Milken Institute School of Public Health

THE GEORGE WASHINGTON UNIVERSITY



Case Studies in Healthcare Financing of Healthy Homes Services: Medicaid Reimbursement for Home-Based Asthma Services in Delaware

A large body of evidence suggests that home visiting programs addressing indoor environmental triggers (e.g., cockroaches, mice, tobacco smoke, mold) can improve asthma control, reduce asthmarelated hospitalizations and emergency department visits, and provide a positive return on investment.1 These types of services are recommended as a component of comprehensive asthma care for people with poorly controlled asthma but are not widely available and often limited in scale. However, recent changes resulting from healthcare reform have increased opportunities for states to consider more sustainable and widespread implementation. Some states have already invested heavily in developing programs, policies, and funding to increase access to these critical public health services. Yet many

states may be unsure about how to translate these evidence-based practices into policy. This case study summarizes the current healthcare financing landscape in Delaware for home-based asthma services with an emphasis on public financing. The case study is based on survey findings² and interviews with the state Medicaid agency, the state health department, and other stakeholders. It describes the current healthcare landscape, other important funding mechanisms, key barriers, next steps, and lesson learned. This information may be useful to stakeholders in other states that are seeking healthcare financing for home-based asthma or other preventing services, or for stakeholders within the state of Delaware interested in a summary of current and future opportunities within the state.



Medicaid in Delaware

Approximately 26% of Delaware residents (239,426 people as of May 2015) are enrolled in Delaware's Medicaid program, and the vast majority of Medicaid beneficiaries are now enrolled in one of two managed care organizations (MCO). Most Medicaid benefits are covered through managed care; very few services are still covered through fee-for-service. All asthma-related services available to Delaware Medicaid beneficiaries are offered through managed care.

Medicaid Reimbursement for Home-Based Asthma Services^a

Reimbursement type (page 3): At this time, Medicaid beneficiaries in Delaware do not have access to home-based asthma interventions. Future coverage of home-based asthma interventions by MCOs will likely be financed through administrative budgets. There is no fee-for-service Medicaid reimbursement in Delaware for asthma interventions.

Geographic coverage (page 3): Statewide.

Eligibility for services (page 4): Both adults and children are eligible, though services are generally targeted towards higher-risk members, as determined by recent emergency department visits or hospitalizations.

Types of services covered (page 4): Services previously supported were focused on asthma self-management education, home environmental assessment to identify asthma triggers, and referrals to specialists or other community-based services and supports.

Staffing (page 4): Services were previously conducted by trained investigators from area home health agencies; community health workers.

Barriers and Next Steps for Delaware (pages 5-6)

Interviewees described challenges and barriers both previously faced in implementing asthma management programs in the state as well as related to implementing future home-based asthma management programs including: a distrust of healthy homes inspectors, difficulty engaging landlords, lack of information and data sharing between stakeholders, lack of funding for workforce training, lack of a reimbursement payment system mechanism, and a need for dedicated state-level leadership.

Other Funding Mechanisms in Delaware (page 5)

According to interviews, many programs across the state that perform home-based asthma work are or were previously funded by state- or private foundation-sponsored grants.

Key Insights from Delaware (page 7)

As Delaware implements and tests its State Innovation Models (SIM) Initiative, *Choose Health Delaware*, it should use this as an opportunity to open communication between MCOs, other insurers, and healthcare systems so that innovations in asthma disease management can be shared across institutions. Doing so may prevent disruptions in patient care when effective programs close down, as in the case of Delaware Physicians Care's asthma disease management program.

Medicaid in Delaware

Approximately 26% of Delaware residents (239,426 people as of May 2015) are enrolled in the Medicaid and CHIP program administered by the Delaware Division of Medicaid and Medical Assistance.3 Starting in 1996, Delaware began converting much of its Medicaid program into managed care. The managed care program is called the Diamond State Health Plan (DSHP), which covers acute, primary, and behavioral healthcare services for low-income children, families, and adults; children and adults with disabilities; and foster care children.4 Traditionally, Delaware has maintained a small fee-for-service (FFS) model, but since 2012, the state has transitioned additional populations to managed care, including elderly beneficiaries and persons with physical disabilities.5 However, a very small population remains in FFS, including those with intellectual disabilities.

Medicaid beneficiaries are currently enrolled in one of two managed care organizations (MCOs): (i)
UnitedHealthcare Community Plan and (ii) Highmark Health Options, which replaced Delaware Physicians Care, Inc. (DPCI) on January 1, 2015. DPCI was an Aetna-operated MCO that provided healthcare services for Medicaid patients in the state for a decade. Delaware is one of the 31 states (including the District of Columbia) to expand Medicaid under the Affordable Care Act (ACA) to include all adults with incomes at

^a Information based on responses to both the interview questions and responses to the original 2014 survey (www.nchh.org/Resources/HealthcareFinancing/Snapshot.aspx).

^b For the purpose of the original survey and the follow-up interviews and case studies, home-based asthma services were defined according to the Community Guide to Preventive Services definition of home-based, multitrigger, multicomponent asthma interventions. These interventions typically involve trained personnel making one or more home visits and include a focus on reducing exposures to a range of asthma triggers (allergens and irritants) through environmental assessment, education, and/ or remediation.

or below 133% of the federal poverty level (FPL).8 Persons eligible for Medicaid through the expansion are enrolled in managed care.9

Most Medicaid benefits are covered through managed care, but a few services in Delaware are still covered through FFS, including pharmacy, non-emergency transportation, extended mental health and substance abuse benefits, and some specialized services for children. All asthma-related services are offered through managed care.

Medicaid-Supported Reimbursement for Home-Based Asthma Services^b

As reported in a 2014 survey conducted by the National Center for Healthy Housing and Milken Institute School of Public Health, Medicaid-supported coverage of home-based asthma services exists in Delaware but is limited in scale. Given that almost all Medicaid beneficiaries are enrolled in managed care, MCOs in Delaware are the primary providers of asthma services and have been innovative in their design of asthma management programs involving home-based asthma interventions. There is no feefor-service Medicaid reimbursement in Delaware for asthma interventions.

The Delaware Division of Medicaid and Medical Assistance does not specifically require through the managed care contracting process that MCOs address asthma management. Interviewees describe the relationship between MCOs and state Medicaid officials to be somewhat hands-off: MCO plans are given flexibility to determine what interventions are appropriate for their patient populations. However, in contracts with MCOs, Delaware mandates that plans conduct five Performance Improvement Projects (PIPs) as a means of improving quality in Medicaid. 11

In the past, the state had mandated that one such PIP address "Inappropriate Emergency Department Utilization." Under this requirement, DPCI, the former Aetna MCO operating in the state, selected "Lowering Asthma-Related ED [Emergency Department] and Inpatient Utilization" as a quality improvement focus in 2011¹²; DPCI introduced this asthma intervention program to combat the high emergency department utilization of its African-American and Hispanic

populations. In addition to clinical interventions, DPCI partnered with home care agencies in Delaware to address asthma triggers and provide education to reinforce asthma trigger mitigation strategies by performing home environmental assessments (see text box for further information).

DPCI's asthma program ended December 31, 2014, when Aetna and the Delaware Division of Medicaid and Medical Assistance were unsuccessful in renegotiating their contract, leading Aetna to cease MCO operation in Delaware. 13 The other two MCOs in the state, UnitedHealthcare Community Plan and Highmark Health Options, do not currently offer homebased asthma interventions for plan enrollees, which means that Medicaid beneficiaries in Delaware have no access to home-based asthma interventions at this time.

However, according to interviews, UnitedHealthcare Community Plan is beginning work within their patient-centered medical home (PCMH) model to incorporate coordination of healthcare, including asthma care, into the home. Highmark Health Options is also establishling services, such as health risk assessments, that could improve asthma management, but they do not yet have a home intervention model. Interviewees are hopeful that these emerging efforts will serve to fill the void in home-based asthma services left by DPCI's departure.

According to interviewees, DPCI was initially motivated to take on the issue of asthma because of high prevalence in the state and because of requirements to report health effectiveness data to the National Center for Quality Assurance (NCQA), which includes asthma outcomes. UnitedHealthcare and Highmark should now be further motivated to address home-based asthma services given the positive return on investment seen by DPCI's intervention (see text box).

Whatever the future design of home-based asthma interventions assumed by MCOs, these services will likely be financed through the plan's administrative

Looking for case studies featuring experiences in other states?

Visit:

www.nchh.org/Program/
DemystifyingHealthcareFinancing/CaseStudies

^cThe Delaware Division of Medicaid and Medical Assistance does specifically cover home environmental assessments for certain medically frail Medicaid beneficiaries who are homebound; this population could include home assessments for persons with asthma, but this is likely to be a very small population. For the general Medicaid-eligible population, the state does not set any requirements for homebased asthma services.

budget.^d The Delaware Division of Medicaid and Medical Assistance does not currently reimburse MCOs directly for asthma services in the home.

What home-based asthma services are provided?

Where MCO coverage of home-based asthma interventions has been in place, the services supported have been focused on asthma self-management education, home environmental assessment to identify asthma triggers, and referrals to specialists or other community-based services and supports.

Interviewees are not aware of instances where MCOs have covered or Medicaid has otherwise reimbursed for supplies needed to mitigate asthma triggers. Delaware, like many states and the federal Centers for Medicaid and Medicare Services, does not consider all types of evidence-based asthma services "medical services" for purposes of Medicaid reimbursement. For example, according to interviews with Medicaid officials, the state program would not reimburse an MCO to replace a carpet in an enrollee's home even if replacement were necessary to control environmental asthma triggers. However, MCOs in the state are able to design plan coverage to provide these types of services if paid for through their administrative budget line.

What patient populations are eligible to receive homebased asthma services through Medicaid?

Where home-based asthma services have previously been offered by MCOs in Delaware, these services have been targeted toward high-risk members with asthma, determined by recent emergency department visits or hospitalizations. DPCI extended their home-based asthma management program to children, adolescents, and adults who met inclusion criteria (see text box on page 5 for further details).

What types of providers are eligible to provide homebased asthma services?

The asthma management program formerly offered by DPCI engaged trained investigators from area home health agencies to conduct home-based asthma assessments and other interventions as described in the text box below. DPCI also designed a model for using community health workers (CHWs) to conduct home assessments.

Other Mechanisms for Funding Home-Based Asthma Services, Outside of Medicaid

As Medicaid support for home-based asthma services is very limited, programs that deliver these services for Medicaid-eligible patients rely on other public and private funding streams or innovative partnerships to ensure program sustainability. According to interviews, many programs across the state that do home-based asthma work are funded, or have been funded in the past, by state- or private foundation-sponsored grants.

Public health funding for healthy homes training.

Public health funding has been an important resource for training providers in the state to conduct asthma health homes assessments. In the past, the Delaware Division of Public Health Office of Healthy Environments has assisted in training providers in the state to do healthy homes assessments. Funding for these efforts came from tobacco settlement funding distributed by the Delaware Cancer Consortium's Environment Committee.²⁰ This funding is no longer available for such purposes, but for several years it was used to raise awareness of indoor health hazards that are cancer causing. The Office of Healthy Environments was also able to use this funding to address indoor health hazards affecting conditions like asthma. Through this funding, Delaware was able to put on a vibrant healthy homes program, offering yearly training that included education on asthma home assessment. Trainings were offered free of charge to participants. These training programs provided education to the providers working in the DPCI program.

Health Care Innovation Award funding.

One recent significant source of funding for asthma services in Delaware has been through the Centers for Medicare and Medicaid Innovation (Innovation Center). In 2012, Nemours/Alfred I. duPont Hospital for Children received a Health Care Innovation Award from the Innovation Center to "enhance family-centered medical homes by adding services for children with asthma and developing a population health initiative in the neighborhoods surrounding

^d Medicaid MCO program costs can be classified as a medical service or administrative expense. Medical services are reimbursable by Medicaid and include the various clinical services offered by physicians and other practitioners in health centers, laboratories, and in inpatient/ outpatient hospital settings. Administrative expenses cover nonmedical activities important for MCO operations, such as enrollment, advertising, claims processing/billing, and patient grievances/appeals. These types of services are paid for from plan revenue. Administrative expenses also include medical management services and quality improvement activities, such as coordinating and monitoring services for Medicaid recipients. Home-based asthma interventions often fit this category of plan spending. An MCO may be motivated to cover certain medical management services and quality improvement activities under their administrative budget (in other words, investing what would otherwise be profit back into patient care) if these services save them significant dollars elsewhere, such as by reducing urgent care costs.

targeted primary care practices." ²¹ The goal of this intervention was to reduce asthma-related emergency department and hospital visits among Medicaid-eligible children by 50% by 2015. ²² The intervention emphasized creating healthcare linkages to the community and home. This included integration of community support services and local government programs with healthcare to encourage healthier environments for children with asthma in schools, child care facilities, and homes. ²³ It also sought to utilize CHWs to "serve as patient navigators and provide case management services to families with high needs." ²⁴

Nemours' innovation award ended on June 30, 2015, but the health system will continue to evaluate the program through the end of 2015. Nemours has also secured funding to continue working with CHWs to test linkages to home-based services moving forward. In all, Nemours' work has advanced the conversation

regarding reimbursement for home-based asthma services in Delaware, and the state is now taking this issue into consideration in its State Innovation Model (SIM), described in further detail below.

Barriers to Implementing Home-Based Asthma Services within Medicaid

Interviewees described challenges faced by DPCI in implementing their respective asthma management programs in the state:

 Distrust of healthy homes inspectors. In the effort by DPCI to run an asthma disease management program through their MCO (see text box), patients eligible for the program were often mistrustful of the healthy homes inspectors assigned to conduct home environmental assessments. DPCI worked to overcome these concerns by (i) engaging CHWs to conduct home assessments in place of investigators from home



DELAWARE PHYSICIANS CARE

From 2011 to 2014, Aetna's Delaware Physicians Care, Inc. (DPCI) operated an asthma management program for its MCO enrollees. DPCI introduced this asthma intervention program to combat the high emergency department utilization of its African American and Hispanic populations, and to meet Medicaid quality improvement expectations set by the state (as described elsewhere in this case study).

This asthma intervention was designed to be a culturally appropriate, evidence-based asthma management program targeting high-risk populations. He disease management program consisted of targeted patient outreach and one-on-one education conducted by clinical nurses. Using age- and culturally-appropriate educational materials, nurses worked with children, teens, and adults with asthma to develop new skills to manage their chronic condition, engaging them in other social support services where appropriate.

In addition, DPCI partnered with several home care agencies in Delaware to perform home environmental assessments to address asthma triggers and provide education to reinforce asthma trigger mitigation strategies through subsequent visits. ¹⁵ The DPCI asthma program did not provide services or supplies to patients to abate asthma triggers and irritants. As required by DPCI, participating home care agencies used the U.S. Environmental Protection Agency (EPA) Asthma Home Environment Checklist and attended training on the use of this tool. Public health officials from the Delaware Office of Healthy Environments assisted in these trainings.

During the first year of implementation, DPCI experienced low uptake of these home-based asthma services because many enrollees were mistrustful of investigators from home care agencies coming into their homes. In 2012, the MCO made community health workers (known and trusted advisors in their community) available for patients that were uncomfortable with home health investigators. DPCI developed standardized asthma training for community health workers using the EPA home assessment tool as a guide (these trainings were facilitated by the Delaware Office of Healthy Environments). DPCI also engaged the faith community to build trust among members with high-risk asthma; leaders in the faith community encouraged their parishioners to allow home health investigators to conduct assessments in their homes.

Despite these challenges, an evaluation of this intervention showed that within one year, emergency department visits dropped by 24%, and hospital stays dropped by 37%. To Given the tremendous impact of this program, Aetna received the 2013 Award for Innovation in Reducing Health Care Disparities from the National Business Group on Health.

DPCI's asthma program ended in December 31, 2014, when Aetna and Delaware Medicaid were unsuccessful in renegotiating their contract, leading Aetna to cease operation of the DPCI MCO.¹⁹

health agencies; and (ii) by partnering with the Delaware Office of Healthy Environments to train CHWs to conduct home assessments in a culturally sensitive manner that best engages patients and their families.

 Difficulty engaging landlords where patients are not homeowners. Another challenge encountered by DPCI was that most patients were not homeowners. As renters, they were often not able to make changes recommended by home inspectors to address asthma triggers and many patients had difficulty convincing their landlords (both public and private) to make necessary home improvements. In some instances, home investigators were able to contact landlords to voice concerns, but ultimately, the DPCI program was not designed to mitigate landlord-tenant disputes. If other MCOs in the state implement an asthma disease management program in home-based settings, it will be important to design the program in a way that builds trust among residents and their landlords alike so that recommendations from home assessments are taken seriously.

Interviews also uncovered barriers to implementation of future home-based asthma management programs in the state:

- Lack of information sharing between MCOs.
 When asked why the other MCOs operating in Delaware have not picked up on the asthma management program designed and implemented by DPCI, interviewees explained that competiveness between MCO plans often prevents the sharing of best practices. While the other MCOs in the state are likely to be aware of the positive return on investment seen by the DPCI model, there is no forum for the defunct program to share lessons learned with the other MCOs that might implement a similar model.
- Difficulty sharing data between Medicaid, MCOs, and health systems. Interviews described difficulty that health systems like Nemours have had in accessing Medicaid data and data from MCOs on home-based asthma services. Lack of mechanisms for data-sharing has made it challenging for the health system to learn from previous implementation efforts.
- Lack of funding for training a healthy homes workforce. As described above, past funding enabled the Delaware Office of Healthy Environments to offer healthy homes training for professionals to conduct asthma home environmental assessments. This funding

- has diminished recently, and the public health department has not been able to sustain these training programs. There is some concern among interviewees that it will be difficult to maintain a qualified workforce to perform home-based asthma interventions without this comprehensive training program in place.
- Lack of payment system mechanisms to reimburse nontraditional providers for services. Much of the innovation required to provide home-based asthma services (e.g., utilizing CHWs and/or PCMHs) may require a restructure of existing payment systems to pay for these services.²⁵ Although Delaware and other states have had success securing temporary funding to provide home-based asthma services, ongoing funding is necessary to secure access to these services moving forward. Interviewees cautioned that healthcare providers should not assume traditional payers like Medicaid will take on coverage for home-based services. Interviewees suggested that commitment to value-based payment systems will help to ensure that nontraditional providers, such as CHWs, can be compensated for providing home-based asthma services.
- State leadership to undertake new healthcare initiatives. As a whole, Medicaid has historically been a driver of healthcare innovation and providing multiple avenues for states and organizations to experiment with new healthcare delivery systems in their state, including the Nemours' Health Care Innovation Award. Nonetheless, it is equally important that Medicaid has willing partners at the state level with whom they can collaborate to undertake new healthcare initiatives. Without state-level leadership willing to take advantage of these opportunities, interviewees worry diffusion of the innovations gained from the Nemours Innovation Center project will stall.

Future of Medicaid Reimbursement for Home-Based Asthma Services: How Is the State Working to Expand Coverage and Reimbursement?

Moving forward, Delaware is working on several opportunities to improve and increase access to home-based asthma services:

 Expanding the role of asthma educators, healthy homes specialists, and other community health workers in the provision of asthma services in Delaware. Delaware, like many states, is engaging in discussions about how to adopt and implement a new federal Medicaid rule change that allows state Medicaid programs to cover and pay for preventive services provided by professionals that may fall outside of a state's clinical licensure system, so long as the services have been initially recommended by a physician or other licensed practitioner. This rule change means that asthma educators, healthy home specialists, and other CHWs with training and expertise in providing asthma services may now seek fee-for-service Medicaid reimbursement.

 Delaware SIM Initiative. The SIM Initiative provides states with both financial and technical support for the development and testing of stateled, multipayer healthcare payment and service delivery models that will lower costs and improve health system performance and quality of care for all residents of participating states, including Medicare, Medicaid, and CHIP beneficiaries.²⁶

The Innovation Center awarded Delaware a design grant in February 2013 to develop its State Health Care Innovation Plan, called Choose Health Delaware.²⁷ In December 2014, Delaware received an additional \$35 million in SIM funding to support the implementation and testing of this plan.²⁸ Choose Health Delaware is multifaceted in its approach to and goals surrounding health but includes several key areas relevant to homebased asthma services, including (i) support for community-based population health programs; (ii) development of new payment systems, including "pay for value" and "total cost of care" models; and (iii) assisting integrated, team-based healthcare providers in transitioning to value-based payment systems.29

Additionally, the Delaware Department of Health and Social Services (DHSS) used Nemours' Innovation Center-funded home-based asthma services work to inform goals in Health Care Delivery System transformation with new payment models that "focus on value and outcomes, rather than simply fee-for-service." 30 Workgroups on healthy neighborhoods, workforce development, clinical outcomes, and payment reform borne out of the Delaware SIM are also taking asthma services into consideration in brainstorming healthcare innovation models. In particular, these workgroups are discussing the role of CHWs in providing home- and community-based services and how CHW services could be reimbursed within value-based payment systems.

Interviewees highlighted the importance of the SIM process in engaging multiple stakeholders to

help design and innovate programs for patients with asthma.

 Leveraging Telemedicine Using Traditional and Nontraditional Healthcare Providers. Telemedicine technologies are enhancing the ability of healthcare providers to treat patients who have historically struggled with obtaining access to healthcare. Interviewees report that one of the options under consideration for home-based asthma services is implementing a program similar to Grand Aides,31 where "nurse extenders [like CHWs] mak[e] home visits... using portable telemedicine with established protocols connecting the patient and care team quickly and cost-effectively." Such an arrangement would blend the strengths of CHWs, namely their cultural competency and access as members of affected communities, with the medical expertise of physicians to improve care for patients with asthma.

Lessons Learned

An important lesson learned in Delaware is that even insurer-supported programs are vulnerable to instability and cessation. When DPCI closed down in December 2014, beneficiaries were transferred to a new MCO plan, but the asthma management program was not. Despite the success of this program, other MCOs in the state have not implemented similar initiatives, in part due to the lack of information and best practice sharing between organizations.

Delaware's current efforts to implement and test its SIM Initiative, *Choose Health Delaware*, are an opportunity to engage multiple stakeholders to help design programs for patients with asthma across the state. An important goal of this work should be to facilitate forums for MCOs, other insurers, and healthcare systems to share best practices on chronic disease management, including asthma, so that innovations are diffused through the entire system, not just for select populations. Facilitating such information exchange may avoid disruptions in patient care when effective programs cease operations.

A best practice that should be shared among stakeholders is the importance of training providers to deliver home-based asthma services in a culturally appropriate manner so as to best engage patients and their families in the management of asthma in the home.

ACRONYMS

ACA Affordable Care Act

CHW Community health worker

DHSS Delaware Department of Health and Human Services

DPCI Delaware Physicians Care, Inc.

DSHP Diamond State Health Plan

FFS Fee-for-service

FPL Federal poverty level

MCO Managed care organization

NCQA National Center for Quality Assurance

PCMH Patient-centered medical home

PIPs Performance Improvement Projects

SIM State Innovation Model

DEFINITION OF SERVICES

Home-based asthma services

The original survey that formed the basis for these follow-up case studies used the *Community Guide to Preventive Services* definition of home-based, multitrigger, multicomponent asthma interventions. These interventions typically involve trained personnel making one or more home visits and include a focus on reducing exposures to a range of asthma triggers (allergens and irritants) through environmental assessment, education, and/or remediation. See Appendix A of *Healthcare Financing of Healthy Homes: Findings from a 2014 Nationwide Survey of State Reimbursement Policies*² for the full definition.

About the Project

This multiyear project is working to document and demystify the landscape and opportunities surrounding healthcare financing for healthy homes services. In Year One of the project, the National Center for Healthy Housing (NCHH) conducted a nationwide survey to identify states where healthcare financing for lead poisoning follow-up or home-based asthma services was already in place or pending. In Year Two of the project, NCHH and a project team led by the Milken Institute School of Public Health conducted a series of interviews in key states identified by the survey. An interview guide was developed to ask key informants in each state questions about the extent and nature of Medicaid-supported services within the state, details of services covered, barriers to implementation, next steps for expanding services and increasing access, and lessons learned. In each state, the project team conducted interviews with at least one representative from the state Medicaid agency, a program contact in the state health department, and one to two additional stakeholders (e.g., advocates, local programs, payers, or providers). The interviews were used to develop detailed case studies to distill lessons learned in states with Medicaid reimbursement for healthy homes services, and ultimately to better equip other states in seeking reimbursement for these services.

For more information: www.nchh.org/Program/DemystifyingHealthcareFinancing.aspx.

Endnotes and Sources

- Nurmagambetov, T. A., Barnett, S. B. L., Jacob, V., Chattopadhyay, S. K., Hopkins, D. P., Crocker, et al. (2011). Economic value of home-based, multi-trigger, multicomponent interventions with an environmental focus for reducing asthma morbidity: A Community Guide systematic review. *American Journal of Preventative Medicine*, *41*(2S1), S33-S47. Retrieved from http://www.thecommunityguide.org/asthma/supportingmaterials/Asthma%20Econ.pdf
- ² National Center for Healthy Housing & Milken Institute School of Public Health. (2014). Healthcare financing of healthy homes: Findings from a 2014 nationwide survey of state reimbursement policies. Retrieved from www.nchh.org/Resources/ HealthcareFinancing/Snapshot.aspx
- ³ Centers for Medicare and Medicaid Services. (n.d.). Delaware: Monthly Medicaid and CHIP enrollment data. Retrieved from http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-State/delaware.html
- ⁴ Delaware Health and Social Services. (2013, June). Delaware Diamond State Health Plan & Diamond State Health Plan Plus waiver extension request submitted under authority of section 1115 of the Social Security Act to the Centers for Medicare and Medicaid Services, U.S. Department of Health and Human Services. Retrieved from http://dhss.delaware.gov/dhss/dmma/files/dshpplus 2014extension.pdf
- ⁵ Centers for Medicare and Medicaid Services. (2014, August). Managed care in Delaware. Retrieved from http://www.medicaid.gov/medicaid-chip-program-information/by-topics/delivery-systems/managed-care/downloads/delaware-mcp.pdf
- ⁶ Herman, B. (2014, October 17). Delaware's Medicaid program dumps Aetna for Highmark. Modern Healthcare. Retrieved from http://www.modernhealthcare.com/article/20141017/NEWS/310179933
- ⁷ Henry J. Kaiser Family Foundation. (2015, September 1). Current status of state Medicaid expansion decisions. Retrieved from http://kff.org/health-reform/slide/current-status-of-the-medicaid-expansion-decision/
- 8 Centers for Medicare and Medicaid Services. (n.d.). Delaware: Monthly Medicaid and CHIP enrollment data. Retrieved from http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-State/delaware.html
- ⁹ Delaware Health and Social Services. (2013, June). Delaware Diamond State Health Plan & Diamond State Health Plan Plus waiver extension request submitted under authority of section 1115 of the Social Security Act to the Centers for Medicare and Medicaid Services, U.S. Department of Health and Human Services. Retrieved from http://dhss.delaware.gov/dhss/dmma/files/dshpplus_2014extension.pdf
- ¹⁰ Delaware Health and Social Services. (2013, June). Delaware Diamond State Health Plan & Diamond State Health Plan Plus waiver extension request submitted under authority of section 1115 of the Social Security Act to the Centers for Medicare and Medicaid Services, U.S. Department of Health and Human Services. Retrieved from http://dhss.delaware.gov/dhss/dmma/files/dshpplus 2014extension.pdf
- Delaware Health and Social Services. (2013, June). Delaware Diamond State Health Plan & Diamond State Health Plan Plus waiver extension request submitted under authority of section 1115 of the Social Security Act to the Centers for Medicare and Medicaid Services, U.S. Department of Health and Human Services. Retrieved from http://dhss.delaware.gov/dhss/dmma/files/dshpplus_2014extension.pdf
- Delaware Health and Social Services. (2013, June). Delaware Diamond State Health Plan & Diamond State Health Plan Plus waiver extension request submitted under authority of section 1115 of the Social Security Act to the Centers for Medicare and Medicaid Services, U.S. Department of Health and Human Services. Retrieved from http://dhss.delaware.gov/dhss/dmma/files/dshpplus_2014extension.pdf
- ¹³ Aetna. (2014, October 14). Aetna to close Delaware Physicians Care. Retrieved from https://news.aetna.com/news-releases/aetna-to-close-delaware-physicians-care
- ¹⁴ America's Health Insurance Plans. (n.d.). Aetna's asthma program for Medicaid members in Delaware. Retrieved from https://www.ahip.org/AetnasAsthmaProgram/
- ¹⁵ America's Health Insurance Plans. (n.d.). Aetna's asthma program for Medicaid members in Delaware. Retrieved from https://www.ahip.org/AetnasAsthmaProgram/
- ¹⁶ America's Health Insurance Plans. (n.d.). Aetna's asthma program for Medicaid members in Delaware. Retrieved from https://www.ahip.org/AetnasAsthmaProgram/
- ¹⁷ National Business Group on Health. (2013, March). 2013 award for innovation in reducing health care disparities: Closing the health disparities gap through tailored interventions. Retrieved from https://www.businessgrouphealth.org/pub/d1f95410-782b-cb6e-2763-20c38b3fd848
- National Business Group on Health. (2013, March). 2013 award for innovation in reducing health care disparities: Closing the health disparities gap through tailored interventions. Retrieved from https://www.businessgrouphealth.org/pub/d1f95410-782b-cb6e-2763-20c38b3fd848
- ¹⁹ Aetna. (2014, October 14). Aetna to close Delaware Physicians Care. Retrieved from https://news.aetna.com/news-releases/aetna-to-close-delaware-physicians-care

Endnotes and Sources (continued)

- ²⁰ Healthy Delaware. (n.d.). Delaware Cancer Consortium: Environment committee. Retrieved from https://www.healthydelaware.org/ Consortium/Committees/Environment
- ²¹ Centers for Medicare and Medicaid Services. (2015, September 22). Health Care Innovation Awards: Project profile: Nemours Alfred I. duPont Hospital for Children. Retrieved from http://innovation.cms.gov/initiatives/participant/Health-Care-Innovation-Awards/Nemours-Alfred-I-Dupont-Hospital-For-Children.html
- ²² Nemours/Alfred I. duPont Hospital for Children. (2013, December). Community health needs assessment implementation plan. Wilmington, DE: Author. Retrieved from http://www.nemours.org/content/dam/nemours/wwwv2/filebox/about/01195_naidhcimplan.pdf
- ²³ Centers for Medicare and Medicaid Services. (2015, September 22). Health Care Innovation Awards: Project profile: Nemours Alfred I. duPont Hospital for Children. Retrieved from http://innovation.cms.gov/initiatives/participant/Health-Care-Innovation-Awards/Nemours-Alfred-I-Dupont-Hospital-For-Children.html
- ²⁴ Centers for Medicare and Medicaid Services. (2015, September 22). Health Care Innovation Awards: Project profile: Nemours Alfred I. duPont Hospital for Children. Retrieved from http://innovation.cms.gov/initiatives/participant/Health-Care-Innovation-Awards/Nemours-Alfred-I-Dupont-Hospital-For-Children.html \
- ²⁵ Nemours & Trust for America's Health. (n.d.). Medicaid reimbursement for community-based prevention: Based on convening held October 31, 2013. Retrieved from http://www.astho.org/Community-Health-Workers/Medicaid-Reimbursement-for-Community-Based-Prevention/
- ²⁶ Centers for Medicare and Medicaid Services. (2015, October 5). State Innovation Models Initiative: General information. Retrieved from http://innovation.cms.gov/initiatives/state-innovations/
- ²⁷ Delaware Department of Health and Social Services. (2015, May 13). Delaware State Innovation Models (SIM) initiative. Retrieved from http://dhss.delaware.gov/dhcc/sim.html
- ²⁸ Centers for Medicare and Medicaid Services. (2015, September 21). State Innovation Models Initiative: Model Test Awards round two. Retrieved from http://innovation.cms.gov/initiatives/state-innovations-model-testing-round-two/
- ²⁹ Centers for Medicare and Medicaid Services. (2015, September 21). State Innovation Models Initiative: Model Test Awards round two. Retrieved from http://innovation.cms.gov/initiatives/state-innovations-model-testing-round-two/
- ³⁰ Delaware Department of Health and Social Services. (n.d.). Delaware state innovation models: Funding for model design. Retrieved from http://dhss.delaware.gov/dhcc/files/stateinnovationgrantprojectpdf.pdf
- 31 Grand Aides. (n.d), Grand Aides USA summary, Retrieved from http://www.grand-aides.com/the-program/grand-aides-summary



We gratefully acknowledge the following organizations for providing information for this case study:

Delaware Division of Medicaid and Medical Assistance
Delaware Division of Public Health
Nemours/Alfred I. duPont Hospital for Children

For additional resources, including many of the sources cited in this document, visit www.nchh.org/resources/healthcarefinancing.aspx

This case study was made possible through a contract between the American Public Health Association and the National Center for Healthy Housing, funded through cooperative agreement 1U38OT000131 between the Centers for Disease Control and Prevention and the American Public Health Association. The contents of this document are solely the responsibility of the authors and do not necessarily represent the official views of the American Public Health Association or the Centers for Disease Control and Prevention.