Improving Care Through Innovation:

The District of Columbia State Medicaid Health IT Plan (2018-2023)

DHCF
The Department of Health Care Finance
INVESTING IN YOUR HEALTH

Draft for Public Review

Send comments to HealthIT@dc.gov on or before May 25, 2018
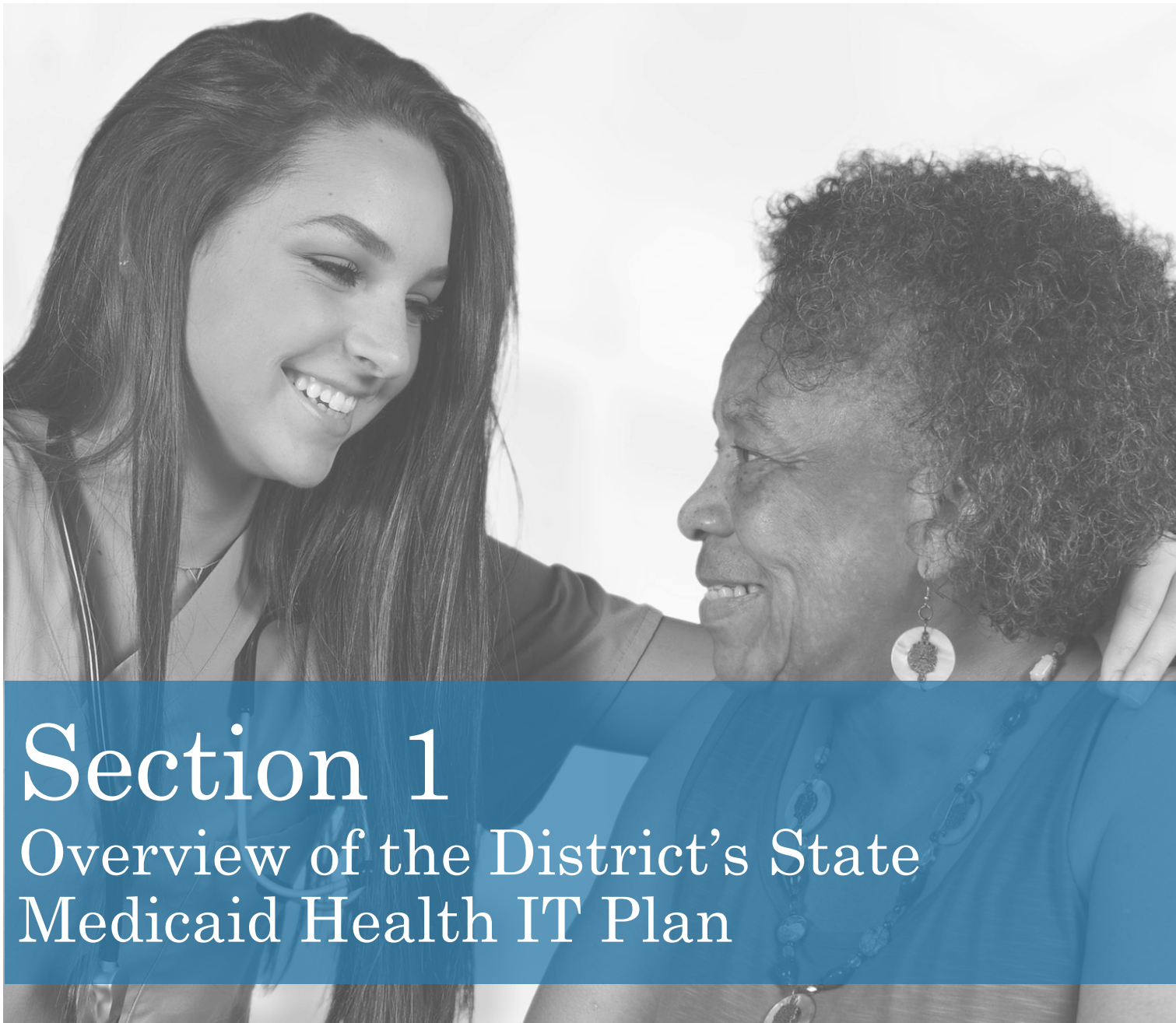
WE ARE WASHINGTON DC

Mission Statement

To improve health outcomes by providing access to comprehensive, cost-effective and quality healthcare services for the residents of the District of Columbia.

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Section 1
Overview of the District's State Medicaid Health IT Plan

The District is Enabling Better Care Through Health IT

The Department of Health Care Finance (DHCF), as the District of Columbia's State Medicaid Agency (SMA), is charged with improving health outcomes for residents by providing access to comprehensive, cost-effective, and high-quality health care services. DHCF leads the District's health information technology (health IT) and health information exchange (HIE) policy and serves as the State Health IT Coordinator for the District.

In its capacity as the State Health IT Coordinator, DHCF fulfills several complementary roles:
  » Administers the Medicaid Electronic Health Record Incentive Program (MEIP);
  » Facilitates funding to support health IT projects that directly support Medicaid providers while building infrastructure to serve all District residents;
  » Develops health IT strategies for the District that are responsive to the complex health care needs of a diverse population; and
  » Coordinates ongoing, District-wide public input through the DC HIE Policy Board and stakeholder outreach activities.

DHCF receives recommendations on strategies to enable the secure and timely exchange of health information from the DC HIE Policy Board, an independent advisory committee, which has held public quarterly meetings since its establishment by the Mayor in 2012. The 22 member Board includes representatives from District-based provider associations, hospitals, health systems, payers, providers, information technologists, and District government agencies.[1]

What are Health IT and Health Information Exchange?

Health Information Technology (Health IT): The programs, services, technologies and concepts that store, share, and analyze health information in order to improve care.[2]

Health Information Exchange (HIE): The movement of health information electronically across multiple organizations.[3]

National studies have demonstrated the potential for health IT to improve care and outcomes by facilitating communication among patients and providers, improving access to timely treatment, minimizing unnecessary or duplicative care, and reducing medical errors.[4,5,6] The overarching goal of health IT is to facilitate a patient-centered approach to care delivery that can improve health outcomes for all District residents (Figure 1). Working with local, regional, and national partners, DHCF sees tremendous opportunities to advance the use of health IT by implementing targeted strategies designed to achieve this goal.

Figure 1: The District's Conceptual Model of Patient-Centered, Data-Driven Care

Technology's Role in Transforming Health Care Delivery

The District, like much of the nation, is greatly affected by the prevalence of chronic conditions, inefficiencies in care delivery, such as duplicated services, and resulting high health care costs. To address these trends, payers are shifting away from fee-for-service reimbursement, which is based solely on volume and quantity of services. Health insurance companies and public payers are now implementing new "value-based purchasing" (VBP) models to reimburse providers based on improving health outcomes and reducing unnecessary services.

However, national models demonstrate that value is not necessarily easy to achieve, in part because practice transformation requires time and resources. Community stakeholders agree that in order to improve health outcomes, additional infrastructure and investments that leverage health IT and HIE will be required to support workflow redesign and measure performance on VBP benchmarks. For example, care coordination is a vital component of VBP. However, providers who coordinate care rely on health IT infrastructure for access to full patient health histories, and they rely on claims to identify opportunities for prevention and clinical interventions that can improve health outcomes.

In sum, practice transformation relies on access to the right information at the right time and requires all stakeholders in the health care system – patients, providers, payers, and public health – to work together to promote health by coordinating care and emphasizing prevention and supporting timely interventions. Health IT and HIE serve a vital role in achieving better results for patients.

What is a State Medicaid Health IT Plan?

The State Medicaid Health Information Technology Plan (SMHP) articulates the District's health IT and HIE goals and presents a pathway to achieve these goals based on a timeline of proposed projects and programs. The projects and programs identified in the SMHP are intended to reflect stakeholder feedback and support patient-centered care for Medicaid providers and beneficiaries, while building health IT infrastructure to serve all District residents. The Centers for Medicare and Medicaid Services (CMS) requires all states' Medicaid agencies to develop a SMHP.[7] The SMHP serves as a "living document" with biennial updates and is intended to:

» Describe health IT and HIE infrastructure implementation and expansion;
» Evaluate evolving stakeholder needs;
» Define the District's health IT and HIE goals;
» Establish a roadmap to achieve these goals; and
» Propose metrics to evaluate and monitor the impact of health IT and HIE over time.

The District's first SMHP, published in 2011, focused on the processes and plans to invest in health IT adoption in inpatient and ambulatory delivery settings. Subsequent SMHP submissions in 2014 and 2016 described accelerations in health IT adoption. This 2018 update to the SMHP provides a concrete vision that builds on existing infrastructure and expands meaningful use of health IT tools to support practice transformation and care coordination across the District.

DHCF developed this SMHP through an extensive review of recent strategic health documents and District-wide community needs assessments (*see Appendix A – Resource Guide for Strategic Health Reports*). Key findings from these strategic plans informed stakeholder outreach and engagement with District residents and patients, health system stakeholders, public health, payers, social services providers, and federal government, District government, and community partners. DHCF sought active participation and input from multiple stakeholder groups by conducting one-on-one interviews and focus groups to ensure alignment across the SMHP and stakeholder priorities and strategic directions. A full list of organizations that particapted in these interviews are included in *Appendix D – Stakeholder Health IT Needs Assessment and Analysis Methodology*. This process enabled DHCF to define the District's main health challenges, assess health IT and HIE capabilities, evaluate gaps in health IT implementation, and identify opportunities for future health IT and HIE expansions.

The culmination of this work is a new SMHP designed to communicate the District's health IT and HIE strategy and priorities. The SMHP is intended to serve as the guide for future health IT and HIE planning and implementation activities consistent with the DC HIE Policy Board's vision of HIE to **advance health and wellness for all persons in the District by providing actionable information whenever and wherever it is needed.**

What's Included in the District's State Medicaid Health IT Plan?

The SMHP is divided into seven sections that provide relevant background, summarize stakeholder feedback, and articulate a path to implement the proposed health IT and HIE strategic plan.

Section 1: Overview of the District's State Medicaid Health IT Plan provides a high-level overview of technology's role in health care delivery in the District, the SMHP's purpose, and its document structure.

Section 2: Opportunities to Improve Health Care in the District describes the District's health care system and reviews a set of health challenges within the District that can potentially be improved through the use of health IT.

Section 3: The Current Landscape of Health IT and Exchange in the District provides an overview of current electronic health record (EHR) adoption across the District and profiles operating HIE organizations and current HIE activities. The District government leads a number of active HIE initiatives that support public health and publicly-insured residents. District-led initiatives by DHCF and DC Health are introduced in this section.

Section 4: District Stakeholders' Perspectives and Priorities for Health IT and HIE summarizes key findings from stakeholder interviews and focus groups with District patients, providers, large payers, hospital and health systems, and relevant District agencies.

Section 5: The District's Health IT and HIE Roadmap describes the path to expand and better utilize health IT and HIE in the District. Section 5 presents an updated set of health IT and HIE goals and an affiliated Roadmap that form the foundation for planning, prioritizing, and implementing initiatives in fiscal years 2018 and 2019. Long-term goals for fiscal years 2020 and 2021 identify potential outcomes to be evaluated in support of DHCF's vision and goals.

Section 6: Evaluating Health IT and HIE Improvements presents a framework for ongoing evaluation and monitoring of the progress to achieve DHCF's HIE vision and goals. Additional information is available in the SMHP References and Appendices.

Section 7: What's Next for Health IT and HIE in the District? presents the next steps for engaging the District health care stakeholder community. Section 7 also calls to action District residents, providers and health IT stakeholders to provide ongoing guidance on DHCF's initiatives to achieve the District's strategic health IT goals.

Section 2
Opportunities to Improve Health Care in the District

Understanding the District's Health Needs

Health IT and HIE tools and programs developed with public resources must be responsive to the current state of health and health care in the District. This section provides an overview of the District's population and highlights key health needs based on several recent, comprehensive assessments developed by DHCF, DC Health, and other community organizations. The State Health Innovation Plan, Community Health Needs Assessments (CHNA), the District Health System's Plan (HSP), DC Healthy People 2020, and DHCF's Access Monitoring Review Plan are key sources for this review. Please refer to *Appendix A – Resource Guide for the Strategic Health Reports* for a full listing and links to access all existing District resources utilized in the development of the SMHP.
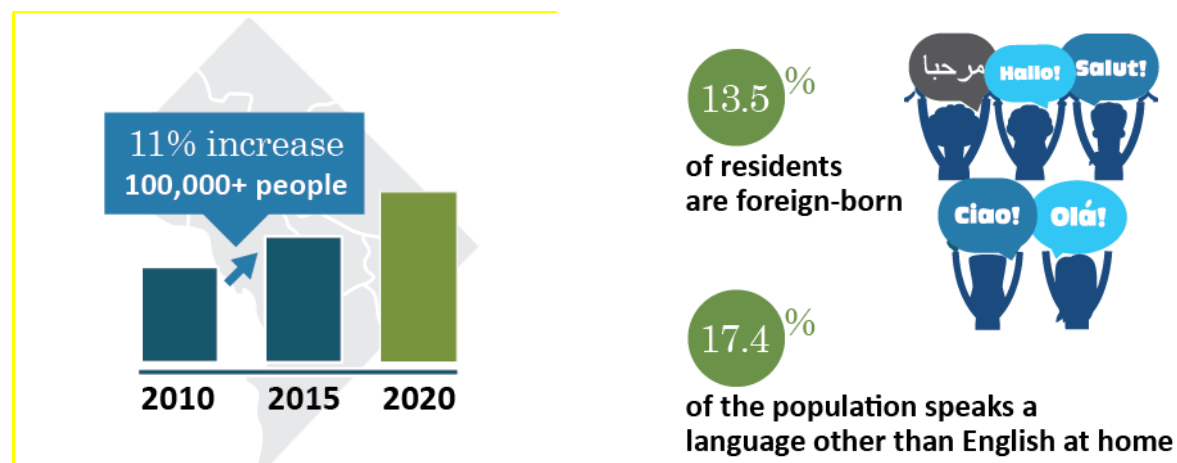
Figure 2: Wards of the District of Columbia
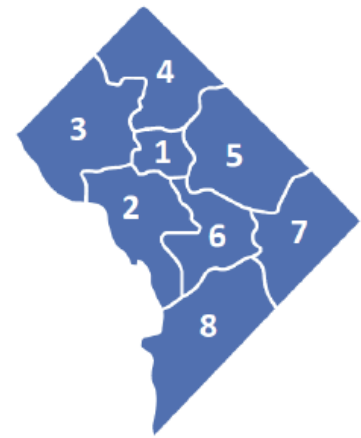
The District's Population at a Glance

The District of Columbia is home to approximately 680,000 residents living in eight wards[8] across the city's 61 square miles (Figure 2).

The District's population grew rapidly over the past five to 10 years. Between 2010 and 2015, the District of Columbia Office of Planning reported that the District's population increased by 11%, or over 100,000 people, and projects that by 2030, the city is likely to reach a new peak population above 800,000 residents.[9] In addition, the size of the population within the District's borders can double during the workday to more than one million individuals commuting from neighboring states.[10]

11% increase
100,000+ people

2010   2015   2020

13.5%
of residents
are foreign-born

17.4%
of the population speaks a
language other than English at home

The District is a diverse city. Approximately 13.5% of residents are foreign-born, and 17.4% of the population speaks a language other than English at home.[11] The District has experienced notable shifts in race and ethnicity, particularly between 2000 and 2015, as the city's Black or African American population declined from 60% to 48.9%, and its White population increased from 30.8% to 42.5%.[12] Despite the upward aging trend in the nation as a whole, the median age of District residents (33.8) is lower than the national average (37.8).[13]

The District experienced a strong rate of economic growth over the past several years, with 4.49% job growth and nearly 6% growth in median household income between 2014 and 2015.[14] However, these economic opportunities for advancement have not been experienced by all District residents. As of 2016, 18.6% of District residents live below the poverty line. This is the fourth highest rate among states in the nation and is driven mostly by high rates of poverty in several wards within the District.[15] The jobless rate in Wards 7 and 8 is double the rate for the city as a whole.
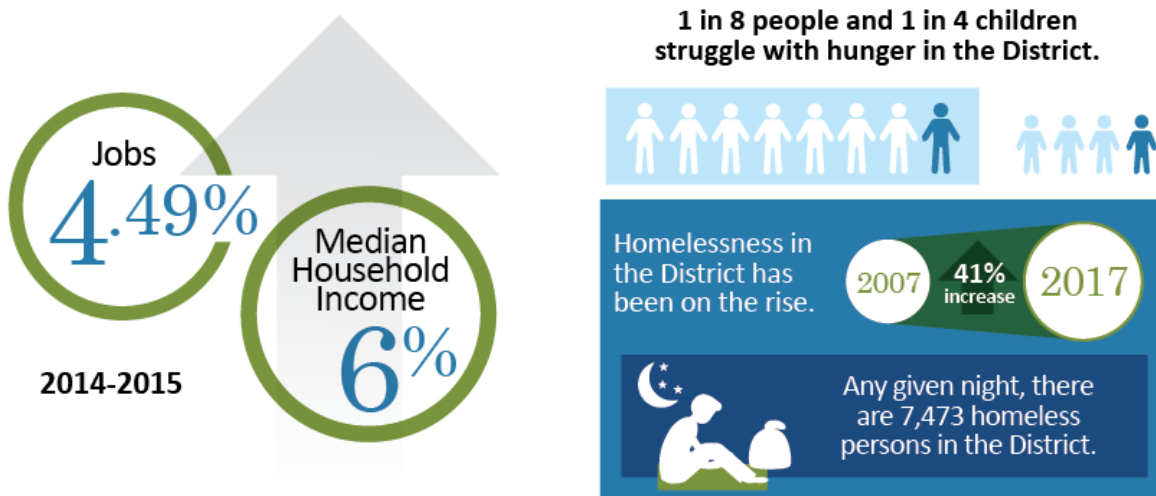
The District also faces challenges with food insecurity and homelessness. One in eight individuals and one in four children face hunger in the District.[16] Between 2007 and 2017, the District experienced a 41% increase in the number of homeless individuals.[17] According to The Community Partnership for the Prevention of Homelessness there are 7,473 homeless persons in the District on any given night.[18]

Studies demonstrate that various social, economic, and environmental factors shape individuals' opportunities to engage in healthy behavior and can impact health outcomes.[19,20] DHCF recognizes that improving health care in the District will require policies and infrastructure mindful of the District's needs, including social determinants of health (SDH).

The District's Health System

Evaluating the extent to which health IT can assist providers to respond to the District's health needs first requires an understanding of the full range of health care options available to District residents. First and foremost, the District's high rate of insurance coverage is a notable example of what can be achieved with a strong commitment to Medicaid expansion. As of 2016, the District has the nation's third highest rate of insurance coverage, at 96.3%.[21] The low uninsured rate in the District provides an opportunity to focus on residents' access to high quality, well-coordinated care.

District residents have access to many sources of health care and social supports, as depicted in Figure 3 and as described further below. While a range of services and service locations is available across the city, the DC Health's 2017 Health Systems Plan (HSP) acknowledged that proximity to services is limited for some parts of the city, notably Ward 7 and Ward 8.[22] According to the HSP, many residents reported they spend an hour or more travelling to primary care and other health services.[23]

Source: Office of Chief Technology Officer (OCTO), District of Columbia, 2017; Department of Behavioral Health, 2017; eHealthDC Landscape Analysis, 2017

Figure 3: The District's Health Care Facilities by Ward

The District's Health and Social Supports

Hospitals
Currently, **8** acute care hospitals are located within the District, in addition to **6** non-acute care hospitals. However, many of these facilities are concentrated in Ward 2 and Ward 5. District residents also seek care at hospitals in neighboring counties in Virginia and Maryland.

Physicians
As of 2016, there are **8,934** physicians (MD, DO) licensed in the District, of which **2,810** are actively practicing medicine – providing at least 20 hours of clinical care per week in the District. There are **780** actively practicing primary care physicians in the District, 45% of whom work in an office/clinic setting and indicated that their primary practice setting was located in Wards 1,2,3, and 5.[24]

Federally-Qualified Health Centers
In 2016, the District's network of **8** FQHC grantees collectively served 178,324 patients at **39** clinical sites. Nearly 54% of patients seen in District FQHCs billed Medicaid or CHIP. FQHC providers included approximately: **115** physicians; **77** nurse practitioners; **21** physician assistants; **15** certified nurse midwives; **30** dentists; **96** licensed mental health providers; and **140** case managers.[25]

Behavioral Health
As of 2016, **46** District Mental Health Rehabilitation Services (MHRS) and **57** Substance Use Disorder (SUD) community-based sites provide services for District residents.[26] The Department of Behavioral Health (DBH) manages mental health services for Medicaid beneficiaries and coordinates programs with **32** Core Service Agencies (CSAs).

Long-term Services and Supports (LTSS)
LTSS are provided in the home, community, nursing home, or other facilities. As of 2017, there are **18** skilled nursing facilities that operate in the District. There are **38** home health agencies distributed throughout the District.[27] District residents are often transferred to skilled nursing faculties or home health agencies for care upon discharge from District acute care hospitals.

Community Service Providers (CSPs)
As of 2016, CSPs offered a wide range of services across the District, including medication management support, counseling, and community support to address issues such as health, housing, transportation, food insecurity, education, and employment.[28] CSPs include health and social services non-profits (such as food banks), faith-based organizations, and other community organizations.

The HSP further acknowledges that the "siloed" nature of physical health, behavioral health, and other forms of clinical and non-clinical information can hinder care coordination, service integration, patient engagement, and quality of care. These are significant challenges, yet also present opportunities for the District to leverage technology to improve care coordination and reduce barriers to access care.

Health Conditions, Risk Factors, and Disparities in the District

While the District has one of the highest health insurance coverage rates in the nation, that accomplishment has not translated to broad success in key health outcomes. Rather, the District continues to experience significant disparities in health status.

Eighty-seven percent of District residents report they are in good or better health,[29] however, perception of personal health varies greatly by demographic factors. Seventy-nine percent of Black or African American, non-Hispanics report good or better health compared to 95.8% of White, non-Hispanics.[30] Life expectancy is also highly variable across the District, with a 17-year difference in lifespan between residents in Ward 3 (86 years) and Ward 8 (69 years).[31]

According to a national analysis conducted by the Centers for Disease Control and Prevention (CDC) in 2015, chronic and complex disease, such as heart disease, stroke, respiratory diseases, and diabetes, accounted for 70% of deaths reported in the U.S. each year.[32]   City-wide, the District performs better than the nation as a whole on some conditions, however, some District residents face a higher burden of chronic disease and risk factors in other conditions (see Table 1). For example, while 8% of District adults have been diagnosed with diabetes, this rate was much higher in Ward 7 (13%) and Ward 8 (20%).[33] In addition to diabetes, there are several common chronic health conditions and risk factors that drive utilization and spending in the District, including asthma, COPD, stroke, hypertension, and obesity.[34]

Linking Health IT and VBP: My Health GPS

Launched in July 2017, My Health GPS is a new Medicaid care coordination program available to more than 30,000 District adults and children with three or more chronic conditions. In order to help these individuals "get and stay healthy," the My Health GPS program matches beneficiaries with an approved team of primary care providers who help coordinate all aspects of their care.

My Health GPS is one type of value based care program, in which providers are offered incentives to improve patient's care experience and improve health outcomes, such as:

- » Lowering rates of avoidable ED use;
- » Reducing preventable hospital admissions and re-admissions; and
- » Reducing health care costs.

To successfully manage quality and patient outcomes across in the District, providers see the need for health technology to help manage population health, support care management, and enable reporting of program performance measures.

The District's new HIE tools such as the patient care snapshot, the analytical patient population dashboard, and an electronic quality measurement tool called CALiPHR, help providers see patterns of care and coordinate most effectively. As of December 2017, My Health GPS providers are pioneering the use of these tools, which will inform the broader use of HIE tools in the District going forward.

Behavioral health conditions, including substance use disorders, are common comorbidities impacting health and wellness. According to the National Institute of Mental Health, depression, anxiety, and

alcohol abuse are directly associated with chronic disease, and a high proportion of those living with these conditions also have a chronic medical condition.[35] In 2013, approximately 18% of District adults were diagnosed with depression, with the highest rates occurring in Ward 8 (30%), Ward 1 (22%) and Ward 7 (18%).[36]

Table 1: Chronic Disease Rates in the District, 2014

	Obesity (adults over 18)	Asthma	COPD	Stroke	Diabetes (adults over 18)
City-wide	22%	12%	6%	2%	8%
Ward 7	35%	14%	9%	6%	13%
Ward 8	43%	21%	16%	8%	20%
US	38%	9%	7%	3%	10%

Chronic disease and behavioral health rates were highest in Ward 8 across multiple other conditions: asthma, diabetes, hypertension, chronic obstructive pulmonary disease (COPD), stroke and depression (see Table 1).[37] Despite high prevalence and impact of chronic conditions in various parts of the District, many of these conditions are preventable or manageable, which underscores the need to focus on disease management, service coordination among health care and community providers, and strategies to address SDH.

Opportunities for Health IT and HIE to Improve Health in the District

The District has an opportunity to implement health IT and HIE solutions that provide a coordinated, wide-scale approach to assist health care providers address health care challenges. Several complex factors, identified in District strategic health planning documents noted below, drive differences in health care trends and outcomes in various pockets of the city. Themes common to these reports are: 1) a lack of well-coordinated person-centered care; 2) the impact of SDH on residents' health; and 3) disparities in health outcomes.

Lack of well-coordinated, person-centered care. Data from the DC Health HSP and DHCF's SHIP indicates that residents and providers navigate care between disconnected clinical and social services. At times, residents with multiple health and social needs may have four or more siloed agencies providing care management.[38] Without proper coordination, residents are unable to effectively manage their health care. Examples include:

» *Inappropriate Use of Acute Care.* Roughly 10% of District residents report they delayed medical care due to not being able to get an appointment soon enough, with Ward 1 residents reporting the most challenges at 14%.[39] These gaps can lead to under-utilization of preventive care and care management and over-utilization of emergency care and acute care services.

» *Avoidable and Preventable Conditions.* The District's hospital EDs have very high rates of ambulatory care sensitive conditions (ACSs), which are generally considered avoidable or preventable with appropriate primary care services. In Wards 7 and 8, roughly 20% of hospital discharges and 21% of ED visits are for ACS conditions.[40]

Recommendations from multiple reports[41,42,43] call for DHCF to continue the promotion and expansion of HIE to facilitate information sharing, care coordination, and overall population health management between clinical and non-clinical partners, in alignment with the DC Healthy People 2020 Framework.[44]

The parallel pursuit of health IT and HIE can effectively ease transitions between hospital, ambulatory, and community care by connecting providers across specialties and settings, such as fire/emergency services and community-based organizations.

Social determinants impact residents' health. Social determinants such as housing, food insecurity, and transportation are cited as the most common root causes impacting the health and wellness of District residents.[45] Examples include:

» *Barriers to Accessing Care*. District residents living in Wards 4, 5, 7, and 8 identified transportation issues, including expense and system inefficiency, as impacting not only access to care, but also basic life needs.[46]

» *Impediment to Improving Health*. Limited access to financial resources and geographic separation from grocery stores contribute to about 50% of District health care stakeholders and residents identifying food access as a factor that detracts from residents' health.[47]

Several District reports[48] stress the need to implement SDH screening or utilize a comprehensive assessment for social determinants of health in efforts to inform care planning and establish trust between patients and providers. Health IT and HIE infrastructure can be used to build a better understanding of social determinants of health by standardizing electronic data collection on SDH and facilitating exchange of health-related information (e.g., housing issues and food insecurity) to reduce the reporting burden for patients.

Disparities in the health outcomes across the District. Numerous, complex factors that influence disparities in health outcomes across the District. Examples include:

» *Outcome Disparities by Ward*. Wards 7 and 8 have high rates of diabetes at 13% and 20% respectively, almost twice the national average and three to five times the rates of Wards 2 and 3.[49] Despite their high prevalence, chronic diseases are largely preventable.

» *Outcome Disparities by Race and Ethnicity*. Twenty-six percent of African American residents are smokers compared to 7% of White residents.[50] For every person who dies from tobacco use, 30 more people have at least one serious tobacco-related illness, such as chronic airway obstruction.[51]

» *Outcome Disparities by Income*. Thirty-eight percent of District residents with an annual income of under $35,000 have high blood pressure compared to 22% of residents who make over $110,000 per year.[52] According to data obtained from the CDC's and Robert Wood Johnson Foundation's 500 Cities Project, residents of lower income communities have higher rates of chronic diseases, including arthritis, diabetes, and asthma.[53]

One way to bridge these gaps is to provide actionable information to providers treating every resident in the District. Providers should use health IT and HIE tools to identify high-priority populations and community needs, and tailor interventions at both the point-of-care and systems level.

The District's mission and vision for HIE requires parallel pursuit of health IT, HIE, and VBP to effectively achieve its goals to support care coordination, address social determinants, and improve health outcomes. Access to the right information at the right time is critical to meeting those goals. The next section, *Section 3 – The Current Landscape of Health IT and Exchange in the District*, describes the current state of HIE connectivity and adoption in the District, and describes current information sharing initiatives and activities underway.

Section 3
The Current Landscape of Health IT and Exchange in the District

Understanding the District's Health IT Potential to Improve Care

Residents seek care at different settings across the District depending on their location, urgency of condition or insurance coverage. DHCF's goal is to ensure all providers in the District have access to the right information about their patients everywhere they provide care.

To achieve this goal,

» *Health-related information must be accessible electronically;*
» *Providers must actively send and receive (exchange) health information electronically; and*
» *Providers must work with patients to appropriately use health information to improve the quality of care delivered, as well as patient outcomes.*

This section focuses on ways providers in the District collect and exchange health-related information today.

District Providers' Adoption and Meaningful Use of EHRs

A critical first step towards DHCF's goal is for providers to capture information electronically using certified EHR technology. EHR adoption in the District increased significantly after the passage of the Health Information Technology for Economic and Clinical Health (HITECH) Act of 2009.[54,55] HITECH established the Medicare and Medicaid EHR Incentive Programs for eligible professionals and hospitals to adopt EHRs and achieve usage and quality metrics. DHCF administers the District's MEIP and, since 2013, has distributed over $31 million in payments to hospitals and providers who have adopted EHRs and serve Medicaid beneficiaries.

While the District's EHR adoption rates are on par with national averages, there are opportunities to improve care transitions in the District by encouraging behavioral health providers, nursing homes, and smaller ambulatory practices to adopt interoperable standards-based systems and share health-related information.

Appendix B – EHR Adoption Across the District's Health Care Facilities provides summary tables of EHR systems used by District providers.

Below, the known landscape of health IT adoption and use among different provider types in the District is presented.

Certified Health IT

ONC developed the Permanent Health IT Certification Program in 2011 to certify that EHRs and other health IT solutions can perform specific usage, interoperability, and information exchange functions for providers in the Medicaid and Medicare EHR Incentive Programs.

Certified EHRs exchange health information with other *certified* systems that adhere to the same standards. DHCF's goal is to ensure that every MEIP provider in the District is utilizing a certified EHR and exchanging critical information with other providers using interoperable standards.

Hospitals

Hospitals in the District have championed the adoption of EHRs and made significant strides to implement certified EHRs in recent years. In 2011, only three District hospitals had adopted a basic EHR.[56] By 2017, all eight District acute care hospitals had adopted, or were installing, a basic EHR.

Though close in geographic proximity and alike in the electronic capture of health information, the District's eight acute care hospitals use four different EHR systems (Epic, Cerner, Meditech, and Siemens). In addition, the Washington DC VA Medical Center serves veterans and uses the VistA EHR system. In Appendix *B – EHR Adoption Across the District's Health Care Facilities,* Tables B.1 and B.2 provide a breakdown of EHR systems used at the District's acute and non-acute care hospitals. Despite the use of different EHRs, all eight acute care hospitals are connected to a regional health information exchange named CRISP (Chesapeake Regional Information System for our Patients), which exchanges encounter and clinical information (admissions, discharges, transfers, lab results, radiology reports, and other clinical documents, such as discharge summaries) among hospitals and clinics and is described in more detail later in *Section 3 – The Current Landscape of Health IT and Exchange in the District*.

Similar to the District, neighboring states, Virginia, Maryland, and Delaware had similar hospital EHR adoption rates of 95%, 93%, and 67%, respectively, in 2015.[57] Given the District's small geographic footprint and the extent to which residents are known to access health services in bordering states, there are significant opportunities to enable the regional exchange of health information.

Ambulatory Practices

The National Electronic Health Records Survey[58] and the 2015 DC Board of Medicine Physician Workforce Capacity Report presented data on District EHR adoption rates for 2014. The National EHR Survey indicates that District providers' 66% adoption rate of EHRs increased across ambulatory clinicians (from 2011 to 2014) but ranked below the national average of 78%.[59] The DC Board of Medicine reports that actively practicing physicians (providing care greater than or equal to 20 hours per week) using some type of EHR[60] rose from 68% in 2010[61] to 89% in 2014.[62] The District's adoption rate has steadily increased since 2015, and DHCF plans to field an EHR survey in 2018 to obtain an updated EHR adoption landscape for District licensed providers.

The eClinicalWorks (eCW) EHR is prevalent among ambulatory providers. *Appendix B – EHR Adoption Across the District's Health Care Facilities, Tables B.3 and B.4* provide a listing of EHR systems used, by site, among health system affiliated large ambulatory practices, as well as health centers. While eCW is used by most of the community health centers and in clinics affiliated with three hospitals serving Medicaid beneficiaries, Allscripts, Epic, and Cerner are implemented in the large, hospital and health-system affiliated ambulatory practices in the District. Community health clinics, including FQHCs, and hospital-owned clinics have high EHR adoption rates and connectivity to some hospital information. The FQHCs participate in a HIE called Capital Partners in Care Health Information Exchange (CPC-HIE). Children's National maintains and uses a regional HIE called the Children's Integrated Quality Network (CIQN). These HIEs are described in more detail later in this section.

The District's experience with EHR adoption in smaller practices is consistent with national trends. As in other areas of the country, smaller, independent practice providers have been slower to implement EHRs. Despite Medicare payment update penalties and HITECH Meaningful Use financial incentives, solo and independent small practice providers in Wards 7 and 8 expressed resistance to adopting EHRs, due to cost burdens of technology infrastructure such as network connectivity, computer upgrades, and staff computer proficiency training. In addition, some providers in Wards 7 and 8 expressed their intent to retire within five to 10 years and felt the return on their investments would not be realized.

Behavioral Health Providers

As of 2016, the District's Department of Behavioral Health (DBH) had 32 community based Core Service Agencies that offered primary behavioral health services to Medicaid beneficiaries. The majority of DBH contracted providers utilize their own behavioral health EHRs for clinical documentation. These providers also use a DBH-provided system named iCAMS (Integrated Care Applications Management System, behavioral health patient tracking and billing software by the vendor Credible), which is not certified by ONC to exchange health information.

The DBH provider community sees a significant opportunity to improve care through use of EHRs and HIE and through the exchange of behavioral and physical health information with other non-DBH providers – particularly diagnoses, medications, and allergy information from their patients' primary care providers. However, the ability to electronically exchange information is limited because many behavioral health providers are not using certified EHRs, or are not using EHRs that include the capability to exchange clinical information using industry standards. The District has a major opportunity to positively impact acute and chronic disease management by sharing health information between behavioral health and primary care.

In addition to their own EHRs and iCAMS, DBH providers utilize another system, the District Automated Treatment Accounting System Web Infrastructure Technology System (DATA WITS), for tracking, management, and billing of substance use disorder (SUD) services. Substance use information is subject to regulations that require patient consent prior to disclosure of information to HIE.[63]

Long-term Care and Nursing Facilities

In 2014, 41% of all hospital discharges in the District were to skilled nursing facilities (SNFs).[64] The District's 18 SNFs use six different EHRs. *Appendix B – EHR Adoption Across the District's Health Care Facilities, Table B.5,* provides a listing of EHR systems used, by SNF site. More than half of District SNF providers use PointClickCare, an EHR that supports clinical documentation, but is not interoperable with other systems. Additional interfaces and integration are required for PointClickCare to exchange information with certified EHRs and connect to HIE.

Variance in EHR adoption across these facilities has slowed uniform, electronic communication of discharge information via HIE to support effective care transitions. Only one long term care provider in the District is currently participating with CRISP, though several other nursing facilities have expressed strong interest in HIE connectivity.

HIE is a Growing Presence in the District

Capturing information electronically before, during, or after a patient encounter is a critical step to achieving better health outcomes. An equally vital step is the ability to share that information with providers treating the same patient. Health information exchanges, or HIEs, are managed by organizations that specialize in the aggregation and transmission of electronic health-related information. They often employ technology to match information about the same person from different data sources and display it in a meaningful way to users such as doctors, hospital administrators, care coordinators and quality improvement experts. To preserve the privacy and security of health information, health professionals may only access information from HIEs for patients with whom they have an active treatment relationship.

Health Information Exchange Data Sources

There are a number of diverse data sources that HIEs use to support patient care and population health. District stakeholders see the following data types as most promising to support system transformation:

ADT data
ADT data provides administrative information on hospital "admissions, discharges, and transfers." ADT data can alert treating providers if their patient has been admitted to the hospital, enabling timely follow-up.

Clinical data
Clinical data is most commonly exchanged in HIEs via Continuity of Care Documents (CCDs), which provide a common, structured format to share clinical data from the EHR. Elements of a CCD include structured information on vitals (e.g. BMI or blood pressure), lab test results, and medications.

Claims data
Claims data is the most prevalent source for structured health data. Paid claims can help providers understand which services were rendered in a specific care setting. Claims may also reduce duplication of services.

Program eligibility and participation data
This data provides information on availability and participation in programs that support individual health and wellness (e.g. case management, supportive housing, food assistance, and transportation) to help align clinical interventions with individual resources and needs, such as the ability to refrigerate prescriptions.

Self-reported data
Self-reported data includes information collected directly from individuals, such as health status. This data has proven highly reliable and can be predictive of key health outcomes.

At present, stakeholders in the District primarily have access to ADT data and claims information, with limited clinical information. DHCF anticipates that other sources of data will be integrated as HIE matures in the District.

The District's Recent Efforts to Implement HIE

States launched HIE initiatives with federal funding across the nation in the early 2000s. These initiatives served as demonstration projects and provided valuable input to the nascent marketplace. Findings and lessons learned, including i the importance of stakeholder engagement, community trust, financial and operational value, and long-term sustainability, persist to the current day.[65] Early HIEs experienced extensive evolution, from consolidation to closure to widespread adoption and use.

HIE initiatives in the District date back to 2007, when the DC RHIO (District of Columbia Regional Health Information Organization) was funded via three-year grants from the District to focus on the hospitals and safety net providers. With one of these grants, eCW was implemented in six safety net clinics. A second grant funded the implementation of an HIE infrastructure, using the Microsoft Amalga platform, to connect the six clinics with District hospitals. As the grant funding concluded and the DC RHIO closed, the District focused on supporting providers' ability to demonstrate meaningful use of EHRs.

To align with the District's emerging initiatives for value-based care, pay-for-performance, and alternative payment models – and to take advantage of the availability of HITECH funds – the District shifted its HIE strategy to a market-based approach that leverages existing community health IT and HIE infrastructure. In 2014, ONC State HIE funding was used to expand the District's public health infrastructure to connect EHRs to public health registries, connect hospitals to an operating regional HIE (CRISP), and pilot a solution for provider-to-provider messaging.

In 2017, DHCF awarded a competitive grant to CRISP to develop enhanced HIE tools and expand the HIE technology foundation. The purpose was to build an infrastructure that enabled District providers to participate in value-based payment programs and quality initiatives, such as MEIP and My Health GPS. In 2017, the District also initiated strategic planning activities for health IT and HIE in the District as part of the development of this SMHP to establish the District's direction for FY18 through FY21.

Key milestones in the District's historical HIE program timeline are provided in Figure 4 below.

Figure 4: The District's HIE Historical Timeline – Key Milestones
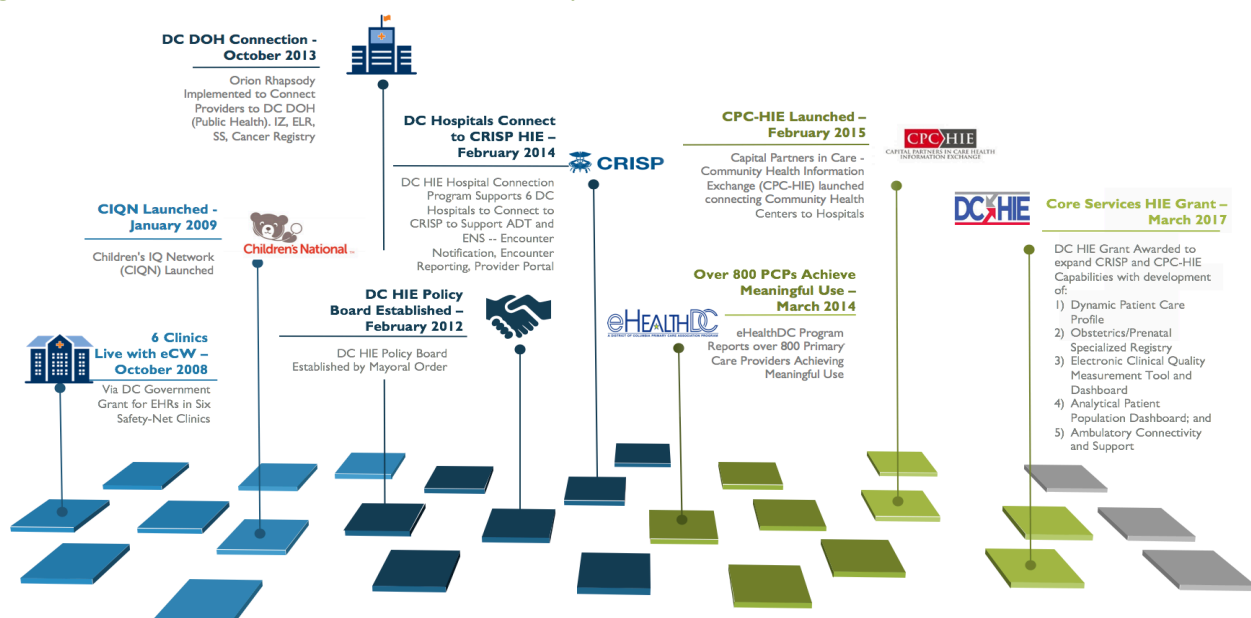
Defining the Future of DC Health Information Exchange

To create a defined marketplace for HIE services that can be regulated and build the public's trust in health information exchange, the District's HIE Policy Board has proposed the following vision for HIE:

> The HIE Policy Board defines the District of Columbia Health Information Exchange (DC HIE) as a *statewide, interoperable system of registered and designated HIE Entities that facilitate person-centered care through the secure electronic exchange of health-related information among participating organizations in support of District-wide health data infrastructure.*

The HIE Policy Board has also voted to establish standardized formal definitions for terms related to health information exchange:

» *Health Information Exchange (verb): The secure, electronic mobilization of health-related information across organizations in a region, community, or health system*
» *HIE (noun): An entity that creates or maintains an infrastructure that provides organizational and technical capabilities in an interoperable system for the secure electronic exchange of health-related information among participating organizations*
» *The DC HIE: An interoperable system of registered and designated HIE entities that facilitates patient-centered care through the secure electronic exchange of health-related information among participating organizations in support of a District-wide health data infrastructure*
» *Participating Organization: An entity that enters into an agreement with an HIE that governs the terms and conditions under which its authorized users may use, access, or disclose protected health information through the HIE*

Establishing a regulated marketplace for HIE services relies on the concept of partnership with *registered* and *designated* HIEs. Through rulemaking, DHCF will set the floor for information exchange in the District and DHCF will ask *Registered HIE* entities to attest to meeting certain privacy, security and access requirements. DHCF will also select one or more *Registered HIE* entities to serve as a *Designated HIE* to provide core exchange services to District providers.

DHCF designed the proposed designation model based on recommendations by the HIE Designation subcommittee of the HIE Policy Board. This group of key stakeholders met regularly in 2017 to develop a designation rule for the District based on existing models in Maryland, New York, Minnesota, Pennsylvania, and Texas. In this model, the DC HIE is composed of providers sharing information through registered and designated HIE entities as shown in Figure 5.

Participation as an HIE entity under this rule would be voluntary, and HIE entities that do not apply would still be able to operate in the District. As envisioned, only entities that are registered or designated by DHCF will receive the explicit endorsement of DHCF and will be eligible to access DHCF claims data.

The District's registration and designation process will be formalized via DHCF rulemaking in 2018, at which time interested HIEs will be invited to apply in an open and transparent process.

Figure 5: Visual Depiction of Future Health Information Exchange Between Designated and Registered Entities Participating in DC HIE
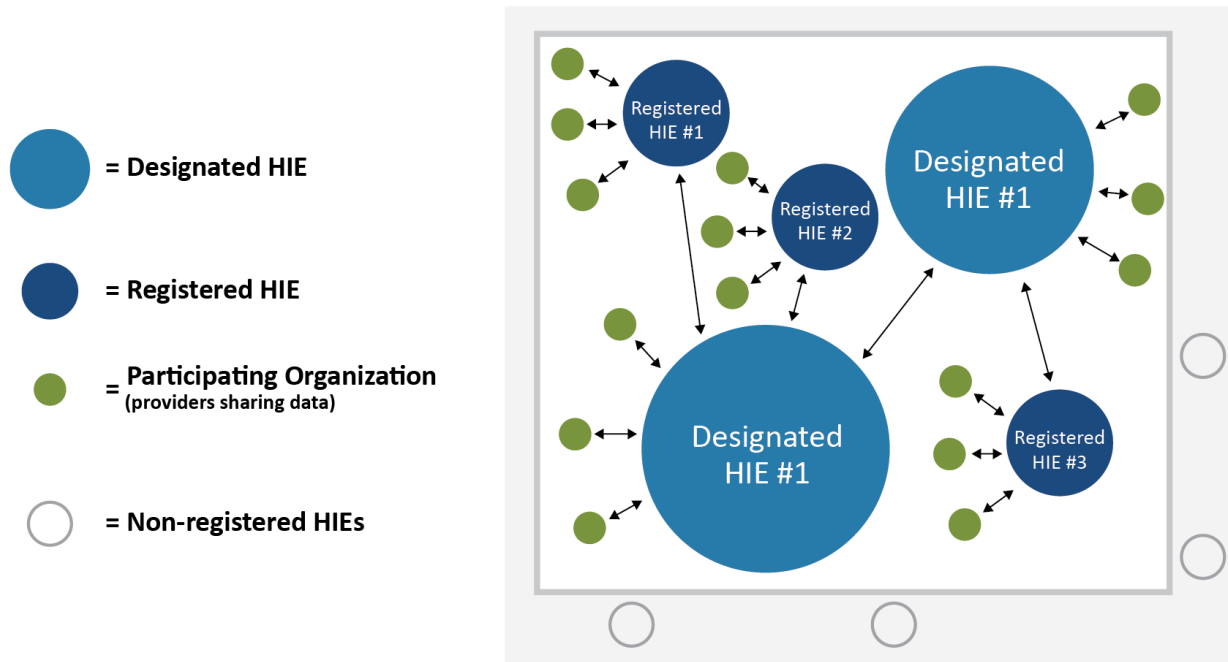
The District is An Active Marketplace for HIE

Today, three health information exchange entities (HIE entities) provide exchange services in the District. Each of the HIEs is described below, with side-by-side information presented in Table 2, which DHCF developed, as provided by each HIE.

Chesapeake Regional Information for Our Patients (CRISP)

CRISP began as Maryland's state-designated HIE since its incorporation in 2009 and has expanded to be a regional HIE covering the District, West Virginia and Maryland. CRISP has partnerships with HIEs in Virginia and Delaware to exchange hospital encounter information. In 2013, DHCF awarded grants to six District hospitals to connect their EHRs to a state-designated HIE within 40 miles of the District.[66]

In 2014, the District's six participating hospitals connected to CRISP and began sending encounter information that is shared with other providers and care managers in the region via the Encounter Notification Service (ENS). As of 2017, all eight acute care hospitals in the District and one rehabilitation hospital are connected to CRISP's ENS. In addition, 63 ambulatory clinic sites connect to CRISP's ENS service through the Capital Partners in Care - Community Health Information Exchange (CPC-HIE).

CRISP currently provides the following five services to the District:

» **ENS:** CRISP delivers inpatient, emergency, outpatient, and long term care encounter notifications to its network of providers in the District based on matching of ADT messages against subscriber lists developed by providers and health plans. This information is matched at

the centralized CRISP repository, and alerts are delivered to providers. A practice can customize the ENS to provide information relevant to its providers or care management programs.

- » **Reporting services:** CRISP provides reports to hospitals on usage trends, inter- and intra-hospital readmission patterns, and total cost of care across multiple independent facilities.
- » **Clinical query portal:** Providers perform demographics-based searches to view patient health information from hospital feeds, including lab results, current medications, transcribed notes, and clinical documents submitted by hospitals, ambulatory practices, and other providers.
- » **CRISP In the Workflow:** Access to critical information about a patient are culled from the CRISP repositories and provided to providers in the context of their existing EMR workflows. Available information includes the patient's recent visits, care team, and care management information.
- » **Unified Landing Page (ULP):** Secure user log-in portal that unifies all CRISP applications and tools that are available for a given user. The applications and tools are shown as tabs at the top of the screen and the ULP defaults to the patient search window.

Partnership Between DHCF and CRISP Expanded in 2017

Today, HIE services in the District enable information exchange. In 2017, CRISP was competitively awarded DHCF grant funding to develop and implement enhanced HIE tools to serve the District's providers, who are using them now to exchange information.

At the end of 2017, the Patient Care Snapshot, eCQM tool and Analytical Population Dashboard went live for My Health GPS providers in the District. A description of all tools follows:

- » *Patient Care Snapshot:* An 'on-demand' web-based service to display an aggregation of both clinical and non-clinical data for a selected patient. In the future, the Patient Care Snapshot may include additional data sets on a patient's social determinants of health, such as housing and food insecurity.
- » *Electronic Clinical Quality Measurement Tool and Dashboard:* An electronic clinical quality measurement (eCQM) tool that aggregates and analyzes data captured through Continuity of Care Documents (CCDs) submitted by providers as well as Medicaid Claims data to calculate their performance against quality measures for their empaneled patient population.
- » *Obstetrics/Prenatal Specialized Registry:* An electronic form within a District-specified electronic health record (EHR) environment, along with a separate web-based form that is accessible outside of that EHR system. These forms will enable providers to directly enter and submit data associated with prenatal screenings and assessments and facilitate data collection in a District-wide OB/Prenatal Specialized Registry.
- » *Ambulatory Connectivity and Support:* Engaging providers and supporting their connection to the DC HIE, including technical assistance aimed at the advanced use of HIE services.
- » *Population Health Analytics:* A population-level dashboard accessible by providers and other relevant stakeholders for patient panel management.

The new HIE services are now available to District providers via a CRISP Unified Landing Page (ULP). To access the new HIE tools, providers must sign a participation agreement and attest that they have implemented privacy and security practices to safeguard personal health information, however, the ULP does not require providers to have an active connection to CRISP to begin using these care coordination and population health management services.

Capital Partners in Care Health Information Exchange (CPC-HIE)

In collaboration with the Capital Clinic Integrated Network (CCIN), the DC Primary Care Association (DCPCA) launched Capital Partners in Care - Community Health Information Exchange (CPC-HIE) in 2015. CPC-HIE connects eCW EHR information from 11 community health centers, Providence Hospital's ambulatory clinics, laboratory results, and imaging services, and United Medical Center's (UMC) ambulatory practices.

CPC-HIE uses the eCW Electronic Health eXchange (eEHX) hub to share progress notes and provide access to consolidated encounter information across the members' ambulatory EHRs (health centers, FQHCs, Providence, and UMC ambulatory practices). CPC-HIE is connected to CRISP, enabling access to the District's enhanced HIE tools via single sign-on (SSO), which allows users to stay within their eCW application to access the tools, rather than having to sign in to a new system. Looking to the future, the CPC-HIE's priorities are to improve integration with the other HIEs by:

» Enabling the download of hospital documents and encounter records from CRISP to the patient's EHR record;
» Retrieving and sending patient care plan updates from the EHR to CRISP as part of the CCD; and
» Facilitating electronic receipt and distribution of CRISP ENS alerts within the EHR to designated providers and patient care team members.

Children's Integrated Quality Network (CIQN)

Launched in Maryland in 2008, CIQN is dedicated to exchanging information and improving care for pediatric patients and is affiliated with Children's National Health System. The regional network, CIQN, utilizes the eCW eEHX hub to enable participating providers on eCW and other EHR systems to share patient information, such as patient demographics; office visits; problems; medications; allergies; medical, surgical and hospitalization histories; family and social history; laboratory results; radiology reports; procedures; and immunization histories.

Table 2: District of Columbia HIE Summary

	CRISP* DC, VA, DE, MD, WV	CPC-HIE** DC	CIQN*** DC, MD, VA
Participants and Connections			
Total Patients	17,926,955	447,683	1,850,000
Acute Care Hospitals	DC : 8 DE: 6 MD: 48 VA: 20 WV: 39	DC: 1	DC: 1
Ambulatory Clinics	DC: 75 MD: 509 WV: 67[67]	DC: 11 Community Health Centers across 56 locations; and 2 Hospital-affiliated clinics across 7 locations	Regional: 60 Clinics across 75 locations
Other Facilities	DC: 1 Rehabilitation MD: 153 Long-Term Care	None	DC: 1 Rehabilitation - Pediatrics
Radiology and Laboratory	MD: 15 Radiology centers Regional: 2 Laboratories with provider authorization	DC: 1 Hospital-based radiology DC: 1 Hospital-based laboratory	DC: 1 Hospital-based radiology DC: 1 Hospital-based laboratory

	CRISP* DC, VA, DE, MD, WV	CPC-HIE** DC	CIQN*** DC, MD, VA
HIE Data			
Focus	Regional: Participating hospitals and ambulatory providers	DC: Participating safety-net providers	Regional: Participating pediatric hospital and ambulatory providers
Available Data	Hospital admission and discharge data; Ambulatory encounter summaries (PDF of CCDs)	Hospital admission and discharge data; Ambulatory encounter data (progress notes, medications, laboratory results, radiology reports, CCDs)	Hospital admission and discharge data; Ambulatory encounter data (progress notes, medications, laboratory results, radiology reports, CCDs)
Annual District Encounters	182,904,875	968,006	1,000,000
Core Services			
	• ENS • Clinical query portal • Secure Text • CRISP In the Workflow • Direct messaging • eCQM reporting • Patient care snapshot (CRISP and claims data)	• SSO to CRISP HIE tools • Cross-facility clinical query • Transmission of final CCDs to CRISP	• SSO for Epic and Cerner hospitals to CIQN • Cross-facility clinical query
Data Source			
	* 2017 data from CRISP	** 2017 data from CPE-HIE	*** 2015 data from CIQN

Leveraging HIE to Support Public Health

District-wide HIE interfaces for public sector systems, such as the Public Health Laboratory, the immunization registry, electronic laboratory, and cancer registry use enhanced HIE technology developed with financial support from ONC and the Centers for Disease Control and Prevention (CDC). DC Health currently integrates clinical data from EHR products into Orion Health's Rhapsody platform, an interface engine that facilitates data exchange across systems to support and enhance mandatory reporting. This platform can support achievement of meaningful use public health objectives, including submitting electronic data to public health registries for immunizations, syndromic surveillance and reportable lab results.

As of 2017, DC Health supports syndromic surveillance, electronic laboratory, and cancer registry reporting. As part of developing the HIE, DC Health expanded functionality with a system architecture that uses the Rhapsody integration engine to provide a single connection point to exchange health information with provider EHRs. DC Health is in the process of migrating remaining legacy EHR registry connections to these registries to the Rhapsody platform to support a single-entry point between DC Health systems and EHRs. In addition to the District hospitals that provide data to these registries, electronic laboratory reporting includes connections with LabCorp, Quest, BioReference and Bostwick laboratories. The Rhapsody platform also supports cancer case reporting from CPC-HIE participants.

District Medicaid providers who have certified EHR systems and internet access can submit immunization data through Rhapsody to the DC Immunization Registry, which currently comprises over 900,000 immunization records and 10 million immunization dates.[68] Providers and schools are able to access the DC Immunization Registry through direct login to the registry to access immunization histories. However, providers are not able to query the DC Immunization Registry using their EHRs at this time. DC Health plans

to implement bi-directional exchange of immunization information with EHRs. DC Health has performed technical testing of bi-directional immunization information exchange with EHRs and is currently addressing connectivity policies and procedures. In addition, DC Health previously participated in ONC-supported inter-state immunization exchange testing efforts and anticipates coordinating inter-state exchange efforts with Maryland and Virginia in the future.

Current Activities to Advance Health IT and HIE in the District

DHCF undertakes a range of activities to advance meaningful use of health IT and HIE in the District. The agency is committed to ensuring that all District providers have electronic access to the right digital information at the right time to serve their patients. As part of DHCF's mission and funding from CMS to support Medicaid providers, DHCF contracted with DCPCA, Zane Networks, and Clinovations Government + Health for technical assistance and outreach support to help Medicaid providers adopt EHRs, use EHRs meaningfully, attest for MEIP incentives, help organizations connect to HIEs, and support stakeholder engagement and Health IT and HIE planning. Additional information regarding DHCF Medicaid provider outreach and technical assistance for health IT and HIE is provided in *Appendix C – Health IT and HIE Provider Outreach*.
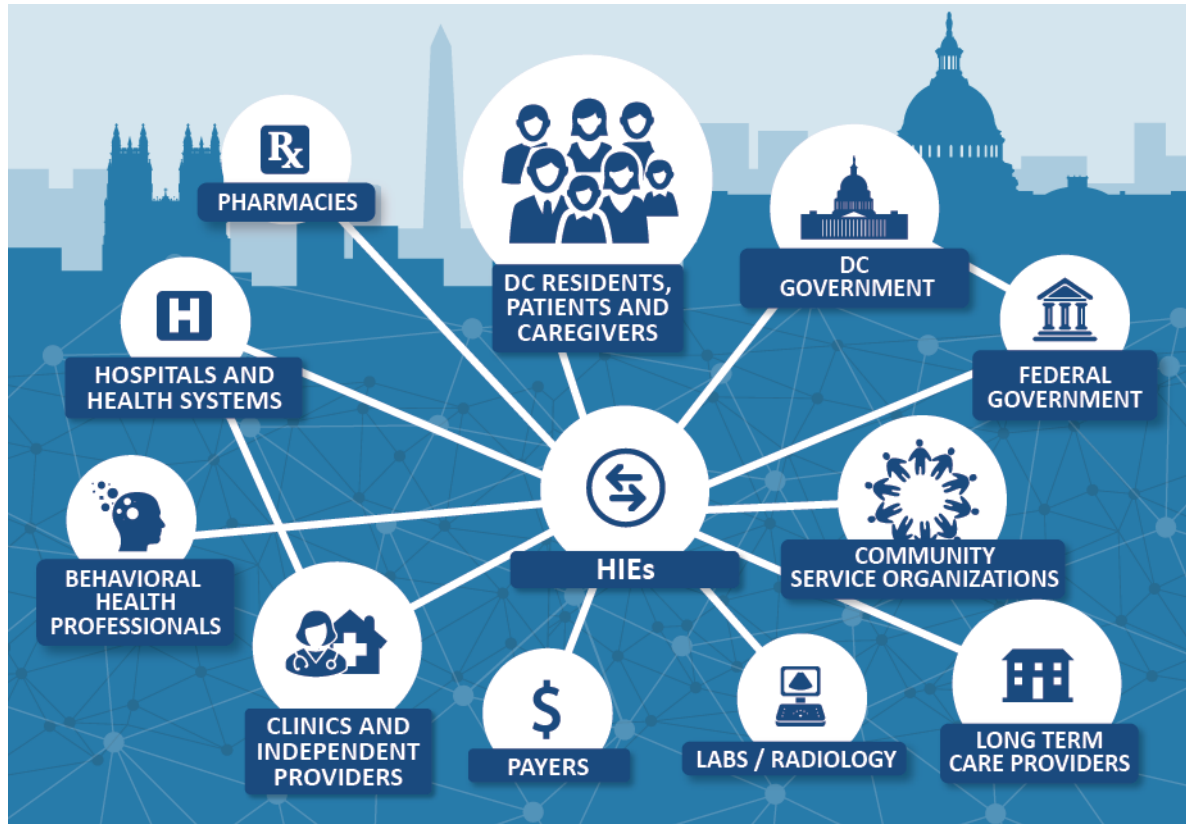
The District is addressing its health IT and HIE needs (see *Section 4: District Stakeholders' Perspectives and Priorities for Health IT and HIE*) on multiple fronts by targeting tools and strategies that further DHCF's guiding principles of expanding access to care, improving quality of care, promoting health equity, and enhancing value and efficiency. Table 3 lists active health IT and HIE efforts, consisting of both projects and tools that are described in *Section 5 – The District's Health IT and HIE Roadmap*.

Table 3: Active Efforts to Advance Meaningful Use of Health IT and HIE in the District

Expanding Access to Care	» Advancing EHR use in care settings, including physical and behavioral health » Optimizing the efficiency of EHR-enabled workflows » Implementing ENS HIE functionality among safety-net providers and MCOs » Promoting the inclusion of screenings for SDH in EHRs
Improving Quality of Care	» Increasing the standards-based data available within EHRs and HIE » Increasing the capture and reporting of eClinical Quality Measures (eCQMs) » Expanding tools and dashboards for eCQM reporting (CALiPHR) » Expanding provider views of claims data to supplement clinical history » Disseminating tools to support comprehensive views of patient care for highest risk and vulnerable populations
Promoting Health Equity	» Supporting EHR adoption among all Medicaid providers, including those enrolled in MEIP, to promote care coordination, improve patient-centered care, and reduce disparities in health outcomes » Using provider-specific health information tools for interventions, such as My Health GPS, to reduce disparities in health outcomes[69] » Making social determinants of health (SDH) screenings available in EHRs
Enhancing Value and Efficiency	» Providing technical assistance and education to providers, including workflow redesign and integration of enhanced HIE tools into workflow » Expanding the use of HIE tools to enable team-based care » Eliminating silos across care providers, government agencies and systems, including DHCF, Department of Human Services (DHS), DC Health, and others

Figure 6 depicts the envisioned DC HIE network, including a diverse set of participants – senders and receivers of health information – who must work together to support patient-centered care.

Figure 6: Planned DC HIE Ecosystem

The District is moving forward to build this network by identifying and promoting relevant HIE services; supporting ongoing technical assistance and education; and coordinating the appropriate resources and collaborators. To ensure stakeholder priorities created the foundation for forward movement, DHCF convened a stakeholder engagement process to inform its strategic roadmap. These stakeholder findings are presented in the next section, *Section 4: District Stakeholders' Perspectives and Priorities for Health IT and HIE.*
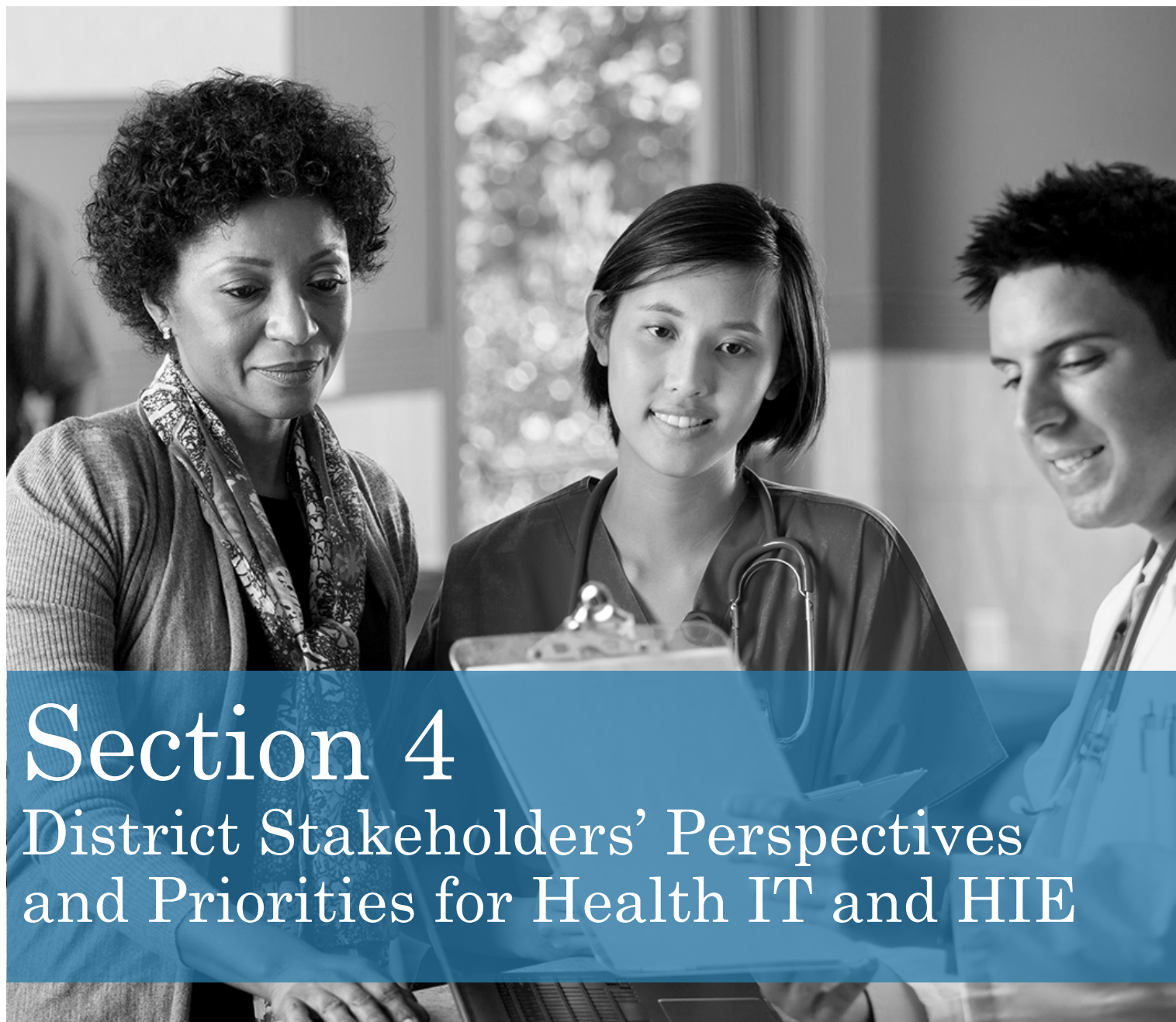
Section 4
District Stakeholders' Perspectives and Priorities for Health IT and HIE

Engaging Stakeholders to Inform Health IT and HIE Initiatives

In 2017, DHCF conducted a comprehensive assessment of District stakeholders' health IT needs. DHCF developed an outreach and engagement strategy, informed by the DC HIE Policy Board's Sustainability Subcommittee, whose 11 members represent multiple perspectives from academia, federal and state government, professional organizations and associations, and payers.

DHCF's outreach and engagement strategy included clinical stakeholders across the spectrum of care: physical health, behavioral health, and long-term care service and support providers, and non-clinical care partners, such as community organizations providing services that support residents' ability to stay healthy. Stakeholder outreach and engagement efforts from March through November 2017 provided perspectives and insight gathered from over 29 stakeholder interviews and 45 focus group participants. A full list of organizations that participated in these interviews are included in *Appendix D - Stakeholder Health IT Needs Assessment and Analysis Methodology*.

DHCF designed these conversations to assess stakeholder perspectives on the current role of health IT within stakeholder organizations, and the potential role health IT and HIE can play in meeting their missions and goals. Together these assessments are intended to help define the District's HIE priorities, key partners and constituents who must be engaged, and areas in which technical assistance will be needed to implement new health IT and HIE tools.

Stakeholder categories for interviews and focus groups included:

- » Residents and Patients
  - » MCO Beneficiaries
  - » Wards 7 and 8 Residents and Patients
- » MEIP Eligible Providers
  - » Hospitals/Health Systems
  - » Ambulatory Providers (Primary Care Clinics, Small Practices, Solo Practitioners)
- » Payers
  - » Medicaid MCOs
  - » Commercial Payers
- » Care Coordination Partners
  - » Behavioral Health
  - » Fire/EMS Services
  - » Long-Term Services and Supports (Nursing and Rehabilitation Facilities, Home Health)
- » Community Service Providers (Food Banks, Faith-based, and Community Organizations)
- » District Government Agencies

The outreach questions in Table 4 seek perspectives on the current state of HIE and stakeholder priorities for HIE services. The HIE Policy Board Sustainability Subcommittee recommended an initial set of outreach questions, which DHCF used as a foundation to develop a guide for SMHP stakeholder interviews (see *Appendix D.3*). An interview team, including a primary interviewer and note-taker, conducted the majority of the SMHP interviews in person.

Table 4: Health IT and HIE Stakeholder Outreach Assessment Topics and Objectives

Current State of HIE	Ideal Future State of HIE	Immediate Needs
What are your organization's current strategic goals and priorities?	What are the District's health system priorities for the next 5 years?	What health information do you want to see today?
What are existing data exchange activities and partners?	How will access to new information help you address current challenges in your organization?	What IT infrastructure needs to be in place to meet your future goals?
What are examples of where HIE has added value and enhanced patient-centered care?	What are the greatest opportunities for HIE to help your organization?	What technical assistance do you need to be successful?
What are the common barriers to adopting health IT and engaging in HIE?	What barriers do you anticipate to expanding HIE or implementing new technology in your organization?	

Given DHCF's focus on building a sustainable HIE infrastructure that connects clinical and non-clinical organizations, the focus groups sought to identify accelerators and challenges for exchanging health information. Once DHCF completed interviews and focus groups, a qualitative analysis was conducted to code interview findings. *Appendix D - Stakeholder Health IT Needs Assessment and Analysis Methodology* provides additional detail regarding the stakeholder engagement and outreach process; interview guides; participants; qualitative analysis methodology; stakeholder feedback on addressing SDH and populations with specific needs; and challenges and opportunities to:

» Exchange patient data;
» Improve health IT and HIE data capture and usability; and
» Understand the District's SDH data needs and how providers and residents feel about its exchange.

The following section summarizes feedback by key stakeholder groups, including District residents and patients, MEIP-eligible care providers, payers, and care coordination partners.

Stakeholders See Common Challenges and Priorities for Health IT and HIE

Residents and Patients
IN PATIENTS' OWN WORDS "If you have multiple docs, your primary doc should get all the information from the other docs." "Any computer at a hospital should have all your information." "If I'm using the portal, I can get information (such as medication instructions) - which is good - but I want to tell the doctor what to know about me too." "We want the doctors to prescribe us medications that are covered by Medicaid. I couldn't afford the other meds. I didn't tell my doctor I couldn't take certain meds he prescribed me. I just didn't take those."

PERSPECTIVES
- » Health information should be exchanged regularly between the multiple providers.
- » Patients do not want to recount their health and social information at every visit.
- » Providers should know if their patients are hospitalized, but patients want the opportunity to "tell their own version" of their encounter, in addition to electronic notifications that providers receive.
- » Patients strongly advocated for exchange of medication and procedure information.
- » Sharing of SDH information was not a concern, as patients felt their primary care providers already know their SDH (e.g., financial resources, housing) based on their history and relationship.

ADOPTION AND USE
- » Use of mobile technology, smart phones, and internet was prevalent among focus group participants in underserved communities.
- » There is enthusiasm among residents in underserved communities to access health information on a portal or mobile device. Focus group participants voluntarily and actively demonstrated how to access patient portals on their phones for the benefit of other participants.
- » Very few patients opt out of HIE.

NEEDS AND OPPORTUNITIES
- » Many focus group participants acknowledged that social determinants affect their health, but felt concern that the data could be used against them to deprioritize care. (e.g., knowledge of income or coverage status, mental health conditions).
- » Residents want access to organized and routinely updated information on available community services.
- » Residents want providers to leverage telehealth and remote monitoring to address transportation issues.

MEIP-Eligible Care Providers (Hospitals, Ambulatory Practices)

IN PROVIDERS' OWN WORDS

"We use encounter alerts every day. We have seen the course of clinical care altered due to access to information within CRISP."

"The HIE is helping us generate revenue and provide patient information to act on within a 14-day window for provider reimbursement opportunities."

"We would like to see EHRs used to manage referrals and close the loop post-consultation."

"The next step for HIE is to focus on data integrity and to filter the most important data so it is actionable for prevention and treatment, so it doesn't become clutter or noise."

"We will use HIE data to support participation and eCQM reporting for pay-for-performance programs like My Health GPS and to risk stratify patients."

PERSPECTIVES

» Providers and care partners expressed a strong need for accurate, timely, and actionable health information that accommodates their clinical and electronic workflow.
» Providers requested clarity around the tools and scope of "DC HIE." Providers were familiar with CRISP, CPC-HIE, and CIQN, but asked if "DC HIE" represented additional services.
» Providers do not want to manage connections and agreements with multiple HIEs, if possible. Providers seek streamlined processes and integrated systems.
» Providers view HIE information across care settings as critical infrastructure to enable participation in pay-for-performance, value-based care, and payer-based quality programs.
» Professional organizations (e.g. provider associations) seek data to support their analytical needs and reporting related to their member hospitals.

ADOPTION AND USE

» All eight District acute care hospitals utilize certified EHR technology and connect to CRISP for sharing of admission and discharge data through HIE.
» EHR adoption and use of ENS is high among hospital-affiliated and larger practices.
» Small providers in low-income communities, including some near retirement, are resistant to adopt EHRs due to infrastructure costs, limited IT skills, and current staff capabilities.
» Providers expressed interest in having access to the visit note, CCD, and discharge summary from encounters outside their practice setting.
» Providers seek improved medication history information to manage compliance that includes prescribing history, fill/dispensing information, and pharmacy contact information.
» Providers need HIE tools such as CALiPHR for advanced eCQM reporting for participation in pay-for-performance programs such as My Health GPS.

NEEDS AND OPPORTUNITIES

» Providers seek EHR-integrated, real-time access to data, through single sign-on.
» Providers requested support in developing EHR workflows to process the information received from hospitals and to configure notifications for specific or highest-risk patients.
» Primary care providers requested access to a bi-directional immunization interface within the EHR to determine gaps and due dates.
» Providers seek support to achieve Meaningful Use Transitions of Care (TOC) measures.
» Currently, adoption of Direct secure messaging within certified EHRs is limited.

Payers and Managed Care Organizations

IN PAYERS' AND MCOS' OWN WORDS

"We need more accurate inpatient clinical information to
help us with HEDIS measures."

"We spend time chasing medical records to obtain data such as
vitals and BMI that could be easily supported via HIE."

"There is a perception that HIPAA is restricting sharing of information.
People are interpreting the laws too stringently. We need HIE and information sharing
policies across the District, so the exchange options are clear."

"We are planning and building our own analytics infrastructure to support new payment
models and are interested in where we can leverage HIE instead of building our own."

PERSPECTIVES
- » Payers are enthusiastic about the opportunity for HIE to support care management of high-risk patients.
- » Payers are seeking a way to filter the most important information to receive via HIE, especially for dense, text-heavy ADTs exchanged.
- » Payers are manually entering health information and performing reporting within their own systems that could be accomplished electronically via HIE.

ADOPTION AND USE
- » Payers receive and use ENS messages from CRISP and stated that the near-real time notifications are valuable for care management and coordination. Some payers are working to customize or manually manipulate the information received.
- » Some payers have direct online access to lab and pharmacy portals to obtain member information.

NEEDS AND OPPORTUNITIES
- » Regulation guidance that clarifies the patient data that may and may not be shared can reduce hesitancy to exchange information and increase information flow.
- » ADT information can support earlier identification of members who need support. Payers are interested in the information that triggers Care Manager follow-up.
- » Payers see opportunities to use HIE and clinical information to support communication with providers regarding patient follow-up and targeting (e.g., if there are 20 patients scheduled in a day, who are the top five most-challenging, based on complexity of health conditions?)
- » Chart audits are a significant burden that could be alleviated via HIE. Utilization Review nurses currently use a combination of e-fax, secure email, and telephone to get the medical record to document medical necessity.
- » Access to clinical information via HIE can support payers in obtaining data needed for HEDIS (Healthcare Effectiveness Data and Information Set) reporting and measures.
- » Use of HIE can support medication reconciliation of post-discharge medication data within the CCD with plan-dispensed medications from pharmacy claims.

Care Coordination Partners: Behavioral Health, Fire/EMS (FEMS), Long-Term Care (LTC), and Community Services

IN PARTNER AGENCIES' OWN WORDS

"Behavioral health providers want data from PCPs. For young individuals, we want access to their last physical. We would like to see immunizations, lab work, and other information within the CCD such as referrals, hospitalizations, and the name of the provider treating the patient."

"As part of our (LTC) program we have to make sure that services our patients need are in place. So, we coordinate with community groups and exchange a lot of information. Our Social Workers coordinate care management. HIE could be helpful to support this manual exchange of information via fax and phone."

"We (FEMS) want to know where do the homeless usually go for care?
Who is their doctor? HIE can facilitate access to this information."

PERSPECTIVES

» Behavioral health providers serving the Medicaid population seek access to comprehensive clinical information across medical and behavioral health care.
» Community providers articulated a strong need for bi-directional exchange with clinical providers.
» Providers expressed the need for information on available community services.
» FEMS expressed interest in utilizing HIE tools, such as the patient care profile and population dashboard, to better facilitate urgent or emergent care in the District. DC FEMS is implementing a nurse triage line and is interested in using these HIE tools.
» FEMS seeks health information to support care in emergency transport and to understand health outcomes of patients treated by FEMS.

ADOPTION AND USE

» DBH-contracted providers use an EHR to document the behavioral health encounter. Most providers use their own version of iCAMS (private), some use the DBH-provided iCAMS, and others use their own EHR.
» DBH providers expressed interest in CRISP and HIE connectivity. Some organizations had already initiated onboarding processes with CRISP for ENS and access to the CRISP patient profile tool.
» LTC facilities are either using EHRs or are in the process of implementing EHRs.

NEEDS AND OPPORTUNITIES

» LTC providers are critical care partners and require access to and exchange of data across the continuum of care, including hospital information for transfers into LTC and information to support care management for patients discharged to home.
» LTC providers are receiving fax referrals from most hospitals.

Stakeholder Feedback Conveys Key Opportunities for the Health IT and HIE Roadmap

Stakeholder feedback confirmed the key findings from other District health assessments and affirmed the state of health and health IT discussed in *Section 2 – Opportunities to Improve Health Care in the District*. Stakeholder feedback also provided additional insight into ways HIE tools are currently used in the District's health care system and have the potential to improve care and outcomes.

Understanding Common Challenges and Opportunities to Improve Data Exchange

Stakeholders highlighted several health IT and HIE challenges, which were also considered by many to represent opportunities for significant improvements in patient-centered care:

Integrating systems and interfaces. Different health IT systems and interfaces across the District have resulted in information silos, with providers struggling to access lab results and patient summary data from hospitals and other health care facilities. Exchange tools that integrate HIE access within providers' health IT systems will encourage information sharing. Furthermore, advancing data integration between DHCF and its partner agencies can help ensure high quality care and better serve the unique health care needs of District residents, including children.

Promoting behavioral health exchange. Similar to the systems and interface challenges mentioned above, current behavioral health data exchange occurs manually, often via fax. Data storage across various systems, including iCAMS, SADO, DataWITS, and others that store similar information, results in redundancy. However, providers in the District recognize the importance of exchanging behavioral health data to improve care coordination and communication.

Increasing cross-border data exchange. Some District residents receive care in neighboring states (Maryland and Virginia) but many District providers may not be aware of those occurrences without HIE access and use. Increased access to HIE can fill information gaps for providers caring for these individuals.

Sustaining health IT and simplifying data exchange policy. Providers report difficulty understanding the data exchange laws and regulations for behavioral health, mental health, and SDH data. Education and outreach for common exchange scenarios can help clarify requirements and increase exchange of this data.

Enabling provider and care partner communication. Providers and community service organizations want to exchange information to provide better care for District residents. HIE access will create communication mechanisms for referrals and other information sharing. While several providers have access to secure email protocols to exchange messages with other providers, exchange can be increased by expanding the number of providers using provider-to-provider secure messaging within their EHRs and by providing a way to locate care team contact information.

Building a Solid Foundation for HIE is Imperative

While health IT and HIE offer many new and exciting analytic possibilities, stakeholders are pragmatic and prioritized the need for robust infrastructure with high-quality data. Providers and care partners cited the need for improvements to current HIE tools and additional HIE data or services such as:

Real-time alerts. Providers with large patient populations often receive thousands of ENS notifications per month and stated that streamlined reporting via single alert and filtering capabilities would increase the value of HIE access.

Claims and clinical data integration. Providers, care partners, and payers value claims data for its analytical uses. Integrating claims and clinical data, enabling data segmentation capabilities, and improving claims' timeliness and completeness will expand its utility. Providers and care partners expressed strong interest in technical assistance to rapidly realize the benefit of claims data integration.

Workflow support. In anticipation of expanded HIE capabilities and tools, stakeholders expressed a desire for technical assistance to effectively send, receive, and use HIE data, as well as embed access to HIE data into their workflows.

Data quality improvement. Providers and payers see the value of HIE data they currently use, but reported challenges with accuracy, consistency, and timeliness. Defining a system-wide workflow and information exchange standards will create confidence in the data exchanged. Specifically, decision trees, policies, and procedures for sending and incorporating external data will enhance HIE's value to stakeholders.

Transitions of care. Providers are eager to use a HIE infrastructure to facilitate transitions of care and increase the sharing of inpatient consultations and visit notes. While some behavioral health and long-term care providers were early adopters, most do not use certified EHR systems and seek technical assistance to participate in HIE.

Understanding and Addressing Social Determinants of Health Data

The District's residents and providers see SDH information as an emerging, critical source of data to facilitate comprehensive understanding of health and wellness.

Incorporating social determinants of health data. Providers know social determinants affect their patients' health, but documenting and using the SDH data is difficult because it is often stored as unstructured data in an EHR that cannot be easily searched and exported. Certain SDH data, such as housing status, can change frequently, which makes it unreliable without frequent screening. Some SDH data exchange occurs through fax or phone with housing and community service providers and has the opportunity to accelerate through HIE.

Resident perspectives on SDH. Residents want their providers to incorporate knowledge of their SDH information into care decisions; however, they have mixed views on documentation methods and fundamentally want to "own" their story. Involving residents and community organizations in the development of SDH exchange policies and procedures, and including their voices on an ongoing basis, will establish a critical baseline of trust and willingness to have their data shared between providers.

Provider perspectives on SDH. Providers want to incorporate SDH into their daily workflow through best practices for uniform capture and exchange. Broad-scale consensus on which SDH data elements to prioritize for specific patient care processes, such as discharge planning, will assist implementation. Building SDH capture and exchange into existing health IT systems, such as referral and portal technologies (rather than introducing new technology), will increase likelihood of use.

# Stakeholder Feedback Translates to the Health IT and HIE Roadmap

Stakeholder feedback, collected to inform the SMHP, reflects the significant progress the District has made to increase health IT and HIE adoption among District providers and hospitals. Stakeholders remain optimistic, vested partners in building health IT and HIE capacity in the District. They expressed a strong desire to remain engaged and participate in future needs assessments and other strategic efforts to set priorities and implement solutions.

To ensure the District's investments in health IT and HIE realize the full potential of these systems, stakeholders articulate a concrete set of challenges and opportunities for the District to address:

» Standardizing information exchange and promoting interoperability among organizations using different types of EHR systems and platforms;
» Developing services and tools that respond to high priority use cases identified by providers and patients;
» Offering assistance to providers who may lag in health IT adoption and use; and
» Allocating time and support between implementation of new or expanded tools to allow providers sufficient time to adapt to new workflows.

In the following section, stakeholder priorities are addressed as part of the District's Health IT and HIE Roadmap. The Health IT and HIE Roadmap outlines top goals, use cases, and a proposed timeline for moving the District's strategy into action.
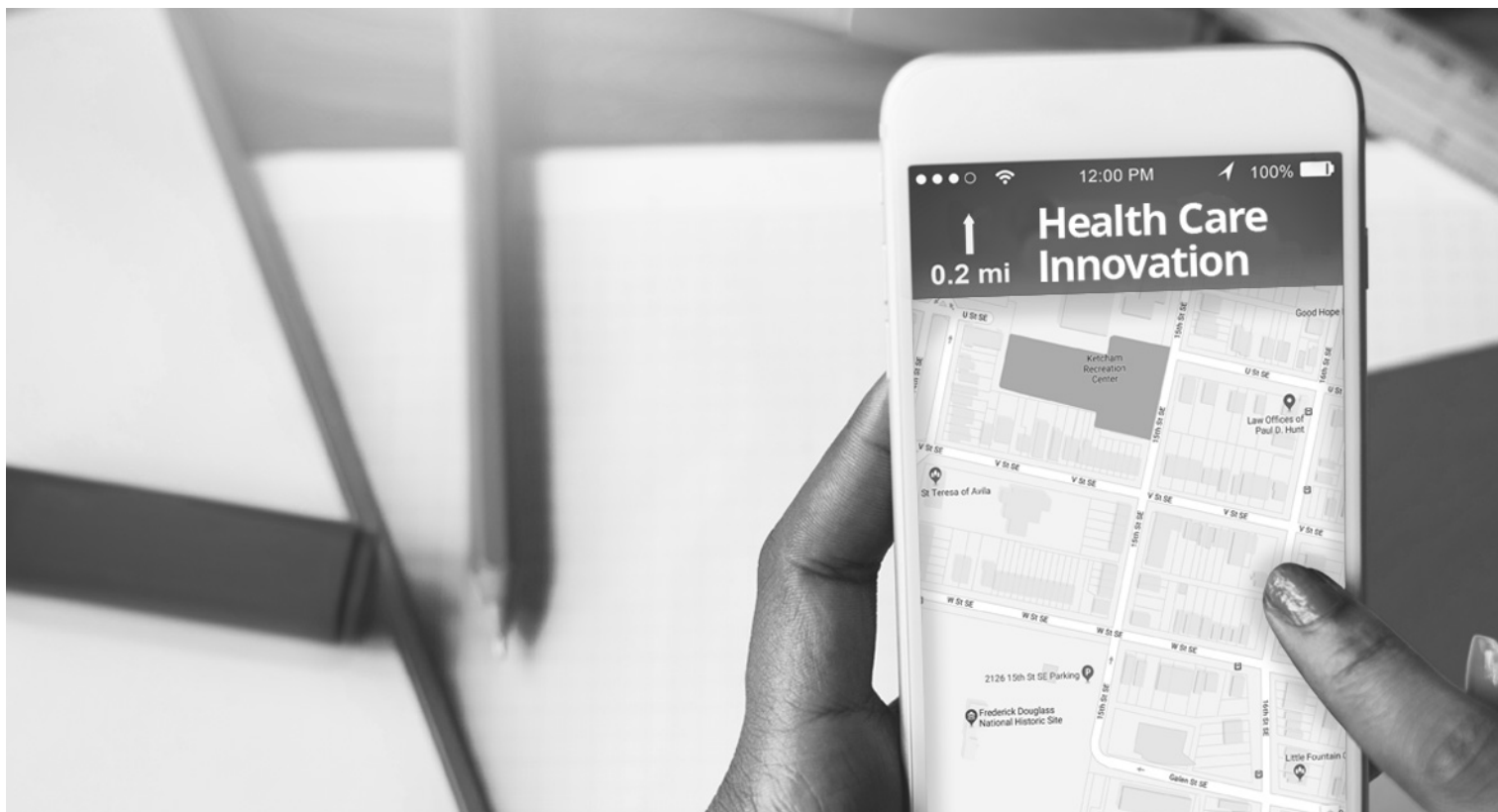
Section 5
The District's Health IT and HIE Roadmap

Designing Health IT and HIE Infrastructure to Support System Transformation

Previous sections of the SMHP provided an overview of the stakeholder needs in response to the current status of health, health care delivery, and health IT adoption in the District. In response, the Health IT and HIE Roadmap lays out a set of strategic goals, use cases, and an implementation timeline to build the envisioned health IT and HIE infrastructure.

Four overarching principles guide DHCF's health system redesign and practice transformation efforts and establish a foundation for the Roadmap.

DHCF's Health System Redesign Principles are a Foundation for the Roadmap

Principle 1: Expand Access to Care
- » Ensure appropriate and adequate access to services across all eight wards.
- » Improve patient-centered care coordination for all Medicaid beneficiaries.
- » Coordinate physical, behavioral, and long-term health care, and support preventive care.

Principle 2: Improve Quality
- » Ensure hospital quality and outcomes.
- » Promote partnerships between DC hospitals and primary care providers to improve care delivery and outcomes.

Principle 3: Promote Health Equity
- » Develop programs and services for the District's high-need populations, particularly those with a high burden of chronic illness and homelessness.
- » Addressing social determinants of health needs to improve health equity in the District.

Principle 4: Enhance Value and Efficiency
- » Pay for value, not for volume of health care services.
- » Promote efficiency, transparency, and flexibility of DHCF's programs.

Grounding the Health IT and HIE Roadmap in system redesign principles underscores the important message that technology implementation and HIE are not end goals in themselves. Rather, health IT and HIE are tools whose consistent use can drive health access, quality, equity, and value and efficiency across the District.

The District's Goals for Health IT and HIE

A well-defined set of strategic goals is the first step towards developing the District's Health IT and HIE Roadmap. Based on a review of national frameworks,[70] DHCF developed a Maturity Model for Health IT and HIE (see Figure 7), consisting of four components – Access, Exchange, Use, and Improve – to guide the District's goal setting for health IT and HIE. The model demonstrates a progressive spectrum of sophistication for providers' use of health IT and HIE. This spectrum is mirrored in the Health IT and Evaluation Framework in *Section 6 - Evaluating Health IT and HIE improvements*.

Figure 7: Maturity Model for Health IT and HIE
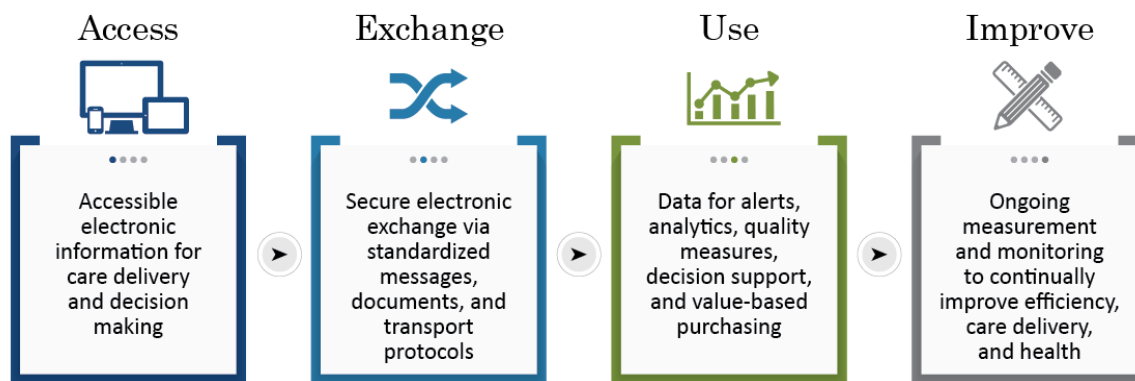
Using this model and guidance from the HIE Policy Board, among other key stakeholders, DHCF identified 10 strategic goals for health IT and HIE in the District. Table 5 below presents these strategic goals and denotes which aspect of the Maturity Model each goal is intended to support. Broadly speaking, these 10 goals can be grouped into four efforts: building infrastructure, building connections, enhancing equity and engagement, and improving care quality.

Table 5: The District's 10 Strategic Goals for Health IT and HIE

Access	Exchange	Use	Improve	District's 10 Strategic Goals for Health IT and HIE
☑	☐	☐	☐	1. **Increase provider adoption of EHRs and HIE** to expand virtual networks of providers in the District who are capable of delivering high-quality care by leveraging technology.
☑	☑	☐	☐	2. **Electronically identify providers and provider networks** serving District residents.
☑	☑	☐	☐	3. **Increase the number of virtual care teams** that are electronically connected to support integrated, high-quality care across modalities.
☐	☑	☐	☐	4. **Consistently collect and use SDH information** to improve transitions of care, support policy and planning, and evaluate efforts to maintain and improve health equity.
☐	☐	☑	☐	5. **Ensure high-quality electronic documentation** of health-related data.

Access	Exchange	Use	Improve	District's 10 Strategic Goals for Health IT and HIE
☐	☐	☑	☐	**6. Increase the number of patients who engage** with their care teams using technology.
☐	☐	☑	☑	**7. Improve the value and efficiency of team-based care** by integrating information across care settings (clinical, behavioral, community, public health, and payers).
☐	☐	☐	☑	**8. Improve care coordination and transitions of care** by improving access to information collected across settings of care.
☐	☐	☐	☑	**9. Track quality performance** while also reducing reporting burden though use of health IT and HIE tools.
☐	☐	☐	☑	**10. Support interventions to reduce disparities in health outcomes for** identified priority populations and conditions in the District via access to health IT and HIE.

Four Use Cases Drive the District's Priorities for Health IT and HIE

To implement the District's Health IT and HIE Goals, DHCF developed four use cases. The use cases represent commonly occurring activities that stakeholders identified as essential functions of the health IT and HIE infrastructure in the District. For each use case, DHCF proposed corresponding projects that aim to respond to stakeholder needs. The use cases are:

1. Transitions of Care
2. Social Determinants of Health
3. Analytics for Population Health
4. Public Health

Use Case #1:
Support Transitions of Care

Technology that supports transitions of care will help health and community service providers facilitate communication across care settings, make timely referrals and exchange summary records, and assess available resources through convenient, seamless HIE.

PRIORITY PROJECTS OR TOOLS

Improve Single Sign-On and EHR Integration
» Improve the workflow integration of HIE data via SSO that allows technology users to access HIE data from their EHR without additional log-ins and passwords.
» Implement SSO in partnership with the most widely adopted EHRs to achieve the broadest impact.

Expand HIE Encounter Summary Information
» Make encounter summary data available from a patient population dashboard or unified landing page in a provider's EHR.
» Make encounter summary information from the HIE viewable in the EHR and accessible to clinical decision support via SSO.

Develop Provider Directory
» Develop a master index of providers and their employed or affiliated organizations.
» Establish a "provider directory," an integrated set of systems (e.g. provider referral) to communicate health information to the next provider of care, if known.

Improve HIE Data Quality
» Improve the quality of information sent to HIE (via CCDs).
» Support ENS configuration and optimization for hospitals (data send) and ambulatory practices (receive and use data).

Improve Health IT and HIE Connectivity for Low Adopters, Behavioral Health, LTC, Emergency and Community Services
» Provide technical assistance to providers who have low EHR and HIE adoption.
» Enable HIE connectivity and participation for providers without EHRs via low-cost or low-barrier health IT and HIE tools.
» Enhance direct capability to support push-based exchange for providers without EHRs.

Enable Medication Reconciliation
» Access and use pharmacy data to facilitate a comprehensive set of medication information to facilitate medication reconciliation.

Use Case #2:
Collection and Use of Social Determinants of Health Data

Collection and use of SDH data can help health care and social service providers maximize the effectiveness of interventions to support individual health. Projects that encourage standardized SDH information collection and exchange facilitate better understanding of whole-person care, help providers streamline care, reduce barriers to access, and improve the efficiency of person-centered services.

PRIORITY PROJECTS OR TOOLS	
Capture SDH Information via Health IT and HIE	» Review peer implementations of SDH measures collected in the EHR (e.g., PRAPARE). » Provide technical assistance to support consensus building and implementation of best-practice workflows for SDH information capture using EHRs or HIE.
Exchange and Use SDH Information Across Stakeholders	» Connect to third-party data sources such as the Homeless Management Information System (HMIS). » Implement workflows to support effective management and use of community service provider information within EHRs and HIE. » Integrate systems and provide centralized resources to reduce the amount of patient forms and streamline outreach.

Use Case #3:
Analytics for Population Health

Health analytics include a broad category of data tools, algorithms, and visualizations designed to generate insight and motivate interventions to understand and improve population health. Analytics projects will facilitate stakeholders' ability to target improvements in care quality and outcomes, and support providers' ability to succeed in a variety of value-based purchasing models.

PRIORITY PROJECTS OR TOOLS

Expand Basic Analytics and Reporting

» Facilitate "dashboard"-type reports to engage in quality management activities.
» Expand HIE tools and adoption support to participate in quality reporting and incentive programs:
  » Meaningful Use, FQHC P4P, MCO P4P, Merit-Based Incentive Payment System (MIPS)/Medicare Access and CHIP Reauthorization Act (MACRA), Patient-Centered Medical Home (PCMH), and My Health GPS.

Establish Specialized Registries

» Expand HIE tools and connectivity to establish registries for high-priority conditions and patients.
  » Prioritize populations that include residents with SMI, chronic conditions, sickle cell anemia, and asthma; homeless residents; residents who frequently utilize FEMS; and high-risk mothers and babies.

Implement Advanced Analytics Tools

» Provide advanced analytics tools based on claims and clinical data that deliver actionable intelligence to support clinical intervention at an individual, panel, or community level.
» Implement visualization tools that can strengthen communication across sectors and care teams.
» Design patient-facing reports that engage individuals in care, such as opportunities to improve medication adherence, or promote clinical follow-up or program participation.

Use Case #4:
HIE for Public Health

Health IT and HIE have demonstrated success at reducing provider burden and improving the efficiency of essential functions of public health, such as case reporting and surveillance. The District's public health use case focuses on ways the HIE can work with the existing infrastructure and programs supported by DC Health to expand public health HIE connectivity, facilitate public health case reporting, and support public health registries for all providers in the District.

PRIORITY PROJECTS OR TOOLS

Enhance Public Health Case Reporting & Surveillance	» Align HIE services, infrastructure, and health IT program development with DC Health priorities. » Develop tools to enhance automatic electronic case reporting to DC Health. » Identify local pharmacy codes with specific, meaningful context to the District and map them for capture and exchange using national standards. » Provide technical assistance to providers to exchange consistent high-quality data with DC Health for surveillance and other public health activities.
Improve Provider Connectivity to Public Health Registries	» Assess District providers' technical infrastructure to determine a flexible strategy for public health reporting that takes into account the significant variability in providers' readiness, technology, and priorities. » Identify opportunities to streamline the interfaces and data that DC Health and District providers send to multiple receivers for care coordination, reporting and public health. » Provide technical assistance for providers' consent forms guiding release of patient information and promoting District-wide adoption. » Provide technical assistance for providers exchanging public health information to meet MEIP requirements.

Defining a HITECH Strategy: Health IT and HIE Planning Through 2021

The Centers for Medicare & Medicaid Services (CMS) provides financial support for health IT and HIE programs to State Medicaid Agencies (SMAs). DHCF, in its role as the District's SMA, can request funding from CMS through 2021 to support health IT and HIE adoption projects for Medicaid providers, as discussed above.

The expenses related to these projects qualify for 90% funding from CMS with a 10% match of non-federal dollars contributed by the SMA. This funding approach is referred to as CMS "90/10 funding" or the CMS "90-10 match." The 10% match can be provided by the District or any other stakeholder, provided the source of funding is not a federal resource. Other CMS funding, such as the MEIP incentive payments that go directly to Medicaid eligible professionals and eligible hospitals, is 100% federally-funded.

To secure 90/10 funding for eligible activities that promote success of health IT and HIE adoption among Medicaid providers, DHCF submits HIE Implementation Advanced Planning Documents (IAPDs) to CMS on a regular cycle for eligible activities that promote the success of health IT and HIE adoption among Medicaid providers. As noted in Figure 7, the process of working with CMS and local stakeholders to process these resources requires a year-long planning cycle.

Where Does 90/10 Funding Come From?

» The 2009 American Recovery and Reinvestment Act (ARRA) and the Health Information Technology for Economic and Clinical Health (HITECH) Act authorize CMS funds

CMS 90/10 Funding Guidelines

» Funding to support HIE and interoperability only, not EHR adoption
» Only covers implementation costs, not operational costs
» Funds necessitate District stakeholders support "fair share of costs"
» Providers or systems supported must connect to Medicaid Eligible Professionals

Interested in Learning More about 90/10 Funding for Health IT and HIE?

» Public Health Informatics Institute (PHII) Information Sheet on the 90-10 Funding Program
» CMS State Medicaid Director Letter #16-003

The four use cases and related projects described earlier in this section provide an initial set of priorities to guide the District's IAPD planning process. DHCF prioritized these efforts to strike a balance between the needs of District Medicaid providers and beneficiaries (e.g. implementation of the District's MEIP and meaningful use) with efforts to build robust and scalable health IT and HIE infrastructure.

DC HIE

Figure 7: District IAPD Annual Planning Cycle

NOVEMBER – DECEMBER:
BEGIN TO PLAN NEXT
FY IAPD PROJECTS

Review Use
Cases,
stakeholder
needs, and
identify priority
projects.

FEBRUARY – APRIL:
IAPD
PREPARATION

Draft IAPD for
submission to CMS
in May.

JULY:
IAPD APPROVAL

IAPD Request
submitted in
May is expected
to be approved.

OCTOBER:
GRANTS
AWARDED

Select and
award grantees.
Grantees begin
planning
execution of
IAPD projects.

NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT

JANUARY:
BOARD
RECOMMENDATIONS
ON IAPD PROJECTS

HIE Policy Board
recommends
project priorities
for the following
FY.

MAY:
IAPD SUBMISSION

Submit IAPD to
CMS for expected
approval in July.

AUGUST – SEPTEMBER:
INTERNAL GRANT
AWARD WORK

Perform internal
DHCF planning
for award of
grant programs.

Implementing the District's Health IT and HIE Roadmap

To achieve the District's strategic health IT and HIE goals, DHCF has outlined a timeline to initiate a subset of specific HIE projects and tools in federal fiscal years 2018 and 2019. The DC HIE Policy Board prioritized these projects as critical "building blocks" of the District's health IT and HIE infrastructure. Providers are already using some of the HIE project tools to deliver patient-centered care and improve health outcomes.

DHCF will launch the projects between 2018 and 2021, continuing to work collaboratively with key stakeholders to increase the likelihood of successful adoption. Each of the proposed projects will deliver tools, processes, and clinical workflows across provider settings. By 2021, the overarching goal is to establish an electronic network of providers that makes District residents' health-related information available whenever and wherever it is needed, supports patient-centered care, and improves health outcomes.

In September 2017, the DC HIE Policy Board reviewed and voted on the proposed projects through live polling. The Board considered the factors in Table 6 to prioritize projects. The top priorities that emerged were: 1) supporting transitions of care and 2) improving public health connectivity. Areas for longer-term consideration included SDH and population health. Figure 8 shows a timeline of recently initiated, planned, and potential future health IT and HIE projects, based on the Board's input and the four prioritized use cases: transitions of care; SDH; analytics for population health; and public health.

Table 6: HIE Policy Board Proposed Prioritization Factors

Value and Impact	Stakeholder Value
	Procurement Process
	Implementation Timeline
Level of Effort	Sender of Information
	Receiver of Information
Costs and Resources	Stakeholder Resources
	Funding and Stakeholder Contributions
Sustainability	Alignment with VBP and Quality Programs
	Administrative and Operational Value
	Potential for Future Funding

Figure 8: District Health IT and HIE Initiatives

PAST '15-'17

ACCESS

- Expand Ambulatory and Hospital EHR Adoption
- Build DC HIE Hospital Connections
- Enable ENS Notifications
- Develop Public Health HIE Integration
- Establish Organizational and Community HIEs

TODAY '17-'18

ACCESS & EXCHANGE

- Develop Care Profile
- Develop CAliPHR for CQMs
- Develop Patient Population Dashboard
- Develop OB/Prenatal Registry
- Enable Medicaid Claims Data Access
- Deliver Ambulatory EHR Technical Assistance
- Improve Health IT and HIE Connectivity for Low Adopters, Behavioral Health, LTC, FEMS
- Expand HIE Tools Adoption

FY '19

EXCHANGE & USE
CARE TRANSITIONS & ANALYTICS

- Improve HIE Data Quality
- Enable Basic Analytics and Reporting
- Improve Connectivity to Public Health Registries
- Develop Provider Directory
- Capture and exchange SDH information via Health IT and HIE

FY '20

USE
ADV. ANALYTICS

- Implement Advanced Analytics and Tools
- Exchange and Use SDH information
- Enhance Public Health Case Reporting & Surveillance

FY '21

IMPROVE & EXPAND VBP

- To be established following FY '18, FY '19, and FY '20 projects

The Health IT and HIE Roadmap will continue to evolve and guide the prioritization of health IT and HIE efforts for the District. Upon completion of health IT and HIE projects and tools, DHCF will evaluate progress against its established use cases and stated goals, as discussed in *Section 6: Evaluating Health IT and HIE Improvements*.

Section 6
Evaluating Health IT and HIE Improvements

Evaluating the Maturity of the District's Health IT and HIE Infrastructure

The previous section discussed the District's Health IT and HIE Roadmap's origins in the context of District stakeholders' needs and priorities. The Roadmap presented a plan to equip those stakeholders with the health IT and HIE tools and processes to enhance person-centered care and improve health outcomes.

DHCF has developed a framework to monitor and evaluate health IT and HIE adoption and use activities based on several national frameworks and best practices. DHCF designed the evaluation and monitoring process to provide an ongoing method to determine the extent to which District residents' health-related information is available whenever and wherever needed. The District's Health IT and HIE Evaluation Framework is based on the Health IT and HIE Maturity Model (Figure 6) described in *Section 5 – The District's Health IT and HIE Roadmap.* The Framework sets the foundation to support the tracking of established goals, targets, benchmarks, and progress, and inform future needs and processes.

DHCF plans to continually monitor and report on four components of health IT and HIE transformation (see Figure 9).

Figure 9: Health IT and HIE Evaluation Framework

The information below describes each of the evaluation components in further detail.

Access

Are stakeholders capturing or accessing health information electronically using established standards?

Access assesses whether health information is accessible electronically within a provider's workflow for care delivery and decision-making and is available to patients, including:

» Information from other providers, inside and outside a provider's practice setting;
» Information submitted by patients;
» Information from prior visits and across visits; and
» SDH, administrative, and clinical data.

Exchange

Are stakeholders able to send, receive, and exchange high-quality health information electronically?

Exchange determines whether users – including providers and patients – can easily send and receive health information through secure mechanisms using standardized message formats, documents, and transport protocols. For example:

- » Portals, secure email, and e-fax instead of paper and fax;
- » Streamlined processes to eliminate information requests from multiple sources and methods; and
- » Bidirectional communication with trusted, easily identified care team partners across care and community settings.

Use

Are stakeholders using available electronic health information to support care?

Use assesses whether electronic health information is present at the point of care, aids decision-making, and supports analytics and quality measurement. For example, the extent to which health information:

- » Is accessible, clean, accurate, and standardized;
- » Helps end-users make decisions, create reports, develop analytics, and report quality measures; and
- » Helps to identify patients' journeys across health care and community settings, particularly for transitions of care and care management.

Improve

Are stakeholders using data to improve health care delivery?

Improvement considers the extent to which health IT and HIE generate positive, measurable changes in health outcomes, care delivery, efficiency, and user satisfaction. This step incorporates efforts to continuously measure and assess performance improvement. Examples include:

- » Care services that depend on more timely and complete health information and SDH data;
- » Timely follow-up after hospital discharge to reduce likelihood of readmission; and
- » Analytics, decision support, and care management tools that identify possible risk factors and facilitate interventions where needed.

New Measures to Assess the Evolution of Health IT and HIE in the District

The District's Health IT and HIE Evaluation Framework provides an approach to assess progress against the District's 10 strategic health IT and HIE goals. Health IT and HIE adoption and use involve complex human and technological changes that often proceed at an incremental pace. Defining benchmarks and a timeline for routine data collection and reporting can help reveal impact and progress.

Tables 7 and 8 list 21 measures, organized by the Health IT and HIE Evaluation Framework categories – Access, Exchange, Use, and Improve. For the measures to produce meaningful information about health IT and HIE adoption, DHCF will undertake an iterative development process to define each measure's components (for example, a denominator, numerator, and calculation method), compare them to existing, similar HIE measures, and validate annual benchmarks and baseline data collection strategies.

Table 7 lists the evaluation measures that DHCF will prioritize for near-term initiation. Table 8 lists the measures DHCF intends to pursue in the future, which will require collaboration with other organizations to collect additional data. DHCF's intent is to identify a parsimonious set of meaningful, non-burdensome measures to evaluate health IT and HIE over the long-term.

Table 7: Health IT and HIE Evaluation Framework Measures

Access	Exchange	Use	Improve	Measure	Data Source to Evaluate Measure	Annual Benchmarks
☑	☐	☐	☐	Of the targeted District organizations and providers, how many were contacted for Technical Assistance?	DHCF Technical Assistance database	100% of eligible professionals
☑	☐	☐	☐	Of the organizations and providers enrolled in Technical Assistance, how many met Technical Assistance objectives (for example, successful completion in the MEIP or connection to HIE)?	DHCF Technical Assistance database	85% of organizations and providers enrolled in Technical Assistance
☑	☑	☐	☐	Of the number of Health IT survey respondents, how many expressed satisfaction with the quality of HIE data and perceived value in exchanged data?	Provider Health IT survey	Collect data and establish baseline and target in 2018
☑	☑	☑	☐	Of the number of Health IT survey respondents, how many electronically collected social determinants of health data?	Provider Health IT survey	25% annual increase between Program Years
☑	☐	☑	☑	Of the number of ED visits by Medicaid beneficiaries, how many were low-acuity, non-emergent ED visits?	DHCF claims	Dependent on targets defined in each DHCF VBP program
☑	☐	☑	☑	Of the number of hospital admissions by Medicaid beneficiaries, how many were followed by readmission?[71]	DHCF claims	Dependent on targets defined in each DHCF VBP program
☑	☐	☑	☑	Of the number of hospital admissions for Medicaid beneficiaries, how many were potentially preventable?[72]	DHCF claims	Dependent on targets defined in each DHCF VBP program
☑	☐	☑	☑	Of the number of MCOs participating in capitated payment arrangements, how many received their full capitated payment?	DHCF	Dependent on targets defined in each DHCF VBP program

Access	Exchange	Use	Improve	Measure	Data Source to Evaluate Measure	Annual Benchmarks
☐	☑	☑	☐	How many stakeholder engagement events did DHCF conduct to collect feedback on health IT and HIE progress?	DHCF	Collect data and establish baseline and target in 2018
☐	☑	☑	☐	Based on measures submitted by MEIP participating providers, how many patients viewed, downloaded, or transmitted their health information?	DC MEIP attestation data	25% annual increase between Program Years
☐	☑	☑	☐	Based on measures submitted by MEIP participating providers, how many patients sent a secure message to their provider?	DC MEIP attestation data	25% annual increase between Program Years
☐	☐	☑	☐	Based on measures submitted by MEIP participating providers, what were the eCQM reporting rates and values?	DC MEIP attestation data	25% annual increase between Program Years

Table 8: Potential Future Health IT and HIE Evaluation Framework Measures

Access	Exchange	Use	Improve	Potential Measure	Data Source to Evaluate Measure
☑	☐	☐	☐	Of the number of providers and organizations connected to a registered HIE, how many sent data?	Registered HIE(s)
☑	☐	☐	☐	Of the number of providers and organizations connected to a registered HIE, how many received data?	Registered HIE(s)
☑	☐	☐	☐	Of the number of My Health GPS providers, how many used CALiPHR for eCQM reporting?	CALiPHR
☑	☐	☐	☐	Of the number of providers that serve Medicaid enrollees, how many were using certified health IT?	Provider Health IT survey and DHCF claims data
☑	☐	☐	☐	How many Medicaid enrollees were served by providers that use certified health IT?	Provider Health IT survey and DHCF claims data
☑	☑	☐	☐	What is the HIE tools usage volume by care setting, provider, and payer?	Registered HIE(s)
☑	☑	☑	☑	By ward, what were the health outcomes for residents with chronic disease and behavioral health conditions, including asthma, COPD, stroke, diabetes, and depression?	Community Health Needs Assessments
☑	☐	☑	☑	Of the number of FQHCs, how many achieved quality requirements and received P4P bonus payments?	DHCF and CALiPHR
☑	☐	☑	☑	Of the number of My Health GPS providers, how many achieved quality requirements and received bonus payments?	DHCF and CALiPHR

Implementing the District's Health IT and HIE Evaluation Framework

In 2018, DHCF plans to measure baseline activities against its evaluation framework and reassess the proposed measures in Tables 6 and 7. DHCF will work closely with the DC HIE Policy Board to develop measure specifications as well as to assess challenges and opportunities that may slow or accelerate progress on key projects. DHCF's intent is to identify a parsimonious set of meaningful, non-burdensome measures to evaluate health IT and HIE over the long-term.

Some of the health IT and HIE activities discussed in the Health IT and HIE Roadmap started in fiscal year 2017, and others will launch in fiscal year 2018. These activities will evolve and expand through fiscal year 2019. In fiscal year 2020, DHCF will establish performance targets based on the previous years' data and annually conduct an evaluation process that considers the previous year's accomplishments to set the following year's goals and benchmarks.

Section 7
What's Next for Health IT and HIE in the District?

What's Next for DC HIE?

The SMHP and Health IT and HIE Roadmap establish the priorities, processes, and timeline for health system redesign in the District. They permit realistic evolution and updates in future versions, based on stakeholder needs, value, impact, level of effort, costs, resources, and sustainability outlook. DHCF will implement the projects that are described in the Health IT and HIE Roadmap, while remaining cognizant of the District's changing health care landscape. The Roadmap will evolve and DHCF will re-assess priorities, adding or modifying projects and tools as necessary to respond to emerging or receding goals.

DHCF appreciates the importance of involving District residents in the District's health IT and HIE strategy. While the agency's primary charge is to support Medicaid beneficiaries and providers through HITECH funds, there is no question that health IT and HIE investments supporting the Medicaid community must build infrastructure that serves the needs of all District residents. This dual purpose is foundational to DHCF's strategy development – and is essential to establishing sustainable HIE infrastructure across the District.

In parallel to the timeline for monitoring performance and operation metrics, DHCF will plan and conduct stakeholder engagement activities to ensure the DC HIE responsive is to both the Medicaid program and the District's needs as a whole. To remain grounded in stakeholders' priorities, DHCF will develop a structured process to engage residents, payers, District providers, and government leaders to provide regular input to the DC HIE. This process will be designed to elicit users' and partners' changing data and programmatic needs. The goal of this feedback process is to hold DHCF accountable for continuous development and timely implementation of projects that enable access to District residents' health-related information whenever and wherever it is needed.

Stakeholder Participation is Vital to the DC HIE

DHCF seeks input from District stakeholders to provide ongoing guidance on DHCF's health IT and HIE initiatives in order to advance health system transformation.

All stakeholders are invited to help shape the District's future health IT and HIE landscape by contacting the DHCF Health IT program at healthit@dc.gov or visiting https://dhcf.dc.gov/page/health-information-exchange.

DHCF identified specific areas in which ongoing feedback from key stakeholder groups, such as residents, providers, payers, and agency partners, will be helpful to guide the District's approach to building health IT and HIE services.

Opportunities for District Residents and Patients

» Contact DHCF with ideas about the kind of health IT tools and programs that could help you and your community pursue a healthy life, improve the quality of care you receive, and help you receive safe, effective, and timely care.
» Communicate your expectations regarding secure, routine, and convenient exchange of health information with the hospitals, clinics, and doctor's office where you receive care. Ask any questions you may have about health information exchange.

» Tell your providers if you would like to use and access your own health information. Let them know which format the information should be provided (e.g. via secure website, etc.) so that you can best manage your own health.

» Attend and participate in quarterly HIE Policy Board meetings. Learn more at https://dhcf.dc.gov/page/health-information-exchange.

Opportunities for Providers and Care Partners

» Identify HIEs you can connect to and contact to access, exchange, or use health information.

» Access the DC HIE webpage (https://dhcf.dc.gov/page/health-information-exchange) for information about the initiatives to adopt and use health IT and HIE tools, qualify for and earn EHR adoption incentives, report eCQMs, and assist your patients.

» Follow and provide input to DHCF and the DC HIE Policy Board about the tools and assistance you need to thrive in a value-based care environment. Participate in public meetings and public comment processes.

» Attend DC HIE provider outreach events and meetings to learn more and provide input. Share, communicate, and encourage your team, peers, and patients to participate.

Opportunities for Payer, Association, and Government Leaders

» Consult this SMHP and Roadmap to identify common VBP, health IT and HIE priorities, and engage with DHCF to identify collaboration opportunities.

» Participate in DC HIE stakeholder outreach events or organize a forum to engage your peers and constituents. Invite DHCF to your convening to hear your perspective.

» Contact DHCF to participate in DC HIE or to learn about available programs and tools (https://dhcf.dc.gov/page/health-information-exchange).

» Assist DHCF in identifying the quality measures, reporting metrics, and information-sharing policies that could be supported via DC HIE. Provide feedback on what is working well and what may need improvement.

» Follow and provide input to DHCF and the DC HIE Policy Board about the tools and assistance you need to thrive in a value-based care environment. Participate in public meetings and public comment processes.

Appendices

Appendix A: Resource Guide for Strategic Health Reports

Several bodies of work that provide a comprehensive, detailed analysis of the District's health needs and indicators, by ward, informed the SMHP. DHCF performed an extensive review of these recent reports and used their key findings to conduct stakeholder outreach and engagement with residents and patients, health system stakeholders, public health, payers, social services providers, and federal, District, and community partners.

Reports and Publications (hyperlinked)	Date	Publisher	Description
District of Columbia Health Systems Plan 2017	2017	DC Health	The Health Systems Plan detailed a trajectory for a high quality, cost-effective health system in the District and presented an analysis of health system services and utilization. Recommendations discuss how to strengthen health services, systems, and community health.
District of Columbia Community Health Needs Assessment	2016	DC Healthy Communities Collaborative	This CHNA identified four priority needs based on interviews and data gathering across health system stakeholders, including residents, mental health, placed-based care, care coordination, and health literacy.
District of Columbia Community Health Needs Assessment	2014	DC Health	This CHNA undertook a comprehensive population health status analysis for all District residents, evaluating trends over time and uncovering persistant disparate outcomes. Recommendations include a focus on addressing social determinants of health and improving the District's access to data.
DC Healthy People 2020	2016	DC Health	To evaluate progress on population health, this framework established 150 objectives and targets for 2020 and provided 85 strategies, grounded in evidence, to advance population health in the District.
DC Healthy People Annual Report and Action Plan	2018	DC Health	This report adds the most recent health data outcomes data for the DC Healthy People 2010 Framework and spotlights community work in progress to improve on the framework's indicators.
Big Cities Coalition		National Association of County and City Health Officials	This coalition represents 2,800 local government health departments across the nation's largest metropolitan areas. The coalition exchanges strategies for improving health. The Big Cities Health Inventory Data Platform produced data from the largest 28 cities, including Washington, DC.
District of Columbia Fee-For-Service Medicaid: Access Monitoring Review Plan	2016	DC Department of Health Care Finance	In evaluating health services access to District residents eligible for Medicaid coverage, this report launched initiatives to continue data collection and monitoring to ensure access to care.

Reports and Publications (hyperlinked)	Date	Publisher	Description
Physician and Physician Assistant Workforce Capacity Report 3.0	2015	DC Board of Medicine	This biennial report summarized the demographics and practice characteristics from the physician and physician assistant 2014 workforce survey for actively licensed providers in the District.
Physician and Physician Assistant Workforce Capacity Report 2.0	2013	DC Board of Medicine	This biennial report summarized the demographics and practice characteristics from the physician and physician assistant 2012 workforce survey for actively licensed providers in the District of Columbia.
Behavioral Risk Factor Surveillance System (BRFSS) 2014 Annual Health Report	2016	DC Health	The BRFSS is a CDC-sponsored health risk survey and collected data for all 50 states including the District of Columbia. This report presented data segmented by ward to highlight health risks among the District's population.
District of Columbia State Health Innovation Plan (SHIP)	2016	Government of the District of Columbia	This report detailed the District's strategy for improving the health outcomes in the District with a person-centered and value-based care delivery model. The Centers for Medicare & Medicaid Services awarded a State Innovation Model Design grant to the District to support these strategic efforts.

Appendix B: EHR Adoption Across the District's Health Care Facilities

B.1 Acute Care Hospitals

Facility Name	Ward	# Beds	EHR
Children's National Medical Center	5	313	Cerner
George Washington University Hospital	2	365	Cerner
MedStar Georgetown University Hospital	2	395	Cerner
MedStar Washington Hospital Center	5	742	Cerner
Johns Hopkins Sibley Memorial Hospital	3	235	Epic
Providence Health Services	5	467	MEDITECH
United Medical Center	8	210	MEDITECH
Howard University Hospital	1	190	Siemens
Washington DC VA Medical Center	5	175	VistA

Source: eHealthDC Landscape Analysis, 2017

B.2 Non-Acute Care Hospitals

Facility Name	Ward	# Beds	EHR
BridgePoint Hospital Capitol Hill	5	177	CPSI
BridgePoint Hospital National Harbor	8	144	CPSI
HSC Pediatric Center	5	130	MEDHOST
Psychiatric Institute of Washington	3	130	None
St. Elizabeth's Hospital	8	300	NetSmart
MedStar National Rehabilitation Hospital	1	137	MedConnect

Source: eHealthDC Landscape Analysis, 2017

B.3 Health System-Affiliated Large Ambulatory Groups

Facility Name	Ward	# Providers	EHR
Children's National Medical Center	5	877	eClinicalWorks
George Washington University Medical Faculty Associates	2	750	Allscripts
MedStar Georgetown University Hospital (transitioning from GE Centricity)	2	700	Cerner
MedStar Washington Hospital Center (transitioning from GE Centricity)	5	3448	Cerner

Facility Name	Ward	# Providers	EHR
Johns Hopkins Community Physicians	3	281	Epic
Kaiser Permanente (Washington, DC only)	2,5	77	Epic
Providence Health Services	5	478	eClinicalWorks
United Medical Center	8	147	eClinicalWorks (Implementation in process)
Howard University Hospital Faculty Physicians	1	119	Allscripts

Source: eHealthDC Landscape Analysis, 2017

B.4   Health Centers and Federally Qualified Health Centers (FQHCs)

Currently 13 safety net ambulatory providers operate in the District, eight of which are FQHCs.

Facility Name	Ward	Unique Patients	EHR
Bread for the City (FQHC)	6, 8	2,632*	eClinicalWorks
Children's Health Project of the District of Columbia	1,5,8	4,000**	eClinicalWorks
Community of Hope (FQHC)	1,5,8	9,790*	eClinicalWorks
Elaine Ellis Center of Health (FQHC)	7	1,375*	Athena
Family and Medical Counseling Service, Inc. (FQHC)	8	3,188*	eClinicalWorks
La Clinica del Pueblo (FQHC)	1	3,895*	eClinicalWorks
Mary's Center (FQHC)	1,4,5	41,004*	eClinicalWorks
MetroHealth	2	2,600**	eClinicalWorks
Planned Parenthood of Metropolitan Washington	6	Unknown	NextGen
So Others Might Eat (SOME)	5	Unknown	eClinicalWorks
Spanish Catholic Center	1	Unknown	eClinicalWorks
Unity Health Care (FQHC)	1-3,5-8	106,853*	eClinicalWorks
Whitman-Walker Health (FQHC)	8	9,587*	eClinicalWorks

*Source for unique patients: Health Resources & Services Administration 2016 Data: District of Columbia.
**Source for unique patients: eHealthDC 2017 Landscape Analysis.

B.5 Long-term Care Facilities

Facility Name	Ward	# Beds	EHR	Install Date
Bridgepoint Subacute and Rehabilitation - National Harbor	8	62	PointClickCare	2017
BridgePoint Subacute and Rehabilitation at Capitol Hill	6	117	PointClickCare	2016
Brinton Woods Health & Rehabilitation Center at Dupont Circle	2	180	PointClickCare	2014
Brinton Woods Health & Rehabilitation Center of Washington DC	8	183	PointClickCare	2014
Carroll Manor Nursing and Rehabilitation Center	5	252	Optimus	2011
Deanwood Rehabilitation and Wellness Center	7	296	PointClickCare	2010
Forest Hills of DC	3	50	PointClickCare	2016
Health & Rehab at Thomas Circle	2	27	PointClickCare	2015
Ingleside Presbyterian Retirement Home	3	60	MatrixCare	2014
Jeanne Jugan Residence	5	40	PointClickCare	2012
Knollwood HSC	6	73	CueShift	Unknown
Lisner Louise Home	3	60	PointClickCare	2017
Sibley Memorial Hospital - The Renaissance Unit	3	45	Epic	2013
Stoddard Baptist Nursing Home	1	164	MatrixCare	2014
Transitions Healthcare Capitol City	8	360	PointClick Care	2015
Unique Residential Care Center	2	230	MatrixCare	2013
United Medical Nursing Center	8	120	Meditech	2007
Washington Center for Aging Services	5	259	MatrixCare	2017

Source: eHealthDC Landscape Analysis (2017)

Appendix C: Health IT and HIE Provider Outreach

Appendix C provides detailed information on DHCF's efforts to advance EHR adoption and HIE, including the provider outreach process; current and planned activities for adoption; outreach campaign goals and objectives; outreach campaign results; and an overview of technical assistance services.

EHR Adoption Activities

DHCF and its partnerships across the District play a critical role in advancing EHR adoption and HIE. This section provides an overview of DHCF's activities and collaborations that assist the District's providers in improving health care delivery and quality for its residents.

DHCF is engaged in several efforts to promote health IT adoption among Medicaid providers in the District, including:

» Collaborating and leveraging experiences of the "Early Adopter" program;[73]
» Using the DHCF website, the Medicaid provider portal and Medicaid payment remittances to inform providers about the program;
» Leveraging connections with providers and stakeholders involved in the HIE development;
» Coordinating with eHealthDC (the District's REC);
» Developing relationships and meeting with hospital CIOs;
» Developing additional outreach materials and defining opportunities to inform stakeholders about the program; and
» Collaborating with Regional Extension Centers (RECs).

Outreach Campaign Goals and Objectives

DHCF understands that providers require financial and technical assistance resources beyond EHR incentive payments alone. To address this concern, DHCF implemented a comprehensive outreach and technical assistance effort in 2017 with the award of a base year contract with four one-year options to eHealthDC. eHealthDC, the REC for the District of Columbia, is a program of the DC Primary Care Association (DCPCA). The subcontractors for this outreach effort include ZaneNet and Clinovations Government + Health. All team members have established relationships with relevant professional or community organizations and will leverage them to reach targeted segments of the provider community.

This outreach campaign promotes the use of certified EHR technology, promotes the MEIP, and also educates the provider community on the goals of the District's Meaningful Use program and health information exchange. This program has three key activity areas:

1. HIT Outreach and Technical Assistance: eHealthDC offers intensive support to providers that need help adopting certified EHR technology or need additional support to optimize their practice's use of certified EHR technology. Potential target groups for this activity are physician specialists and dentists who have low EHR adoption rates in the District and would benefit from

additional support to meet Meaningful Use objectives. DHCF estimated that 50 providers could be served through this activity in the first year. The tactics utilized for this activity include:

» Identifying providers to target for services;
» Working with targeted providers on planning and selecting an EHR system;
» Helping targeted providers select and contract for an EHR and incorporate it into their practice workflows;
» Assisting targeted providers with EHR implementation, ongoing evaluation and process improvements;
» Supporting targeted providers in attesting for EHR incentive payments; and
» Monitoring ongoing progress and provide periodic reports to DHCF.

This activity aims to increase the number of District providers using certified EHR technology, build providers' capacity to integrate EHR into care delivery processes to ensure long-term use, and improve outcomes and care delivery for providers serving vulnerable populations.

2. HIT and HIE Awareness: DHCF will retain a vendor to conduct a broad outreach campaign to the provider community on both health IT and HIE awareness. This outreach activity will educate providers about the MEIP and the District's Meaningful Use goals. Health IT Tactics in this activity include:

» Attending meetings or conferences of local health care organizations or large practices to present about MEIP and MU requirements;
» Developing messages with DHCF on the importance and best practices of MEIP/MU, AIU, MU Stage 1, MU Stage 2, and CQM that can be communicated via web-based and/or written materials;
» Working with DHCF to determine providers that may not have received any MU incentive payments (through Medicare, DC SLR or MD SLR);
» Developing educational materials to help providers attest for payments and use the SLR;
» Facilitating targeted in-person or telephone outreach to providers; and
» Developing channels (email lists, social media, blogs, etc.) to broadly alert the provider community about changes to MEIP/MU program.

3. DHCF will also conduct outreach to eligible providers about the HIE options that are available in the District. This also aligns with the DC HIE Policy Board's Roadmap for the DC HIE. Tactics for this activity include:

» Developing a strategy to educate providers on the types of health information exchange that are available in the District via the three HIEs (CRISP, CPC-HIE, and Children's IQ Network), DC Health Public Health, and DBH;
» Conducting assessments to determine providers who need outreach regarding HIE services, creating and providing instructional (print or web) materials on how to use services (ENS);
» Conducting training sessions (in person or web); and
» Conducting follow up visits to large groups of providers and providing support to providers in adapting workflows to using services (such as CRISP ENS).

Outreach Program 2017 Results

eHealthDC conducted a broad outreach campaign to promote the use of certified EHR technology, promote the MEIP and to educate the provider community about the District's Meaningful Use goals and health information exchange.

On March 15, 2017, DCPCA was awarded a 6.5-month Base Year contract for Health IT-HIE Outreach and Technical Assistance support (Contract Number: CW51012) by DHCF, with the option to renew for four years. The contract tasked DCPCA's eHealthDC team with developing a comprehensive program of outreach and technical assistance activities to raise awareness and help District eligible professionals meet the national Meaningful Use goals for use of Certified Electronic Health Record Technology through this contract.

The team made great strides in the Base Year (March 15, 2017- September 30, 2017) of the contract to help DHCF accomplish its goals of advancing the District's health IT connectivity goals. One of the major goals and components of the Base Year was to inform and assist DHCF in preparing a comprehensive update to the SMHP, the strategic plan for health IT activities in the District. During this time, the eHealthDC team demonstrated its strategic planning guidance for the District, which enabled DHCF to develop a SMHP update that serves as a health IT/HIE strategic planning tool.

The last opportunity for eligible Medicaid providers to enroll and attest for the District's MEIP to claim their first year incentive dollars through the District's State Level Registry (SLR) was on August 31, 2017. During the Base Year, the team's primary goal for Technical Assistance and Outreach was to contact and enroll as many providers as possible. Using a parallel multi-tiered strategy of phone, email, fax, canvassing, direct mail, local provider chapter meeting presentations, establishment of an outbound call center, and in-person practice visits, the eHealthDC team conducted outreach to a total of 803 providers, including 597 Physicians, 119 Dentists, 86 Nurse Practitioners, and a Certified Nurse Midwife. In partnership with DHCF and Conduent, they contacted via direct mail over 1,600 providers who submit Medicaid claims to the District. eHealthDC prioritized and focused its efforts to reach 800+ providers who had high Medicaid claims volumes, assuming these providers were most likely eligible for MEIP attestation.

The team successfully enrolled 144 providers for eHealthDC's Technical Assistance (TA) program, of whom 119 providers were identified as new or previously registered MEIP participants deemed eligible for Meaningful Use attestation. In the Base Year timeframe, the eHealthDC team successfully assisted 66 providers representing 29 different organizations, to submit first year attestations for Adopting, Implementing or Upgrading (AIU) of certified electronic health record technology through the District's SLR for MEIP.

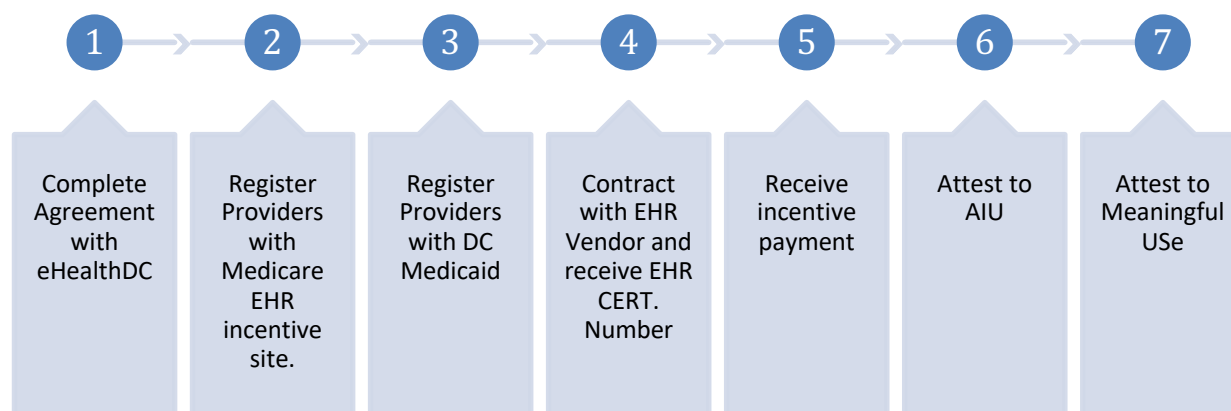*Figure C.1 - eHealthDC Outreach 2017- Organizations and Wards*
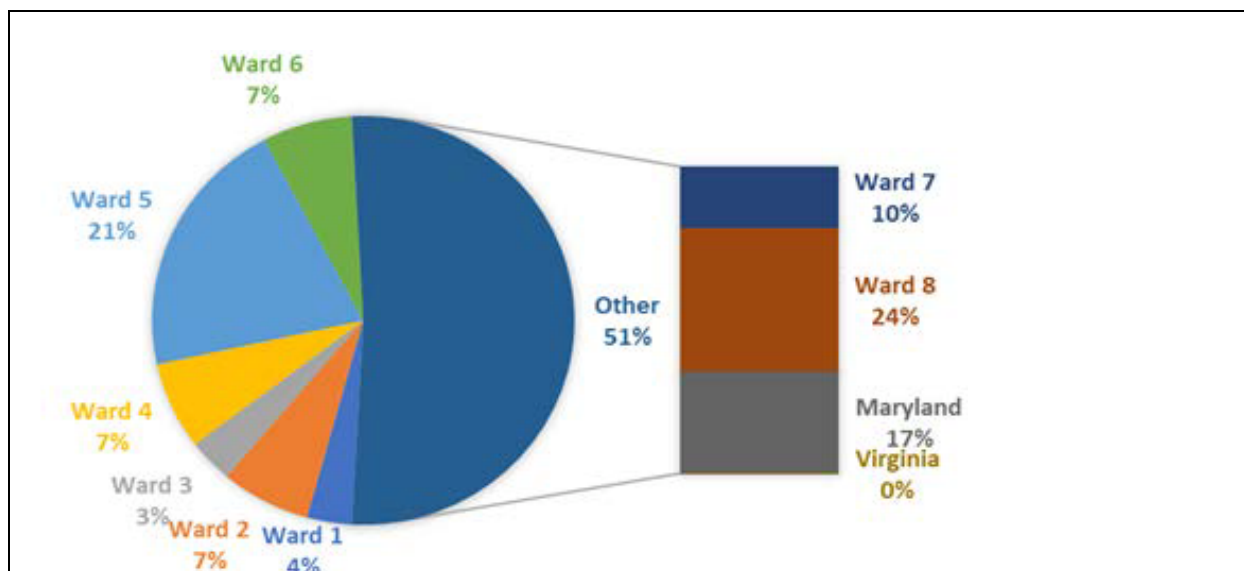
eHealthDC was successful in its attempts to reach out to primarily small practices across an array of specialties caring for the underserved. The table below depicts the breakdown by Ward of eHealthDC's 29 organizations and 66 providers who successfully attested through the SLR for the first time. Each of these 66 new providers received a total incentive of $21,250 as a reward for successful program participation.

HIT Outreach and Technical Assistance (TA)

eHealthDC offers intensive support to providers that require assistance to adopt certified EHR technology or need additional support to optimize their practice's use of certified EHR technology. The eHealthDC team developed a TA provider agreement. Figure D.2 illustrates the process flow from provider agreement to attestation.

Figure C.2 - TA Provider Agreement Process Flow

1	2	3	4	5	6	7
Complete Agreement with eHealthDC	Register Providers with Medicare EHR incentive site.	Register Providers with DC Medicaid	Contract with EHR Vendor and receive EHR CERT. Number	Receive incentive payment	Attest to AIU	Attest to Meaningful USe

TA Services are customized to each practice's needs and may include the following:
- » Meaningful Use Readiness Assessment
- » Workflow and Gap Analysis
- » Meaningful Use (MU) Action Plan
- » Medicaid Incentive Eligibility Assessment
- » Web and Telephone Office Hours for Consultation with EHR and MU Subject Matter Experts
- » Access to eHealthDC Best Practices, Educational Tools and Resources
- » EHR Vendor Selection and Contracting Resources
- » Project Monitoring and Management
- » EHR Implementation Support
- » EHR Utilization and Workflow Expertise
- » Privacy and Security Assessment Tools and Guidance
- » DC Medicaid Incentive Registration and Attestation Assistance
- » Health Information Exchange Connectivity Assistance

To summarize, the eHealthDC team's initial outreach activities in Spring/Summer 2017 included:

- » Identifying 1,626 unique providers who bill Medicaid in the District but have not registered for the EHR incentive program with either CMS or the District
- » Working with targeted providers on planning and selecting an EHR system
- » Helping targeted providers select and contract for an EHR and incorporate it into their practice workflows
- » Assisting targeted providers with EHR implementation, ongoing evaluation and process improvements
- » Supporting targeted providers in attesting for EHR incentive payments
- » Monitoring ongoing progress and provide periodic reports to DHCF

The eHealthDC TA team recruited additional MU outreach specialists, established a call center, developed a one-page educational flyer for provider outreach, implemented a Customer Relationship Management (CRM) System for lead tracking, and coordinated with DHCF staff to conduct an outreach campaign with the following primary activities:

- » Initial phone calls to targeted providers to establish interest level
- » Conduct mailing of AIU program information to Medicaid providers
- » Faxing flyer to targeted providers
- » Emailing targeted providers from list-serves within DCPCA and DHCF
- » Attending local health profession association meetings (i.e. D.C. Medical Society)
- » Scheduling in-person meetings for interested providers

Technical assistance (TA) and outreach activities planned for Option Year One includes focusing AIU efforts on HIE and assisting enrolled providers with achieving Meaningful Use, and promoting the adoption and use of expanded HIE tools.

These technical assistance and outreach activities include initiating and supporting HIE readiness in the practice areas defined below:

Near-term:
- » Low Adopters: Increase HIE enrollment and adoption/use of expanded HIE tools
- » Ambulatory Providers: Provide TA Services to support CCD Data exchange
- » ENS Alerts: Provide Practice Optimization services to Ambulatory providers
- » ENS Alerts: Provider ADT Optimization services to Inpatient Hospitals
- » Registry Adoption: Provide OB/Prenatal Registry tool adoption services (workflow optimization)
- » Social Determinants: Assess how PRAPARE Data is integrated and used within EHRs (workflow optimization)

Long-term:
- » Behavioral Health: Provide EHR Support and Practice Optimization services
- » Behavioral Health: Provide HIE Connectivity Assessments
- » Long-Term Post-Acute Care (LTPAC): Provide EHR Support
- » LTPAC: Provide HIE Connectivity Assessments

Outreach Activities:

During fiscal year 2018, the team will expand the scope of services to be delivered for Outreach and Education activities. Key tasks will include the following:

- » Develop Educational Content to Support/Augment Direct TA: Distribute via various communications channels including: DCPCA's Health Equity Alert newsletter; quarterly newsletters; phone/email; peer-to-peer forums; DHCF and partners' listservs and websites; and DCPCA and partner social media channels
- » Host and Engage in Outreach Events and Presentations: Attend local events, including provider and professional organization chapter meetings, provider community forums, provider lunch & learns, and provider education sessions
- » Conduct Webinars for DC Provider Community: Create and record up to six webinars focused on different content areas such as: Meaningful Use specific content; SLR attestation support; and HIE tools adoption
- » Website Development: Develop a website platform to market the eHealthDC program and to house all relevant Meaningful Use collateral and links to health IT, HIE and SLR resources.
- » Serve as a Meaningful Use Clearinghouse: Maintain a central repository to house Meaningful Use, health IT Tools information, and SLR resources and materials for all District providers
- » Stakeholder Engagement: Conduct two to three focus groups with ambulatory providers in Wards 7 and 8 and with MEIP providers to gain valuable feedback on MU program participation needs.
- » Develop Electronic SMHP and District Health IT/E Strategy Communications Package: The Communications Package will comprise up to 10 pages (of interactive content design) that incorporate a high-level of custom graphics and image production accompanied by SMHP-derived summary content.

The team will also conduct outreach at events targeting independent ambulatory providers and small practice providers, with a specific focus on the providers/organizations that serve Wards 7 and 8. Examples of direct outreach and support include:

- » Physician engagement and outreach events
- » Collaborate with Medical Society of DC (MSDC) and other area organizations to directly engage community physicians
- » Collaborate with Nurse Practitioner/Physician Assistant/Dentist local chapters
- » Peer-to-peer physician outreach using designated physician champions

Appendix D: Stakeholder Health IT Needs Assessment and Analysis Methodology

D.1 Methodology

The approach of the eHealthDC team was to merge the concurrent stakeholder outreach efforts of the HIE Sustainability Subcommittee (SSC) and SMHP efforts to expand outreach to stakeholders. The 11 SSC members brought perspectives from the varying sectors including academia, federal, state, professional organizations and associations, and payers. With the goal to determine the strategy for sustainability and the relevant value drivers, the SSC members conducted stakeholder outreach to inform and generate use-cases. The SSC developed outreach questions to use as the foundation for all SMHP interviews. An interview team, including a primary interviewer and note-taker, conducted a majority of the interviews in person in partnership with the SSC.

The team completed a total of 29 interviews and five focus groups with stakeholders from various sectors. The qualitative analysis was conducted using the Nvivo Qualitative Data Analysis Software to code and categorize interview findings. Figure F.1 provides a listing of the 60 discrete codes used to tag the relevant information, and the eight categories used to group the codes and summarize the findings.

Figure D.1 Quantitative Analysis Methodology

60 discrete codes applied to qualitative analysis									
ADT/ENS	CIQN-HIE	Data Accessibility	Data Mining and Mapping	Direct	HIE Outside DC	Infrastructure	Participation Service Agreements	Reporting	Strategic Goals and Priorities
Behavioral and Mental Health	CPC-HIE	Data Analytics	Data Validation	DOH	Health IT Readiness	Impact of Data Exchange	Partnerships	Resource Availability	Telemedicine
Care Coordination	CRISP-HIE	Data Capture, Exchange	Data Sharing Partners	EHR Vendors and Adoption	Health IT Sustainability	Interoperability	Patient Matching	School System Information	Transitions of Care
Case Management	Data Accessibility	Data Completeness	Data Types	Funding	HIE Value Case and Business Case	Laws, Policies, and Regulations	Privacy and Security	Social Determinants of Health	Use Case
Claims Data	Challenges and Barriers	Data Integrity	Data Warehouse	Governance	Hospital Connectivity	Meaningful Use	Public Health	Stakeholder Engagement	Value Based Purchasing
Costs	Culture	Data Integration	DBH	Health Disparities	Impact of Data Exchange	Opportunities for Expanded HIE	Quality and Health Outcomes	Standards	Workflow

D.2 Stakeholder Interview Participants

- » AmeriHealth Caritas District of Columbia
- » BridgePoint Hospital National Harbor
- » Capital Area Food Bank
- » Care First
- » Children's IQ Network (CIQN)
- » Community Connections
- » Capital Partners in Care Health Information Exchange (CPC-HIE)
- » D.C. Board of Medicine
- » D.C. Department of Behavioral Health

- » D.C. Health
- » D.C. Hospital Association
- » D.C. Interagency Council on Homelessness
- » D.C. Nursing Association
- » D.C. Primary Care Association
- » District of Columbia Public Schools, Student Wellness
- » Fire and Emergency Medical Services
- » George Washington University, Milken Institute School of Public Health
- » Gerald Family Care
- » George Washington Medical Faculty Associates (MFA)
- » Health and Human Services Public Health/Office of the National Coordinator for Health IT
- » HMI Home Health
- » Kaiser Permanente MidAtlantic States
- » MedStar Health
- » MedStar Total Elder Care
- » Providence Hospital
- » Transitions Healthcare Capitol City
- » Trusted Health Plan
- » United Medical Center
- » Unity Healthcare

D.3   Stakeholder Interview Guide

Interview Guide
Current State
1a. What are your organization's current strategic goals and priorities that can only be achieved through the effective use of data capture and exchange? 1b. Where do health data exchange and analytics fit into your organization's strategy?
2a. How would you characterize the current state of HIE within the District of Columbia? 2b. What types of data are you sharing and/or receiving? 2c. Which organizational partners and/or service providers have been part of your data sharing/receiving efforts?
3. Can you discuss 2 to 3 current examples of value generated by HIE and data sharing efforts to your organization?
4a. Which, if any, social determinants of health data does your organization collect? 4b. How do you capture this information? 4c. How is it used?
5. [for District governmental agencies only] How does information exchange impact your agency's strategic goals, reporting and management requirements, and ability to perform services for the District residents you serve?
6. What are the barriers to information exchange within your organization and across the District
Future State

1a. What are your priorities for information exchange in the next 5 years? 1b. What infrastructure do you need to support these goals? 1c. What are you planning to implement within your own organization? 1d. Where and how could District-level HIE support your organization's strategic and information exchange goals? 1e. What are the barriers to information exchange within your organization and across the District?
2a. Where would additional data exchange help you to solve current and/or anticipated challenges? 2b. What are your current pain points that could potentially be remediated through better data sharing? 2c. In the last few years, given recent reform initiatives, how, if at all, do you see your health information exchange needs evolving?
3a. Where do you see the greatest opportunities for expanded health information exchange within the District of Columbia? 3b. For example: behavioral health; mental health and substance use; care coordination for high-risk patients and patients with multiple chronic conditions; quality measurement; patient engagement; coordination with Fire & EMS
4. What do you anticipate as barriers to information exchange within your organization and across the District?
Conclusion
5. Are there any topics you wish to discuss that have not been raised in this discussion?
6. Is there anyone else you recommend we speak with about current and future health information exchange needs within your organization?

D.4   District Resident Focus Group Participants, Objectives, and Questions

District Resident Focus Group Information and Participants

Trusted Health Member Advisory Committee

On July 6, 2017, Trusted Health hosted a District resident focus group at their facility and members from their Member Advisory Committee participated. Trusted Health's Member Services team facilitated the discussion. Details, including the focus group questions and participants, are provided below.

On July 29, 2017, AmeriHealth hosted a D.C resident focus group at a local church and members from their SHIRE Circle Group participated. AmeriHealth facilitated the discussion. Details, including the focus group questions and participants, are provided below.

Unity Health Care

On September 21, 2017, Unity Health Care hosted a D.C resident focus group at their Minnesota Avenue Health Center location in Ward 7 and their patients participated. The discussion was facilitated by Ms. Donna Cryer from the Global Liver Institute. Details, including the focus group questions and participants, are provided below.

District Resident Focus Group Objectives

District Resident Focus Group Objectives	
1.	What health and wellness goals matter most to District residents?
2.	What are the challenges to those health and wellness goals?
3.	What factors make a difference to District residents' health and wellness goals?
4.	How can physicians and hospitals support District residents' health and wellness goals?
5.	What information do District residents want (and not want) to be documented and electronically shared between doctors and hospitals?

District Resident Focus Group Questionnaire Guide

District Resident Focus Group Questions
First Set of Questions: What health and wellness goals matter most to you? to your family? to your neighborhood?
What factors make a difference those goals? What factors stand in their way?
For the challenges we just talked about, which ones could be most easily fixed? Which ones are hard to fix? Why?
Second Set of Questions: What do you expect your doctor to know about you when you arrive at the doctor's office?
What kind of information about your life and your neighborhood do you want your doctor to know and have written down in your electronic health record?
For the information we just talked about, what information do you think is OK for doctors and hospitals to share with other doctors and hospitals?
Do you have any questions about the information we just talked about?

D.5 Safety Net Provider Focus Group Participants, Objectives, and Questions

Safety Net Provider Focus Group Information and Participants

On July 24, 2017, DHCF hosted a safety net provider focus group. The discussion was facilitated by the eHealthDC team. Focus group participants include:

- » AmeriHealth
- » Bread for the City
- » D.C. Health
- » D.C. Greens
- » D.C. Primary Care Association
- » D.C. Residents
- » Institute for Public Health Innovation
- » Leadership Council for Health Communities
- » Mary's Center
- » Neighborhood Health
- » Trusted Health
- » Unity Health Care
- » Whitman Walker Health

Safety Net Provider Focus Group Objectives

	District Safety Net Focus Group Objectives
1.	What practice transformation initiatives and goals matter most to safety net providers and community service organizations and the residents they serve?
2.	What social determinants of health (SDH) information is actionable for District provider and community organizations?
3.	What SDH and clinical data is important to electronically exchange inside and outside the District?

Safety Net Provider Focus Group Questionnaire Guide

Interview Guide
First Set of Questions: What practice transformation initiatives and goals matter most to your organization, now and in the next five years?
What role does health IT play in supporting your organization's initiatives and goals?
How could HIE support your organization's goals and initiatives?

Second Set of Questions:
Are there any social determinants of health (SDH) information that is missing from this list that you currently collect? [list provided for focus group participants]?
[in reference to the DHCF compilation of SDH] What information is actionable and makes a difference to patient care processes and patient health outcomes?
Do you share (or do you want to share) SDH and clinical information with other organizations inside or outside the District?
How could an HIE infrastructure in the District support electronic exchange of SDH and clinical information?
Are there any other topics related to SDH and HIE that we have not yet addressed in this forum?
What should we ask your patients?

D.6 Behavioral Health Provider Focus Group Participants, Objectives, and Questions

Behavioral Health Provider Focus Group Information and Participants

On September 28, 2017, D.C. Department of Behavioral Health hosted a mental health provider focus group at their facility. The discussion was facilitated by the eHealthDC team. Focus group participants included:

- » McClendon Center
- » PSI Family Services
- » Catholic Charities
- » Washington Hospital Center/Behavioral Health Service
- » Contemporary Family Services
- » Latin American Youth Center
- » Family Wellness
- » Neighbors Consejo
- » Volunteers of America Chesapeake
- » MBI

Behavioral Health Provider Focus Group Objectives

	District Behavioral Health Provider Focus Group Objectives
1.	What are the clinical information needs your organization has and who do you need to exchange this information with for optimal patient care?
2.	What are provider perspectives on sharing Behavioral Health (BH) information?
3.	What HIE infrastructure needs to be in place to make your job easier and to coordinate care for BH residents in the District of Columbia?

Behavioral Health Provider Focus Group Questionnaire Guide

Interview Guide
First Set of Questions:
What clinical workflow barriers do you encounter now when coordinating care for your patients?
What role does (or could) health IT play in supporting your organization's initiatives and goals?
How can (could) HIE help you as a BH provider?
Second Set of Questions:
What is your understanding and thoughts about patient consent and the exchange of BH information?
What Social Determinants of Health (SDH) information do you currently collect on your patients that you feel is important to the BH care coordination process?
How could an HIE infrastructure in the District support electronic exchange of BH information?
What are your patients views about HIE?

D.7   Consolidated Stakeholder Feedback on Challenges and Opportunities

Section 4 – District Stakeholders' Perspectives and Priorities for Health IT and HIE highlighted the stakeholder feedback, key takeaways and summary of findings. This appendix details that feedback in more detail.

What challenges and opportunities exist to exchange patient data?

Category	Challenges and Opportunities
Multiple Systems and Interfaces	» Providers are unable to access lab results and patient summary data from hospitals and other health care facilities due to differing systems and interfaces. » Providers seek integrated tools within their EHR to access HIE and exchange information with care partners.
Behavioral Health Providers	» Data exchange is largely conducted manually through fax. » Data is siloed across various systems, including iCAMS, SADO, DataWits, and others that store similar information.
Cross-Border Data Exchange	» Cross-border care occurs in neighboring states of Maryland and Virginia, further complicating health data exchange within and outside of the District.
Social Determinants of Health	» SDH information is often not collected. When collected, it is often stored as unstructured data within the EHR. » Certain SDH data, such as housing status, is difficult for providers to capture and rely on because it changes frequently. » Most data exchange occurs via fax or phone with housing or community service providers.
Health It and Data Policy	» Providers and patients find consent exchange policies related to behavioral health, mental health, and social determinants confusing and difficult to interpret. Clarity around mental/behavioral health data sharing policies is needed.

Category	Challenges and Opportunities
	» There is a need to establish data governance to eliminate redundant systems and limit the addition of new systems. » Stakeholders observed that HIPAA is often interpreted too strictly and differently, thereby unintentionally restricting the exchange of health information.
Provider And Care Partner Communication	» Community service providers lack the ability to directly communicate with providers. » Referrals from providers to community services are not widely available. » Provider organizations are required to report quality measures to payers, including managed care organizations. HIE eCQM tools could be used to alleviate provider burden, streamline reporting to MCOs, and enable participation in pay-for-performance programs such as My Health GPS. » Information exchange between providers and community groups for coordination of services is very important. » Several providers have access to Direct, but it is either not enabled for other providers or providers are not sure what other providers are connected to Direct.

What activities should DHCF support to improve health IT and HIE data capture and usability?

Category	Challenges and Opportunities
Ability to Filter Relevant Real-Time Alerts	» Providers with large patient populations often receive thousands of ENS notifications per month and expressed the need to filter for desired data or streamline reporting through single alerts. » Access to HIE tools to conduct analytics is important for care management. » Providers and care partners recognize that HIE, in its current state, is mostly moving information in a point-to-point manner, but have expressed interest in enabling data to be used for analytical purposes.
Integrate Claims and Clinical Data	» Providers, care partners, and payers value claims data for analytical use, but know that it is often delayed, incomplete or insufficient to inform quality care independent of clinical care. Nevertheless, providers want to integrate this data in order to better understand their patient panels. » Enable data segmentation capabilities. » Providers and care partners demonstrated strong interest in receiving technical assistance for claims and clinical data integration.
Workflow Support	» Stakeholders want to learn how to effectively send, receive, and use HIE data and embed it into their workflows.
Data Quality Improvement	» Define workflow and information exchange standards. » Develop decision trees, policies, procedures, and standard practices for using external data flowing into the EHR.
Transitions of Care Needs	» There is no HIE infrastructure to support care transition, such as the exchange of inpatient consultation and visit notes. Providers are eager to use HIE to facilitate transitions of care. » Long-term care providers consist of some EHR early adopters; however, most are not on certified EHR systems with many seeking technical assistance to connect to HIE.

What are the District's social determinants of health data feeds and how do providers and residents feel about it?

Category	Challenges and Opportunities
Resident Feedback	» Residents had mixed view on SDH capture. » Not all willing to share SDH information.
Provider Feedback	» Best practices for capturing SDH information needs to be identified and applied to clinical workflows. » Establish a process to uniformly capture and exchange SDH. » Establish a consensus on capturing SDH so that it can be used in patient care processes, such as discharge planning. » Build SDH into existing HIE and health IT systems, such as referral and portal message technology. » Opportunity for the District to include additional data elements as standard components in care plans. » Consolidate and coordinate efforts to maintain electronic referrals and communications to community services. » Providers have also expressed a desire for SDH data to better inform their care plans.

D.8   Addressing Social Determinants of Health and Populations with Unique Needs

SDH Tool	What is it?	Who uses it?	How is it used?
PRAPARE	» Protocol for Responding to and Assessing Patients' Assets, Risks, and Experiences[74] » Tool used to collect social determinants of health information » Consists of a set of 16 core measures as well as a set of 4 optional measures for social determinants » Templates of tool are available to integrate with leading EHR systems including Epic, eClinicalWorks, NextGen and GE Centricity	» Federally Qualified Health Centers (FQHCs) have implemented PRAPARE, including Unity Health, Whitman Walker Health, and Bread for the City, where PRAPARE templates are integrated into eCW	» Focus group participants described the information yielded by PRAPARE as critical to managing patients beyond the care visit and reinforcing a culture of care planning » Pilots at Unity Health are exploring how to use PRAPARE to capture SDH data by non-physicians » Currently the tool is unable to show changes in SDH indicators for a patient across multiple visits

SDH Tool	What is it?	Who uses it?	How is it used?
Aunt Bertha	» Web-based search and referrals program used nationwide to coordinate electronic referrals to community service providers[75] » SSO capabilities and APIs allow for EHR integrations. Currently integrated with Epic and Cerner	» Capital Area Food Bank (CAFB) is the license holder for the Aunt Bertha Platform since May 2015 » In the Greater DC Area,[76] 5,162 individuals utilized Aunt Bertha in 2015 to conduct over 29,000 searches » Other groups who pay for Aunt Bertha in the District include, MedStar Health System, Amerigroup, and AmeriHealth Caritas; Trusted Health Plan is in active conversations with Aunt Bertha	» Connects residents to free or reduced cost social services, through zip code searches » Several FQHCs use Aunt Bertha to coordinate electronic referrals using the survey information obtained from PRAPARE

Glossary of Terms

Click on the term for the source and additional information.

Accountable Care Organization: A network of doctors and hospitals who share financial and medical responsibility for providing care to their patients.

Admission-Discharge-Transfer (ADT): The Health Level 7 (HL7) message containing patient information and trigger events such as patient admit, discharge or transfer. ADT messages have a standard format to define the trigger event to include the message header, event type, patient identification, additional demographics, and patient visit information (diagnosis, procedure, etc.).

Community Service Provider (CSP): A provider who offers a range of services including medication management support , counseling, and community support to address issues such as health, housing, transportation, food insecurity, education, and employment.

Continuity of Care Document (CCD): A harmonized format and interoperable standard for exchanging clinical information (including patient demographics, medications and allergies) among providers to improve patient care, enhance patient safety and increase efficiency.

eClinical Quality Measure (eCQM): A standard for quality measures from electronic health records (EHR) and/or health information technology systems to measure health care quality. The Centers for Medicare & Medicaid Services (CMS) use eCQMs in a variety of quality reporting and incentive programs. eCQMs are an improvement over traditional quality measures because if the EHRs are not used, the work to gather the data from medical charts, e.g., "chart-abstracted data" is very resource intensive and subject to human error.

Eligible Professional (EP): Medicaid providers who meet eligibility requirements to participate in the EHR Incentive Programs. Eligible provider types include: Physician, Dentist, Certified nurse-midwife, Nurse Practitioner and a (Physician assistant practicing in a Federally Qualified Health Center or a Rural Health Center led by a Physician Assistant). Eligibility requirements dictate that at least 30% of patient volume is Medicaid (20% for pediatricians) and you adopt, implement or upgrade to certified EHR technology to demonstrate meaningful use.

Health Information Exchange (HIE): The movement of health information electronically across multiple organizations.

Health Information Technology (HIT): The programs, services, technologies and concepts that store, share, and analyze health information in order to improve care.

Implementation Advance Planning Document (IAPD): Three primary purposes of these advance planning documents are to (1) describe the state's plan for managing the design, development, implementation and operation of a system, (2) establish goals and cost benefit analysis, and (3) secure federal financial participation for the state in order to secure 90% federal matching funds.

Long-Term Acute Care: Specialized acute care hospitals that provide care to patients with an average length of stay greater than 25 days. These hospitals are known as Long-Term Acute Care Hospitals (LTACH) and provide care beyond that of inpatient rehabilitation or skilled nursing facilities.

Long-Term Care: The medical and social services care a chronically ill person receives to help them with activities of daily living (ADL). Long-term care providers include home care agencies, nursing homes, assisted living facilities.

Long-Term Services and Supports: Include, but are not limited to, nursing facility care, adult daycare programs, home health aide services, personal care services, transportation, and supported employment as well as assistance provided by a family caregiver.

Managed Care Organization (MCO): A health care delivery system organized to manage cost, utilization, and quality, and contracts with insurers or self-insured employers. It uses a specific provider network, services and products to deliver managed health care.

Medicaid EHR Incentive Program (MEIP): A program that provides incentive payments to Medicaid eligible professionals and hospitals as they adopt, implement, upgrade or demonstrate meaningful use with certified EHR technology.

Medicare Access and CHIP Reauthorization Act (MACRA): A law signed on April 16, 2015 to create the Quality Payment Program that repeals the sustainable growth rate formula, changes the way Medicare rewards clinicians for value, streamlines multiple quality programs under MIPS, and provides bonus payments in alternative payment models.

Merit-Based Incentive Payment System (MIPS): One of two payment tracks in Medicare's Quality Payment Program that was effective in 2017 as a provision of the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA).

Pay for Performance (P4P): Incentive programs that reward health care providers for achieving service delivery goals, according to established health quality or efficiency-standards.

Single Sign-On (SSO): The functionality that allows a user to sign on to multiple related, yet independent software systems with a single user identification and password.

State-Level Registry (SLR): Refers to the District's Medicaid EHR Incentive Program's home page where eligible professionals register and attest for Meaningful Use.

Value-Based Purchasing (also Value-Based Payment): Incentive programs that link providers' payments to improved performance, holding health care providers accountable for delivering cost effective and quality care. Typically, the highest performing providers are the most highly compensated.

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[59] Ibid.

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[61] DC Board of Medicine. (2011). *A Summary of Findings from the Physician and Physician Assistant 2010 Workforce in the District of Columbia.* Retrieved from: https://doh.dc.gov/sites/default/files/dc/sites/doh/publication/attachments/bomed_workforce_survey_report-final.pdf

[62] DC Board of Medicine. (2015). *Physician and Physician Assistant Workforce Capacity Report 3.0*. Retrieved from https://doh.dc.gov/sites/default/files/dc/sites/doh/publication/attachments/DC%20Board%20of%20Medicine%20Physician%20and%20Physician%20Assistant%20Workforce%20Capacity%20Report%203.0%20-%202015%20dec12.pdf.

[63] US Government Publishing Office. (2010, October 1). *42 Cfr 2 - Confidentiality Of Alcohol And Drug Abuse Patient Records*. Retrieved from: https://www.gpo.gov/fdsys/granule/CFR-2010-title42-vol1/CFR-2010-title42-vol1-part2.

[64] District of Columbia Health Systems Plan, 2017, DC Hospital Association data 2014.

[65] Agency for Healthcare Research and Quality (AHRQ). (2011, March). *Synthesis of Lessons Learned in the First 5 Years of State and Regional Demonstration Health Information Exchange Projects.* Retrieved from: https://healthit.ahrq.gov/sites/default/files/docs/page/Synthesis_LessonsLearned.pdf.

[66] ONC-funded Hospital HIE Connection Program.

[67] As of 2018, in the District, 6 clinics send CRISP encounter data only, and 69 clinics send CRISP encounter and CCD data; in Maryland, 214 clinics send CRISP encounter data only, 295 clinics send CRISP encounter and CCD data, and 65 clinics exchange data bi-directionally; and in West Virginia, 63 clinics send CRISP encounter data only, and clinics send CRISP encounter and CCD data.

[68] The District of Columbia Immunization Information System (DOCIIS) is a web-based system that receives and stores childhood and adult immunization records. DOCIIS was founded in 1992. Since then, it has evolved to become a central data resource that is available to users across the District of Columbia.

[69] 54% of My Health GPS-eligible District Medicaid beneficiaries live in Wards 5, 7 and 8. HIE tools can be used to manage care among these patients who suffer from multiple chronic conditions.

[70] Office of the National Coordinator for Health Information Technology. Connecting Health and Care for the Nation: A Shared Nationwide Interoperability *Roadmap*. Retrieved from: https://www.healthit.gov/sites/default/files/hie-interoperability/nationwide-interoperability-roadmap-final-version-1.0.pdf.

[71] National Committee for Quality Assurance. (2017). *Plan All-Cause Readmissions*. Retrieved from: http://www.ncqa.org/report-cards/health-plans/state-of-health-care-quality/2017-table-of-contents/plan-readmissions.

[72] AHRQ Quality Indicators. (2017). *Prevention Quality Chronic Composite: Prevention Quality Indicator 92*. Retrieved from: https://www.qualityindicators.ahrq.gov/Downloads/Modules/PQI/V70/TechSpecs/PQI_92_Prevention_Quality_Chronic_Composite.pdf.

[73] In 2006, DCPCA received a $5 million grant from DC Health for the Early Adopter program which helped to facilitate the implementation of EHR systems at six safety net community health centers – Bread for the City, Family and Medical Counseling Service, La Clínica del Pueblo, Mary's Center, So Others Might Eat and Whitman-Walker Clinic – which are known as our "early adopters." The grant provided funding for DCPCA to manage the selection and implementation of EHR technology at these six health centers – an effort that was completed in October 2008.

[74] PRAPARE is developed by the National Association of Community Health Centers (NACHC), Association of Asian Pacific Community Health Organizations, the Oregon Primary Care Association, the Institute for Alternative Futures, and health centers and health networks in the states of Hawaii, Iowa, New York and Oregon. http://www.nachc.org/research-and-data/prapare/.

[75] Aunt Bertha. https://about.auntbertha.com/.

[76] The Greater DC area includes the following counties: District of Columbia; Montgomery County, MD; Prince George's County, MD; Fairfax County, VA; Prince William County, VA; Arlington County, VA; & Alexandria City, VA .