policy change occurred.
   a. Can you outline a timeline of the process?
   b. Were there any missteps identified during the implementation process you’ve described?
      i. How were they identified?
      ii. How were they overcome?
5. **What were the mechanisms of the policy change’s implementation?** The 2 areas we have already identified are engagement of partners and types of tools. If there were other mechanisms, please share them.

   a. Engagement of partners
      
      i. What external partners/stakeholders were engaged, and how? (Examples could include political, governmental and special interest groups, CMS, others.) Were they key to the process?
      
      ii. What internal partners and staff were engaged and primarily responsible? Were they co-located?

   b. Tools
      
      i. What methods of communication were used? Examples include face-to-face, conference calls, webinars, shared electronic files, public meetings
      
      ii. What kinds of policy tools were used?

   1. Regulatory/statutory (State or local? Funded?)
   
   2. CMS/Medicaid (Waiver, and what kind? State Plan Amendment? Other?)
   
   3. Payer alignment

6. **There is commonly some kind of “course correction” over time in complex projects such as yours. Did this occur in your case?**

   a. Were the initial goals of the collaboration modified? If so, how?
   
   b. Were the original strategies significantly changed? If yes, describe.

7. **Evaluation**

   a. How did you measure outcomes of the policy change?
   
   b. Are there any outcomes attributable to that policy change?
   
   c. Is there funding dedicated to evaluation? If so, where does the funding come from (in-kind, etc.)?
8. **Sustainability**

   a. Is there a mechanism in place to address sustainability?

      i. If so, please describe. Has it been successful?

My final questions are about extrapolating from your experience with this policy change to others. I’m going to ask you to think about missteps, and how transferable you feel this policy change is to other locales.

9. **What from this process could be useful to other states or local entities considering similar approaches?**

10. **What was the impact of the type of policy vehicle on the implementation process?**

11. **In addition to the missteps identified earlier, if any, were there other things you might have done differently?**

    a. If so, how were they identified?

    b. How were these issues overcome?
### Appendix 3 - Interview Data Collection Tool

**Interview respondent name:**
**Interview ID #:**
**State:**

<table>
<thead>
<tr>
<th>Question number</th>
<th>Helpful hints</th>
<th>Question</th>
<th>Summary</th>
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<td>Use semicolons to separate distinct concepts</td>
<td>Take full notes here</td>
<td>Provide short summaries here, use quotation marks to indicate verbatim quotes, otherwise paraphrase.</td>
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<td>1.</td>
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<td>What is your role in your agency, and how did you come to be aware of the policy change?</td>
<td>Role</td>
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Ignore role, focus on awareness

| 2.              |              | What was the problem the policy change sought to address? | Problem |

Identify vision, mission, values

| 3.              |              | In two or three sentences, could you summarize what the policy change was? | Summarize policy change |

Summarize policy change in as few distinct steps as possible

| 4a.             |              | Can you outline a timeline of the process? | Timeline |

Critical. Report each step by month and year, if possible. Use numbered list

| 4b.             |              | Were there any missteps identified during the implementation process you've described? How were they identified? How were they overcome? | Missteps |

Separate responses into distinct misstep identification and solution (use semicolons)

| 5.              |              | What were the mechanisms of the policy change's implementation? | Mechanisms of Implementation |

The 2 areas we have already identified are engagement of partners and types of tools (below). If there were other mechanisms, please share them.
<table>
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<tr>
<td>5ai.</td>
<td>Use semicolons to separate distinct concepts</td>
<td>What external partners/stakeholders were engaged, and how? (Examples could include political, governmental and special interest groups, CMS, others.) Were they were key to the process?</td>
<td>External engagement</td>
</tr>
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<td></td>
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<tr>
<td></td>
<td>External to home agency (could include other governmental actors)</td>
<td></td>
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</tr>
<tr>
<td>5aii.</td>
<td></td>
<td>What internal partners and staff were engaged and primarily responsible? Were they co-located?</td>
<td>Internal engagement</td>
</tr>
<tr>
<td></td>
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<tr>
<td></td>
<td>Internal to the home agency only</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5bi.</td>
<td></td>
<td>What methods of communication were used?</td>
<td>Communication methods</td>
</tr>
<tr>
<td></td>
<td>Options include: face-to-face, conference calls, webinars, shared electronic files, public meetings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5bii.</td>
<td></td>
<td>What kinds of policy tools were used?</td>
<td>Policy tools</td>
</tr>
<tr>
<td></td>
<td>Options include: Regulatory/statutory (State or local? Funded?) CMS/Medicaid (Waiver, and what kind? State Plan Amendment? Other?) Payer alignment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td></td>
<td>Did course corrections occur? Were the initial goals of the collaboration modified? If so, how? Were the original strategies significantly changed? If yes, describe</td>
<td>Course corrections</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
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<tr>
<td></td>
<td>Modified goals, strategies, and tactics. Concise summaries</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7a.</td>
<td></td>
<td>How did you measure outcomes of the policy change?</td>
<td>Measure outcomes/Evaluation</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
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<tr>
<td></td>
<td>Separate concrete impact measures from process measures</td>
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</tbody>
</table>
## Appendix 3 - Interview Data Collection Tool

<table>
<thead>
<tr>
<th>Question number</th>
<th>Helpful hints</th>
<th>Question</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Use semicolons to separate distinct concepts</td>
<td></td>
</tr>
<tr>
<td>7b.</td>
<td></td>
<td>Are there any outcomes attributable to that policy change?</td>
<td>Attributable outcomes/Evaluation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Yes/No, and what?</td>
<td></td>
</tr>
<tr>
<td>7c.</td>
<td></td>
<td>Is there funding dedicated to evaluation? If so, where does the funding come from (in-kind, etc)?</td>
<td>Funding for Evaluation</td>
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<tr>
<td></td>
<td></td>
<td>Yes/No, and what kind?</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td></td>
<td>Is there a mechanism in place to address sustainability? If so, has it been successful?</td>
<td>Sustainability</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Yes/No, and what?</td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td></td>
<td>What from this process could be useful to other states or local entities considering similar approaches?</td>
<td>Transferability</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Focus on short phrases</td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td></td>
<td>What was the impact of the type of policy vehicle on the implementation process?</td>
<td>Impact of policy vehicle type</td>
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<tr>
<td></td>
<td></td>
<td>Make sure it’s attributable to vehicle specifically, otherwise “No Impact attributable” is OK</td>
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<tr>
<td>11.</td>
<td></td>
<td>In addition to the missteps identified earlier, if any, were there other things you might have done differently? If so, how were they identified? How were these issues overcome?</td>
<td>Missteps</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Will be combined with codes above. Separate responses into distinct misstep identification and solution</td>
<td></td>
</tr>
</tbody>
</table>
## Appendix 4: Document Review Data Collection Tool

<table>
<thead>
<tr>
<th>Question number</th>
<th>Question</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>What was the problem the policy change sought to address?</td>
<td>Problem</td>
</tr>
<tr>
<td>2.</td>
<td>What was the policy change?</td>
<td>Summarize policy change</td>
</tr>
<tr>
<td>3.</td>
<td>What was the timeline of the process?</td>
<td>Timeline</td>
</tr>
<tr>
<td>4.</td>
<td>What were the mechanisms of the policy change’s implementation?</td>
<td>Mechanisms of Implementation</td>
</tr>
<tr>
<td>5.</td>
<td>What external partners/stakeholders were engaged, and how? (Examples could include political, governmental and special interest groups, CMS, others.) Were they key to the process?</td>
<td>External engagement</td>
</tr>
<tr>
<td>6.</td>
<td>What internal partners and staff were engaged and primarily responsible?</td>
<td>Internal engagement</td>
</tr>
<tr>
<td>Question number</td>
<td>Question</td>
<td>Summary</td>
</tr>
<tr>
<td>-----------------</td>
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</tr>
<tr>
<td>7.</td>
<td>What kinds of policy tools were used?</td>
<td>Policy tools</td>
</tr>
<tr>
<td>8.</td>
<td>What was the impact of the type of policy vehicle on the implementation process?</td>
<td>Impact of policy vehicle type</td>
</tr>
<tr>
<td>9.</td>
<td>Is there a mechanism in place to address sustainability? If so, has it been successful?</td>
<td>Sustainability</td>
</tr>
<tr>
<td>10.</td>
<td>How are outcomes of the policy change measured?</td>
<td>Measure outcomes/Evaluation</td>
</tr>
<tr>
<td>11.</td>
<td>Are there any outcomes attributable to that policy change?</td>
<td>Attributable outcomes/Evaluation</td>
</tr>
<tr>
<td>12.</td>
<td>About this document. Document format - Web, print, other?</td>
<td></td>
</tr>
<tr>
<td>12a.</td>
<td>About this document. Publicly available?</td>
<td></td>
</tr>
<tr>
<td>12b.</td>
<td>About this document. Working document?</td>
<td></td>
</tr>
<tr>
<td>12c.</td>
<td>About this document. Publicity material? If so, target audience?</td>
<td></td>
</tr>
<tr>
<td>12d.</td>
<td>About this document. Author and title?</td>
<td></td>
</tr>
<tr>
<td>12e.</td>
<td>About this document. Other information?</td>
<td></td>
</tr>
</tbody>
</table>
2003
- Maine establishes the first statewide APCD.
- NHID, in partnership with DHHS, proposes language for the data release statute and facilitates its passage, which establishes the APCD, named NH CHIS.

2004
- Several members of the UNH’s IHPP staff are brought in as part of the NHID advisory committee, which reviews proposed data collection and data release rules and continues to do so a decade later.

2005
- June 1: Claims data submission begins and New Hampshire’s APCD is officially launched. Initially the APCD rules required the submission of claims data for any carrier covering more than 200 lives in the state.
- IHPP and DHHS collaborate to develop NH HealthWRQS to address community health assessments for public health purposes.
- NHID, the New Hampshire Health Information Center, and IHPP collaboratively develop the pilot of NH HealthCost – a price transparency tool. NH HealthCost makes use of the APCD to provide consumers with pricing information on a variety of healthcare services including office and emergency department visits.

2007
- DHHS and UNH receive a five-year CDC Assessment Initiative grant providing funding to develop additional modules for NH HealthWRQS that make use of BRFSS data and APCD data.
- February: NHID releases a second version of NH HealthCost with improved methodology and presentation of information.

2009
- Amendment to New Hampshire’s APCD rules makes changes to the reporting requirements and the collection of different variables more appropriate for insurance-based analyses are instituted.
- NHID completes an analysis to evaluate any change in price variation attributable to the NH HealthCost website, and found little change in price variation in the year following the launch of the NH HealthCost website.

2010
- Anthem begins offering SmartShopper with some of its plans that relied heavily on APCD data. SmartShopper encourages price shopping by offering about $100 to consumers when they use SmartShopper-recommended lower-cost providers for certain outpatient procedures and diagnostic tests.
- Exeter Hospital and Anthem engage in tense contract negotiations, stemming from NH HealthCost data showing that Exeter was very expensive.

2011
- Early 2011: Exeter Hospital agrees to lower its rates for their next three-year contract.

2013
- DHHS and NHID hire a new vendor (Milliman) for its APCD.

2014
- A follow-up study on the NH HealthCost site finds that consumer use of NH HealthCost was not yet high enough to affect the price of healthcare services, but that NH HealthCost did contribute to increased awareness of price variation in healthcare among policymakers.

2015
- Amendment to New Hampshire’s APCD rules clarifies data collection requirements with additional fields of information including premium information.
- December: Gobelle vs. Liberty Mutual Insurance Company goes before the U.S. Supreme Court.

2016
- March 1: The U.S. Supreme Court held 6-2 that ERISA, pre-empts Vermont’s requirement that self-funded insurance plans submit claims information to Vermont’s APCD.
- New Hampshire is procuring its APCD vendor again.