

# The Hilltop Institute



*analysis to advance the health of vulnerable populations*

**Maryland Department of Health and Mental Hygiene  
FY 2013 Memorandum of Understanding  
Annual Report of Activities and Accomplishments**

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## A Nationally Recognized Partnership

### History

The University of Maryland, Baltimore County (UMBC) established The Hilltop Institute in 1994 as the Center for Health Program Development and Management (the Center) in partnership with the Maryland Department of Health and Mental Hygiene (the Department). Initially chartered to design and manage Maryland's High-Risk Patient Management Initiative, Hilltop (as the Center) was staffed by nurses and case managers in addition to analysts. The scope of work in the contract with the Department was focused on support for Maryland's most vulnerable populations—those who were both medically fragile and financially indigent—to access the health care services they needed. Not only did this population have multiple, complex health care needs, but the cost to the state of providing services to them was extremely high. The Department had two goals: 1) help this population access health care; and 2) manage the program in such a way that the state's scarce resources would be utilized in the most cost-effective manner. Together, the Department and UMBC worked to design a university-based center that would develop and manage this unique program, as well as provide research and analytics to determine whether the program was accomplishing its goals. Hilltop provided case management for the Rare and Expensive Case Management (REM) program until 2004, when this task was assumed by the Department. Hilltop continues to provide data analysis and monitoring for the REM program.

As Hilltop's research and analytic expertise grew, the Department began requesting analyses and assistance in other areas of Medical Assistance (Maryland's Medicaid program) as it expanded. Hilltop collaborated with the Department in the development of HealthChoice, Maryland's mandatory Medicaid managed care program, as well as the HealthChoice §1115 Waiver applications. Today, Hilltop continues to conduct research and policy analysis for HealthChoice and develops capitated payment rates for HealthChoice providers.

Hilltop supports the development of other Department initiatives, such as the Primary Adult Care (PAC) and Money Follows the Person (MFP) programs; submits monthly, quarterly, and annual reports on such topics as reimbursement rates, REM, and home- and community-based services (HCBS) waivers; provides analysis to assist the Department in its planning for initiatives authorized under the Affordable Care Act (ACA), such as Medicaid Expansion, the State Balancing Incentives Program, and Community First Choice; and supports the Department's efforts to promote health system innovation and improved service integration and expansion. In all areas of collaboration, Hilltop assists the Department in meeting its goal of ensuring that all Marylanders have access to affordable and appropriate health care.



Hilltop serves as a warehouse for all of the state's Medicaid claims and eligibility, provider, and other data, and analyzes the data in response to hundreds of requests from the Department each year. Hilltop also hosts a decision support system (DSS) that is maintained for the exclusive use of the Department, which provides easy access to data on Medicaid program eligibility, enrollment, service utilization, and payments, as well as a public site that offers mapping of public health information at the state and county levels.

### ***Continuing the Collaboration***

Hilltop's successful state-university partnership with the Department, its founding partner, remains the mainstay of Hilltop's work. This partnership continues to garner national attention. In June 2012, this type of partnership was the topic of a special session at the AcademyHealth Annual Research Meeting, titled *Building Research Collaborations with State Health Policymakers*. The Maryland collaboration was highlighted in the session. Furthermore, this session resulted in a recently published article in the *Journal of Health Politics, Policy, and Law*, titled *Supporting the Needs of State Health Policy Makers through University Partnerships*, in which Hilltop and its partnership with the Department were prominently featured.

### ***Memorandum of Understanding***

Hilltop's work with Maryland Medicaid is supported through an annual memorandum of understanding (MOU) with the Department. This report presents activities and accomplishments of the fiscal year (FY) 2013 (July 1, 2012, through June 30, 2013) MOU. All deliverables referenced in the report were transmitted by e-mail unless otherwise specified and are available upon request.



## Medicaid

### Program Development and Policy and Financial Analysis

During FY 2013, Hilltop prepared annual reports on reimbursement rates; supported the Department in its efforts to expand Medicaid eligibility to uninsured children and their families, as well as childless adults; continued to build Hilltop's capacity to carry out research and policy analysis related to Medicare-Medicaid enrollees; and conducted other special studies and analyses of the Maryland Medicaid program at the Department's request.

**Reimbursement Rates Fairness Act:** Pursuant to Maryland Senate Bill 481 (Chapter 464 of the Acts of 2002) and HB 70: *Commissions, Programs and Reports – Revision* (Ch. 656 of the Acts of 2009), Hilltop prepared the twelfth annual report for the Maryland legislature. The report addressed progress the state had made in adjusting fee-for-service (FFS) Medicaid reimbursement rates to promote provider participation in the Medicaid program. Specifically, the report assessed the rate-setting process; compared Maryland Medicaid's reimbursement rates with the rates of other states and Medicare; addressed the schedule for bringing Maryland's reimbursement rates to a level that would ensure provider participation in the Medicaid program; and discussed the estimated costs of implementing the schedule and proposed changes to the FFS reimbursement rates. In addition, the report incorporated information required by Section 15 of House Bill (HB 70) from the 2009 legislative session, which requires the Department to review the rates paid to providers under the federal Medicare fee schedule and compare those rates with the FFS rates for the same services paid to providers under the Maryland Medical Assistance program and managed care organizations (MCOs).

**Physician Fees:** In addition to the analyses described above, in FY 2013, Hilltop consulted with and provided technical assistance to the Department regarding increasing physician fees. Hilltop analyzed the costs of increasing these fees for calendar year (CY) 2013, revised the methodology to estimate the costs of increasing existing physician fees for evaluation and management (E&M) and vaccine administration procedures, and provided a description of how the methodology was revised. Hilltop also revised the actual cost estimates for these fees to reflect the latest released Medicare average fees and adjustments for (CY) 2013.

**Basic Health Plan:** In FY 2012, at the request of the Department, Hilltop conducted an analysis of the Basic Health Plan option, a health coverage option found in Section 1331 of the ACA. The analysis addressed the policy issues and financial feasibility of implementing a basic health plan in Maryland. In FY 2013, Hilltop revised the report to reflect enrollment projections consistent with the most current *Hilltop Health Care Reform Simulation Model* estimates and updated the



Basic Health Plan cost projections under various scenarios to reflect the revised enrollment projections.

**Effects of the ACA on Medicaid Expenditures:** In FY 2013, Hilltop revised the *Hilltop Health Care Reform Simulation Model* to update and refine projections of enrollment and expenditures. Hilltop estimated the number of Exchange enrollees with income between 138 percent and 250 percent of the federal poverty level (FPL) as a percent of total Exchange enrollees, and estimated the remaining number of uninsured citizens between 138 percent and 250 percent of FPL. Hilltop examined a report on the effects of the ACA on Medicaid expenditures and the number of uninsured individuals in Indiana, compared this data with Maryland's numbers, and analyzed some of the report's projections in conjunction with *Hilltop Health Care Reform Simulation Model* fiscal impact projections. Hilltop also made a presentation on the model to the Maryland Medicaid Advisory Committee.

**Medicaid Expansion:** In FY 2013, Hilltop continued to support the Department in its efforts to expand Medicaid eligibility to childless adults and uninsured children and their families, and to expand the benefits for the PAC population. Hilltop used its *Health Care Reform Simulation Model* to estimate Medicaid costs under various scenarios, and compared the economic impact to the state of expanding and not expanding Medicaid. Hilltop also estimated the costs of Medicaid expansion, PAC, and the Medicaid "woodwork" population (individuals who were already eligible, but not enrolled), as well as the reduction in uncompensated hospital care that would be attributable to Medicaid expansion.

**Kids First Act:** HB 1391, The Kids First Act (2008), added §10-211.1 of the Tax-General Article (the statute) to the Annotated Code of Maryland, effective July 1, 2008. The Kids First Act requires the Department to "study and make recommendations for improving the processes for determining eligibility for the Maryland Medical Assistance Program and the Maryland Children's Health Program (MCHP), including the feasibility of facilitating outreach or auto-enrollment through linkages with other electronic data sources." In FY 2009, the Department and Hilltop were commissioned by the Robert Wood Johnson Foundation State Health Access Reform Evaluation (SHARE) program to evaluate the outreach process for the Kids First Act to determine whether the use of tax forms is effective in identifying and enrolling children who are uninsured but eligible for Medicaid or the Children's Health Insurance Program (CHIP). In FY 2010, Hilltop analyzed the findings from this study and published them in an issue brief, titled *Using Information from Income Tax Forms to Target Medicaid and CHIP Outreach: Preliminary Results of the Maryland Kids First Act*. The project produced a second issue brief, titled *Overcoming Interagency Data-Sharing Barriers: Lessons from the Maryland Kids First Act*, which discussed the issues the state encountered when attempting to share data between the



Department and the Comptroller. This issue brief garnered attention nationally as other states struggled with similar issues and looked to Maryland as an example.

Since the passage of the Kids First Act, Hilltop has monitored the increase in enrollment of children into Medicaid and CHIP. However, it has been difficult to determine the cause of the increase; that is, whether it was associated with the outreach effort, the economic crisis, and/or other factors. The state's data-sharing issues hindered efforts to evaluate the outreach strategy and whether the Kids First Act was achieving its desired goals. In FY 2010, Hilltop helped the Department develop an effective strategy to eliminate some of the impediments to evaluating the goals of the Kids First Act's tax-based outreach initiative. Subsequently, the Maryland General Assembly passed a law that eliminated some of these impediments, and some of the data necessary for Hilltop to study the outreach effort were made available by the Comptroller in FY 2012. Hilltop secured a no-cost extension of the SHARE grant to enable completion of the evaluation. In FY 2013, Hilltop concluded its work on this project and published a third and final issue brief (co-authored by Hilltop and the Department), titled *Lessons from the Implementation of the Maryland Kids First Act*, which highlighted some of the key findings of the study.

Hilltop also continued to analyze taxpayer and enrollment data to assist the Department in determining if and how many new enrollments there were subsequent to departmental outreach mailings. Hilltop matched the demographic and income data from the 2010 tax year with updated (through October 2012) enrollment data.

**Maternal and Child Health Block Grant:** In FY 2013, Hilltop assisted the Department in providing supplemental information requested by the U.S. Maternal and Child Health Bureau for the state's 2014 application for the Maternal and Child Health Block Grant. Hilltop provided the data for and drafted the responses to the application's 24 questions pertaining to Medicaid and MCHP enrollment and service utilization by pregnant women, infants, and children in CY 2012.

**Coverage Groups:** In FY 2013, at the request of the Department, Hilltop performed a number of studies on service utilization by various coverage groups. Hilltop updated the analysis it performed in FY 2012 of total service utilization for enrollees in select Medicaid coverage groups for CY 2008 through CY 2010. Hilltop also analyzed the cost and number of services for each requested coverage group by service category (i.e., hospital inpatient and outpatient visits, physician visits, dental, long-term care (LTC), pharmacy, home health services, and other special services) for CY 2011. The analysis was further broken down by age group—0 through 64 years and 65 years and older. Hilltop later updated this analysis to focus on individuals aged 0-64 years in the Aged, Blind, Disabled coverage group.



**Maryland State Loan Repayment Program:** In FY 2013, Hilltop provided data for the Maryland State Loan Repayment Program (SLRP), which gives loan assistance to health care providers who practice in communities that lack adequate primary care and/or mental health care services. Hilltop provided this data to the Department's Office of Primary Care Access (OPCA), identifying the location of SLRP providers throughout the state so that OPCA could ensure the placement of these providers in areas with the greatest need.

**Trauma Physician Rates:** In FY 2013, Hilltop continued to calculate monthly supplemental reimbursement payments based on trauma physician fees.

**Hospital Incentive Payments:** In FY 2013, Hilltop recalculated hospital electronic health record incentive payments in response to a CMS inquiry clarifying the inclusion of CHIP hospital days in the total count of medical assistance hospital days used to determine the amount of each hospital's incentive payment.

**Telemedicine JCR:** Pursuant to Health – General Article, Section 19-706(III), in FY 2013, the Department was required to submit to the Maryland General Assembly a report on telemedicine policies and the fiscal impact of Maryland Medical Assistance coverage of telemedicine. Hilltop assisted the Department by conducting the fiscal impact analysis, which assessed how telemedicine coverage might affect Medicaid utilization and spending. Hilltop reviewed the use rates by county and medical specialty, and identified the areas where utilization was lower than one standard deviation (SD) from the average statewide utilization within a specialty. More specifically, Hilltop calculated the number of physician specialist E&M visits that would be required to raise low utilization counties to within one SD from the mean within a specialty and within specified counties where the Mental Hygiene Administration (MHA) currently operates a telemedicine program for mental health services. Hilltop then developed an estimated cost per visit to evaluate how much this increase in utilization would affect Medicaid expenditures.

**Decision Support System:** Hilltop developed and maintains the DSS, a password-protected system maintained for the exclusive use of the Department, which provides easy access to data on Medicaid program eligibility, enrollment, service utilization, and payments. Currently, approximately 130 Department staff members are registered to use the DSS. In FY 2013, Hilltop continued to make improvements to the DSS and provide technical assistance to Department staff members using the system. Hilltop offered training to the Department via CDs, online tutorials, and classes held at Hilltop, and new user IDs were added as needed. Working with the Department, Hilltop identified new content areas to add to the DSS, increased functionality, and added new reports.





In FY 2013, Hilltop continued to use WebFocus software, allowing for new features on the DSS that were not previously available. These applications were tested at Hilltop and implemented on the Department's production DSS server. Hilltop provides and maintains the Managed Reporting Environment (MRE), a user-friendly point and click graphical interface that accesses MMIS2 (Maryland Medicaid Information System) detail data and allows MMIS users to create reports, graphs, and compound reports or dashboards. The MRE can be tailored to match the skills, experience, and needs of the user. The MRE interface was improved again in FY 2013 to provide additional reporting capabilities. Calendar year service files were added for all years in the eligibility, claims, and encounter databases. The enhanced MRE environment is in production mode and may be used by the Department's Medicaid employees with the proper authorization.

In FY 2013, the acquisition of Maptitude desktop and server products augmented the existing InstantAtlas map dashboards product, allowing Hilltop to add new mapping capabilities for the DSS. In FY 2014, Hilltop will be able to provide additional mapping reports in support of requests from the Department, such as maps using smaller geographic areas (e.g., local access area [LAA], ZIP code, and census tracts) that can be added to the internal DSS, but not the public site. InstantAtlas also provides Hilltop with additional capabilities, such as the ability of individual users to generate their own reports for data tables, advanced charts and graphs, and ad hoc maps. Whereas InstantAtlas provides geographic dashboards, Maptitude provides more detailed geographic maps with interactive and ad hoc reporting capabilities.

Hilltop can now offer geocoding services at the street level for data and mapping. Geocoding a street address translates it into a map coordinate and geographic area such as a census tract. Hilltop can then create data table or map reports by census tract or other areas. Hilltop acquired these capabilities with the addition of the Maptitude product and the new street-level geocoding abilities of the version 3 SAS software product.



## HealthChoice

### **Program Support, Evaluation, and Financial Analysis**

In FY 2013, Hilltop continued to play a key role in supporting HealthChoice, Maryland's managed care program, by assisting the Department in collecting and validating encounter data, monitoring program performance, developing capitation rates and monitoring the finances for HealthChoice and PAC MCOs, and conducting special policy studies and analyses.

**HealthChoice §1115 Waiver Renewal Application and Evaluation:** As in previous years, Hilltop partnered with the Department to monitor and report on the performance of the HealthChoice program. In FY 2013, Hilltop collaborated on the renewal application to the Centers for Medicare & Medicaid Services (CMS) for the §1115 waiver, which authorizes the HealthChoice program. Hilltop conducted the programmatic analyses that informed the Department's decisions about the future direction of the waiver. This renewal period focused on changes to the program required under the ACA. Specifically, Hilltop drafted and prepared the renewal application document and conducted the annual evaluation of the waiver, which is included in the renewal application. The evaluation first provided a brief overview of the HealthChoice program and recent program updates, and then addressed the following evaluation topics: coverage and access to care; the extent to which HealthChoice provides a medical home and continuity of care; the quality of care delivered to enrollees; special topics, including dental services, mental health care, services provided to children in foster care, reproductive health services, the REM program, and racial/ethnic disparities in utilization; and access to and quality of care under the PAC program.

In FY 2013, Hilltop followed the same format it developed for the HealthChoice evaluation in FY 2010, which addressed the Department's goals for the HealthChoice program and used state and national benchmarks, such as Healthcare Effectiveness Data and Information Set (HEDIS) national averages for various health care utilization measures. This evaluation once again provided the Department with data and analytics related to coverage and access to care, providing a medical home to enrollees, and improving quality of care.

Hilltop continued to perform in-depth analyses on such topics as enrollment trends and measures (e.g., ambulatory service utilization by enrollees who also utilized the ED and provider network adequacy); integrated results from other studies, such as provider and Consumer Assessment of Healthcare Providers and Systems (CAHPS®) surveys; included benchmarks for measures when standardized national comparisons were available, such as HEDIS measures; and continued to play a significant role in designing and drafting the report. These activities gave the evaluation increased depth and policy context, which allowed the Department to better demonstrate the



program's achievements. As in the previous year, the evaluation of the PAC program was included in the HealthChoice evaluation. Hilltop analyzed enrollment and service utilization data to determine the participation levels and demographics of program participants and evaluate the program.

**Modified Adjusted Gross Income:** Section 1902(e)(14)(E) of the Social Security Act requires each state to submit to the CMS for approval the income eligibility thresholds for Medicaid and CHIP. The ACA created a new definition of income, modified adjusted gross income (MAGI), which is an individual's adjusted gross income as defined by the Internal Revenue Code plus some forms of tax-exempt income. MAGI is used to determine an individual's eligibility for insurance affordability programs, including Medicaid and CHIP, and subsidies to purchase qualified health plans in health benefit exchanges. In FY 2013, Hilltop assisted the Department in converting its eligibility thresholds to new MAGI-based thresholds, as required by the ACA. Hilltop estimated the amount of "income disregards" (i.e., types of income that do not "count" against eligibility) applied to HealthChoice enrollees, to enable the Department to convert HealthChoice income eligibility thresholds from net income amounts into MAGI amounts, as well as compare the results from administrative data with estimates CMS provided from the Survey of Income and Program Participation (SIPP). Hilltop also drafted the conversion plan that would be submitted to CMS.

**HealthChoice Financial Analysis:** In FY 2013, Hilltop continued to produce detailed financial analyses that assisted the Department in the development of Medicaid financial policy, fiscal notes, and rate setting. Hilltop worked with the Department to develop risk-adjusted capitation payments for MCOs participating in HealthChoice. Maryland's risk-adjusted payment methodology is based on the Johns Hopkins University Adjusted Clinical Group (ACG) Case Mix System. This methodology is continually refined (as needed) to accommodate program and policy changes. During FY 2013, the Hilltop rate setting team presented to the MCOs a new risk adjustment methodology to assimilate approximately 85,000 former PAC members and expansion childless adult recipients into HealthChoice using the Johns Hopkins pharmacy Rx grouper. Hilltop also subcontracted with Johns Hopkins for ongoing support in development of the rate methodology and with Optumas to secure actuarial certification, which is required to obtain federal financial participation in HealthChoice. In FY 2013, the state paid \$3 billion in capitation payments to the eight MCOs participating in HealthChoice, providing insurance for more than 949,000 Medicaid beneficiaries. Hilltop continued to staff the Department's MCO Rate Setting Committee, provide consultation to the MCOs, and support the Health Services Cost Review Commission (HSCRC) review of providers.

**HealthChoice Financial Monitoring Report:** To better understand the cost differences among MCOs and the impact of capitation rates on plan performance, Hilltop examined MCO



performance on selected measures and reported its findings to the Department. The report also compared the performance of provider-sponsored organizations (PSOs) to non-PSOs. In FY 2013, Hilltop analyzed specific variances in membership, premium income, and cost of medical care during CY 2010. Hilltop prepared quarterly reports for the Department summarizing—for all MCOs—capitation payments and enrollment by major eligibility category, and examining the variance between planned payments and associated member months to actual results. In addition, Hilltop prepared a complete financial report package that analyzed MCO underwriting performance.

**Primary Adult Care Program:** Hilltop continued to develop a rate methodology for PAC benefits in FY 2013, basing rates solely on actual utilization and costs in the development of CY 2013 rates. Hilltop prepared quarterly PAC financial monitoring reports and other reports to measure the variance between planned enrollment and capitation payments to actual results. In FY 2013, CY 2013 PAC rates were implemented, reflecting regional resource differences between Baltimore City and the rest of the state.

**Hospital/Federally Qualified Health Center Physician Charges:** In FY 2013, at the request of the Department, Hilltop followed up on several analyses it conducted during FY 2012 to determine the most frequently billed procedure codes by three provider types: independent physicians, federally qualified health centers (FQHCs), and hospital outpatient departments. The Department requested that Hilltop's analysis focus on two specific high-volume procedures—office and outpatient visits for E&M of established patients—provided to HealthChoice enrollees in FYs 2009 through 2011. Hilltop matched these services against the hospital outpatient files to determine the extent to which they are provided in the hospital and FQHC settings, estimated the cost of providing these services in the hospital and FQHC settings, and compared the estimated costs of providing these services in each setting.

**Rare and Expensive Case Management:** The REM program serves individuals with multiple and severe health care needs. In FY 2013, Hilltop provided support to the REM program in the form of analysis and rate setting. Hilltop prepared quarterly analytic reports for REM case management and REM providers, and included other analyses of the REM population in its evaluation of the HealthChoice program. Responding to a special request from the Department, Hilltop identified the age distribution of REM enrollees in each fiscal year between FYs 2003 and 2012. Hilltop identified REM enrollees who disenrolled from the program but remained in Medicaid during those years, as well as the number and percentage of REM enrollees who used a private duty nurse in CYs 2005 through 2011, delineated by county.



**Emergency Department Utilization:** In FY 2013, Hilltop analyzed the utilization of emergency departments (EDs) by HealthChoice enrollees in CYs 2007 and 2011, and PAC enrollees in CYs 2010 and 2011.

**Optometric and Ophthalmic Services:** In FY 2012, at the request of the Department, Hilltop surveyed the MCOs to obtain HealthChoice FY 2012 optometric and ophthalmologic utilization data to estimate the impact, if any, of a rule change under the Medicaid State Plan that would allow MCOs to bill for more medical procedures than had been previously allowed.

**X02 Coverage Group:** In FY 2013, Hilltop identified the types of medical services that individuals enrolled in X02 coverage groups (i.e., undocumented immigrants) with end stage renal disease (ESRD) as their primary diagnosis received in CY 2012.

**Primary Care Providers:** In FY 2013, at the request of the Department, Hilltop provided a list of randomly sampled primary care providers (PCPs) in HealthChoice MCOs for July 2012, which included provider name, contact information, new patient indicator, patient age range, provider specialty, and provider type. Hilltop modified the methodology for identifying PCPs to enable improved identification of provider locations and provided an updated list to the Department. Hilltop also determined the frequency of services provided by PCPs, specialist providers, and dentists within Maryland counties for the first eight months of CY 2012.

**State Health Improvement Program:** In FY 2013, to assist the Department in responding to a request from the State Health Improvement Program (SHIP), Hilltop performed an analysis of Medicaid dental, lead screening, and wellness service utilization for CYs 2010 and 2011. The purpose of this analysis was to determine the number and percentage of children and pregnant women who had a dental visit; the number and percentage of children who had a lead screening test; and the number and percentage of adults and children who had a wellness visit. Hilltop conducted a follow-up analysis to determine dental utilization for pregnant women and children for CY 2009.

**Third-Party Liability and Pregnant Women:** In FY 2013, Hilltop determined how many pregnant women participating in HealthChoice had a third-party payment noted on any encounter or a secondary insurer noted on their recipient information file.

**Statistics on Persons with Diabetes:** In FY 2013, Hilltop compiled statewide and county-level demographic information about Medicaid recipients with diabetes. Hilltop identified these recipients by age group and race/ethnicity, and compared their numbers and percentages with the numbers and percentages of all Medicaid recipients in each group.



**Behavioral Health Services:** In FY 2012, Hilltop performed a number of special analyses as background information with which to better understand Medicaid beneficiaries' need for and utilization of mental health and substance abuse services. In addition, Hilltop continued to provide the Department with monthly data on buprenorphine utilization by county. Hilltop conducted an analysis of Medicaid buprenorphine utilization and expenditures for FY 2009 through February of 2013 (partial FY 2013). Hilltop also reviewed the use of laboratory drug screenings received by Medicaid enrollees (FFS, MCO, and PAC) who were also receiving methadone treatment in FYs 2011 and 2012; identified the number of methadone treatment providers whose users subsequently received these screenings in FYs 2011 and 2012; identified the number of unique enrollees receiving a methadone treatment for whom a methadone drug screening test was billed; and estimated the expenditures for drug screenings for methadone treatment users for FYs 2011 and 2012.

**MCO Substance Abuse Treatment Costs:** In 2009, the Maryland General Assembly enacted legislation effective January 1, 2010, that required HealthChoice and PAC MCOs to report to the Department the number of enrollees who received substance abuse treatment services and the total amount of money spent on this treatment. In FY 2013, at the request of and on behalf of the Department, Hilltop began providing the MCOs with semiannual reports of their encounters.

**MCO Immunization Data:** In FY 2013, at the request of the Department, Hilltop prepared reports on childhood immunizations and flu immunizations for children and adults for each MCO.

**Dental Service Utilization:** In FY 2013, Hilltop conducted several analyses to assist the Department in learning more about dental service utilization. At the request of the Department, Hilltop provided dental utilization data for children in Medicaid to a hospital that was exploring the possibility of adding dental services to their mobile pediatric clinic. Hilltop provided data for Medicaid dental utilization by ZIP code and age. Hilltop also provided data on the rate of children enrolled in Medicaid and MCHP enrollees using any dental services during CY 2012 in Frederick County, delineated by ZIP code, to help the county better plan for its Healthy Smiles program. To assist the Department in responding to the Association of State and Territorial Dental Directors (ASTDD) State Synopsis Questionnaire 2013, Hilltop updated an analysis of Medicaid and MCHP enrollment and dental service utilization for children enrolled in the two programs in FY 2012 and CY 2011 to include the number of Medicaid and MCHP enrollees, as well as information on Medicaid dental providers.

**Encounter Data Reporting and Validation:** Through monthly, quarterly, and annual reports to the Department and MCOs, Hilltop verified the completeness, correctness, and reliability of encounter data and regularly reviewed the data to ensure its validity. Encounter data were used to



evaluate access to care and network adequacy, as well as to develop payment rates for HealthChoice. Monthly reports consisted of date of service analyses and MCO data submission projections. Quarterly reports classified MCO physician, outpatient, and dental encounter data by service category (e.g., physician, lab, x-ray, etc.); calculated a ratio of services per enrollee; validated impatient encounters; and identified the use or overuse of default provider numbers for physician services. Annual reports focused on identifying the percentage of enrollees who used services within the past calendar year; the ratio of service users to enrollees; the distribution of diagnoses; diagnoses per claim; and cohorts by risk-adjusted category assignments. The reports also compared encounters for specialized AIDS services with encounters in specific AIDS diagnostic categories. The process Hilltop continued to follow for continuously monitoring and validating encounter data was described in a November 2005 report. In FY 2013, Hilltop produced two encounter data validation reports for CY 2010—one on MCO encounters and one on PAC encounters.

**Childhood Lead Reporting:** Maryland law requires that all lead tests performed on children from birth through 18 years be reported to the Maryland Department of the Environment (MDE) Childhood Lead Registry (CLR). Hilltop performs this task at the Department's request, by utilizing a program it developed to implement an enhanced CLR/Medicaid data-matching process, which identifies Medicaid enrollees in the CLR data, identifies the corresponding MCOs for these children, reports the number and percentage of blood lead testing rates and elevated blood lead levels among them, and facilitates the Department's report of these rates to MDE quarterly. The results of the lead tests are then reported to the MCOs for follow up of children with high lead levels. Hilltop began this analysis and quarterly reporting process in the first quarter of FY 2009 and continued to produce these quarterly reports for the Department in FY 2013. In addition, Hilltop prepared the annual county-based analysis of lead testing results for HealthChoice children aged 12 to 23 months and 24 to 35 months, which was submitted to MDE.

**Value-Based Purchasing:** In FY 2013, Hilltop prepared the HealthChoice value-based purchasing (VBP) targets for CY 2012. The targets for the seven existing VBP measures were based on the VBP results from CY 2009. Hilltop used the same formulas from CY 2010 to set the CY 2012 targets. Hilltop also derived alternative weights for a new set of VBP measures that would provide bonuses and penalties to HealthChoice MCOs. Hilltop completed the CY 2012 preliminary ambulatory care measure for HealthChoice enrollees with disabilities and the final lead VBP measure for CY 2011, which calculated the percentage of children aged 12 to 23 months who received a blood lead test during the calendar year or the year prior to the calendar year. Hilltop also completed the preliminary lead VPB measure for CY 2012. At the request of the Department, Hilltop checked data provided by Amerigroup against the final run of their CY 2011 VBP score to determine if the relevant lead tests were included in their numerator for the



CY 2011 VBP measure. Also, at the request of the Department, Hilltop furnished the technical specifications for the Maryland VBP “Access to Care - SSI Children (ages 4-20)” measure and the HealthChoice results for CY 2011 (final) and CY 2012 (preliminary), with MCO identifying information removed so that the measure could be included in a measure set for the federal exchange. Hilltop compiled the data used to calculate the denominator and numerator for Priority Partners’ final run of the lead VBP measure for CY 2011.

**Managing for Results:** In FY 2013, Hilltop prepared annual asthma and diabetes Managing for Results (MFR) measures for CY 2011. For HealthChoice adult enrollees diagnosed with diabetes and children diagnosed with asthma (in accordance with HEDIS enrollment criteria and clinical criteria based on the Agency for Healthcare Research and Quality (AHRQ) prevention quality indicators), Hilltop analyzed the number of avoidable hospital admissions for both conditions. Hilltop also prepared the CY 2011 lead MFR measure, which included blood lead testing rates and elevated blood lead levels for children aged 12 to 23 months and 24 to 35 months who were enrolled in a HealthChoice MCO for 90 or more continuous days during CY 2011. Hilltop also prepared racial disparities MFR measures for CY 2011. Hilltop analyzed the birth weight of newborns in the HealthChoice program during CYs 2009 through 2011, provided the numbers and percentages of newborns with very low birth weights in those years, and estimated the numbers and percentages for CY 2012.





## Long-Term Services and Supports

### **Program Development, Policy Analysis, and Financial Analytics**

Hilltop supported the Department in activities required under the State Balancing Incentive Payment (BIP) Program; continued its support of the Money Follows the Person (MFP) Rebalancing Demonstration Program; conducted several analyses to assist the Department in moving to a core standardized assessment tool; enhanced the various waiver tracking systems; continued the development of *LTSSMaryland*, the state's new integrated long-term services and supports (LTSS) tracking system; conducted a study on nursing home community benefits; and released a fourth series of chart books on Medicaid LTSS in Maryland.

**Standardized Assessment Tool Pilot Study:** As part of the structural changes being made through BIP, the Department is adopting a core standardized assessment tool, interRAI. Building on exploratory work performed in FY 2011, Hilltop provided research, consultation, and technical assistance to the Department as it adapted the interRAI tool for use in Maryland. To ensure smooth implementation of the new tool, its assessment outcomes should be comparable to the existing assessment process. During FY 2012, Hilltop designed a pilot study to compare interRAI's "level of care" determinations with those made by Maryland's current tool. Hilltop staff provided extensive support during a series of requirements-gathering meetings held throughout the spring and summer of 2012 to plan the assessment tool implementation.

In FY 2013, Hilltop conducted several analyses to assist the Department in the move to this new functional assessment structure. Hilltop analyzed 87 telephone screens with consumers that were completed between May 1, 2012, and June 14, 2012, grouped respondents into one of five levels of care based on their responses to the screening questions, and determined the number of respondents eligible for the waiver registry based on criteria developed with the Department. Hilltop analyzed 150 interRAI assessments conducted with waiver and Medical Assistance Personal Care (MAPC) participants between May 1, 2012, and June 16, 2012, and, using a Hilltop-developed algorithm, determined whether the individuals met the eligibility criteria established by the Department for a nursing facility level of care (NF LOC). For these same individuals, Hilltop compared NF LOC determinations using the interRAI assessment tool and algorithms with the NF LOC determinations from the Delmarva Foundation for Medical Care (DFMC). Hilltop then compared results from Section C (Cognitive) of the interRAI form with results from the Brief Interview for Mental Status (BIMS) to determine whether the two tools produced correlated scores. Once again using the interRAI assessments, Hilltop analyzed the 23 Clinical Assessment Protocols (CAPs) that were generated for assessed individuals, described the CAPs, and compared the number of CAPs triggered by individuals who were found to be NF LOC by interRAI logic with those triggered by non-NF LOC assessed individuals. Hilltop



then compared the results of waiver participants with those of MACP participants. Hilltop's work on this transition will continue into FY 2014.

**Money Follows the Person Metrics:** In FY 2013, Hilltop continued to track transitions from institutions, service utilization, expenditures, and participant characteristics over the course of the MFP program using the metrics it developed in FY 2011. Hilltop presented two sets of MFP metrics for FYs 2008 through 2012 to the Department. The first set consisted of performance metrics addressing the following questions:

- How have rates of institutionalization changed over time?
- How many individuals on the waiver registries are using institutional services?
- How many of the institutional transitions were designated MFP participants versus non-MFP participants?
- What Medicaid programs do transitioning individuals participate in?
- What can be learned from the MFP tracking system regarding housing arrangements, peer outreach/support contacts, and application assistance?

The second set addressed the following questions:

- How prevalent are pre-transition acuity indicators, such as ADL and IADL deficiencies and select active diagnoses, among MFP participants?
- What is the average length of pre-transition institutional stay?
- How do pre- and post-transition expenditures vary by waiver program and service category among MFP participants?
- Why do some individuals not complete their 12-month MFP span?

**Money Follows the Person Benchmarks:** Hilltop continued to produce semiannual reports for CMS on the state's progress in achieving MFP benchmarks. Each quarter, Hilltop also prepared MFP reporting files for submission to Mathematica Policy Research, the national MFP program evaluator. This work involved converting MMIS2 files for each MFP participant to Medicaid Statistical Information System files. The files required by Mathematica for each MFP participant include a finders file containing demographic and eligibility information; a participation data file, which holds more specific information on the participant than the finders file; and a service file with claims data.

**Personal Attendant Use:** In FY 2013, to assist the Department in preparing for Community First Choice, Hilltop began a series of analyses of personal attendant use by the LTSS population. Hilltop analyzed interRAI assessments and corresponding plans of service/plans of care in the



*LTSS Maryland* information system. Hilltop analyzed activities of daily living (ADL) and instrumental activities of daily living (IADL) need levels of the Older Adults Waiver (OAW), Living at Home (LAH) Waiver, and MAPC populations, and compared them with allocation of personal attendant services for those populations to determine whether individuals with the highest IADL/ADL needs also used the most personal care attendant services. Hilltop also analyzed claims data for individuals who had three months of personal attendant use to examine service use levels. Hilltop analyzed resource utilization group (RUG) assignments for these populations and compared them with personal attendant service allocations. Hilltop then compared the IADL/ADL needs of these populations with personal attendant service allocations analyzed by both 56-hour and 84-hour work week allocation caps.

**Nursing Home Community Benefits:** Maryland law requires that nonprofit hospitals provide community benefits pursuant to a carefully crafted statutory and regulatory scheme. Nonprofit hospitals are required to engage in certain types of activities that benefit the communities they serve. These hospitals are further required to submit detailed reports of those activities—and their associated costs—on an annual basis. However, Maryland has not imposed community benefit requirements on nonprofit nursing homes and does not require submission of data on any similar activities in which the nursing homes may engage on a voluntary basis. The Joint Chairmen’s Report of the 2012 legislative session requested a study on nonprofit nursing home community benefits. At the request of the Department, Hilltop conducted a study of Maryland’s nonprofit nursing homes licensed in 2010 (the most recent year for which complete data were available) to estimate the value of tax exemptions provided to these entities and assess the extent of the community benefits they provide.

**Chart Books:** In FY 2013, Hilltop released chart books, titled *Medicaid Long-Term Services and Supports in Maryland*, which summarize demographic, service utilization, and expenditure data for Maryland Medicaid recipients of LTSS during FYs 2008 through 2011. Volume I reported on four Maryland Medicaid waiver programs—the OAW, LAH Waiver, Residential Services Center Waiver, and Medical Day Care Services Waiver—as well as nursing facility utilization. Volume II reported on the Autism Waiver. In FY 2013, a third chart book was produced reporting on the Traumatic Brain Injury (TBI) Waiver.

**Medical Assistance Personal Care Conference Evaluation:** In FY 2013, Hilltop evaluated the 2013 annual Medical Assistance Personal Care (MAPC) conference, which provides continuing education and updates in the field of personal care, as well as networking opportunities for professionals working in the field. The conference evaluation involved analyzing the responses of post-conference surveys completed by attendees.



**Medicaid to Long-Term Care Coverage Group:** In FY 2013, Hilltop analyzed the portion of the LTC population that transitioned from community Medicaid (MA) to MA-LTC in CY 2011 to determine whether individuals who gained a new span of MA-LTC coverage had been assigned a previous community Medicaid coverage group code during a three-month retroactive potential eligibility period.

**Residential Maintenance Allowance:** In FY 2013, Hilltop analyzed nursing facility coverage groups to determine how they might be affected by changes in the residential maintenance allowance (i.e., income disregards) for Medical Assistance recipients to maintain their personal residences.

**Nursing Home and Program for All-Inclusive Care for the Elderly Rate Setting:** In FY 2013, Hilltop continued to develop Medicaid reimbursement rates for Maryland nursing homes and the Program for All-Inclusive Care for the Elderly (PACE). For nursing homes, Hilltop provided analyses of rate setting logic as needed, calculated the Medicare upper payment limit, evaluated alternative models, and trained Departmental staff. In addition, Hilltop continued to facilitate the electronic submission of cost reports by nursing home providers and developed the annual calendar year rates for Hopkins Elder Plus, a small PACE program in Baltimore City.

**Traumatic Brain Injury:** In FY 2013, Hilltop performed an analysis on FYs 2012 and 2013 Medicaid service utilization and expenditures for the Transitional Age Youth Traumatic Brain Injury Pilot Program, delineated by service.

**Autism Waiver:** In FY 2012, using the reporting mechanism it developed for the Department, Hilltop analyzed the “grey area” population in the Autism Waiver—individuals who would not be eligible for Medicaid state plan services if they were not enrolled in this waiver. The Department bills the Maryland State Department of Education (MSDE) for the cost of Autism Waiver services and for state plan services for the grey area population. Hilltop produced the quarterly reports to support the Department’s invoicing to MDSE.

**StateStats:** Hilltop produced monthly updates for Maryland’s StateStats website on cumulative enrollment from January 1, 2001, to July 31, 2012, for the OAW, LAH Waiver, and Autism Waiver.

**CMS 372:** In FY 2013, Hilltop produced the CMS 372 waiver reports for FY 2012. Hilltop produced reports for the OAW, LAH Waiver, TBI Waiver, Community Pathways Waiver, Medical Day Care Services Waiver, New Directions Waiver, Autism Waiver, and Residential Treatment Center Waiver.



**Waiver Tracking and LTSS Integrated System:** In FY 2013, Hilltop continued to support the Department's development of *LTSSMaryland*, its integrated LTSS information system. *LTSSMaryland* is a web-based system that integrates separate tracking systems for several HCBS waivers and provides functionality for additional LTSS reform modules. In FY 2013, until *LTSSMaryland* launched, Hilltop continued to maintain a number of tracking systems for individual waiver programs. Hilltop continued to maintain the MFP Tracking System, a web-based system used statewide to manage MFP business processes, the OAW and LAH Waiver Tracking System, and the Quality Care Review (QCR) Tracking System.

On January 28, 2013, the *LTSSMaryland* information system launched as a single, integrated information system merging functionality from the MFP, OAW, LAH, and QCR tracking systems. *LTSSMaryland* was designed to be expandable to include additional functionality as needed for LTSS reform. The MOU with the Department allowed Hilltop to subcontract with FEi, an IT development company. FEi and Hilltop worked together, in conjunction with the Department, to develop *LTSSMaryland* use cases; define business processes and reports; conduct system trainings; prepare the MFP, LAH, and OAW Waiver and QCR databases for import; and migrate the data from these tracking systems into *LTSSMaryland*. When the system launched in January 2013, Hilltop was responsible for helpdesk, hosting, and user support, as well as assisting the Department with change control workgroup items, testing system modifications, and ongoing user training.



## Data Management and Web-Accessible Databases

For research and data analysis, Hilltop uses MMIS2 and other data acquired under data use agreements with CMS and other state and federal agencies. Hilltop has considerable expertise in website development and information architecture; web reporting, query, and tracking systems; and web-based surveys.

**Management Care Organization Reporting:** In FY 2013, Hilltop continued the refinement of MCO reporting (on both MCO and PAC usage) on the DSS site, which includes counts of enrollees and received encounters, as well as analysis of service counts. Hilltop calculated MCO inpatient kick payments and provided reference materials on procedure codes, fatal error codes, the Health Insurance Portability and Accountability Act of 1996 (HIPAA) journal, the FQHC site, and MCO date-of-service charts.

**Primary Adult Care Program Reporting:** In FY 2013, Hilltop continued the development and refinement of PAC reporting on the DSS site provided under the MCO reporting system. Hilltop completed the development of both usage and service reports by CY and FY. PAC reporting was also updated to reflect outpatient and dental service count analyses.

**National Provider Identifier:** The national provider identifier (NPI) is a standard, unique identifier for covered health care providers, health plans, and health care clearinghouses. NPI use was adopted under HIPAA for all electronic administrative and financial transactions. The Department required the inclusion of NPIs on Maryland Medicaid claims and HealthChoice encounters by July 1, 2008. Hilltop has been receiving claims and encounter data with NPIs since that time.

**Maryland Medicaid Data:** Hilltop continued to maintain Maryland Medicaid data from as far back as 1991 and receive data electronically from the Department on a monthly basis. Included in the data transmissions are FFS claims (medical, institutional, and pharmacy), MMIS eligibility, encounters (HCFA, Pharmacy, and UB92), and PAC data. Hilltop continued to receive and update provider data quarterly. Hilltop processes more than 12 million Medicaid records each month, creating yearly databases in excess of 150 million records. The encounter database is the largest—with more than 100 million records—followed by the FFS database, which comprises more than 40 million records and 500 variables processed annually.

**Health Services Cost Review Commission Data:** Hilltop continued to maintain hospital inpatient and outpatient HSCRC data from 2006 through 2013. These data were used for HealthChoice analyses; case counts and cost studies; analyses by diagnosis related group (DRG); and studies on nursing home discharges, ED admissions, and hospital admissions.



**Minimum Data Set:** MDS assessments are federally mandated and completed for all residents of certified nursing homes, regardless of payment source. Hilltop continued to maintain MDS data from nursing homes in Maryland for all residents. The MDS assessments contain resident identification, demographic data, information on the patient's physical and mental state, and ADLs. Hilltop updates MDS data files on a monthly basis.

**Medicare-Medicaid Claims Data:** Hilltop continued to maintain Medicare and Medicaid claims data as a resource for future analysis and improved understanding of the characteristics and needs of Maryland's Medicare-Medicaid enrollees, i.e., individuals who are eligible for both Medicare and Medicaid. These data, along with other state and federal data sources, can be used, for example, to explore how coverage by both Medicare and Medicaid impacts the utilization, delivery, and costs of services. Among other activities, two additional years of data have been assimilated into the analysis files, which now reflect linked data through CY 2010.

### ***Databases Developed and Maintained for the Department***

Hilltop has developed several databases that it continued to maintain and update monthly for the Department, including, but not limited to: MCO and PAC Encounters, MCO Capitation, and FFS Claims; Provider; Medicaid Eligibility; health risk assessment (HRA); and ESRD. In addition, Hilltop continued to maintain and support previously developed database applications, including Early and Periodic Screening, Diagnosis, and Treatment (EPSDT); REM; and Waiver Tracking Systems.

**Maryland Medicaid eHealth Statistics:** Hilltop continued to maintain Maryland Medicaid eHealth Statistics (<http://www.md-medicaid.org/>), a public website that provides a subset of the data available on the DSS. This site allows researchers, community leaders, practitioners, and the public at large to access Maryland Medicaid health statistics.

**Waiver Tracking Systems:** In FY 2013, Hilltop continued to maintain tracking systems for the Medicaid HCBS waivers until *LTSSMaryland* launched in January 2013. For a complete description of activities, see the Long-Term Services and Supports section of this report.

**Immunization Registry:** Hilltop continued to prepare and import immunization data for Medicaid beneficiaries to the Maryland Immunization Registry. Hilltop collected data from various databases, including eligibility, claims, and provider files, to compile data on each Medicaid enrollee who had an immunization procedure during the period reported. These data provided demographic and other information on these individuals. Hilltop updates this database annually.



**Health Services Needs Information:** In FY 2013, Hilltop continued working with the Department to clarify issues pertaining to HRA data received from the HealthChoice Enrollment Broker, as well as the logic used to review overall compliance and compliance with specific regulations and enrollment. In addition, Hilltop continued to produce quarterly reports.

### ***Data Requests***

Throughout FY 2013, Hilltop prepared hundreds of ad hoc data analyses and reports for the Department to support policy and financial analyses conducted by the Department. Exhibit 1, lists some examples of these reports. Hilltop also responded to many external requests for Medicaid data, examples of which are listed in Exhibit 2.





## Exhibit 1

### Selected Ad Hoc Data Requests and Reports for the Department, FY 2013

- Provided the data for the annual HealthChoice evaluation
- Provided data for the analysis of service utilization by beneficiaries who were enrolled in the Family Planning program
- Provided data required to complete the annual Title V Block Grant Application
- Provided the REM annual trend data, including cost, enrollment, and utilization data from FYs 2008 to 2012
- Performed the preliminary and final ambulatory care VBP measures for enrollees with disabilities enrolled in HealthChoice for CY 2012
- Performed the preliminary and final lead screening VBP measure for children enrolled in HealthChoice in CY 2012
- Provided FY 2013 monthly buprenorphine prescription data for *StateStat*
- Provided the following MFR data for CY 2012: lead testing, asthma and diabetes avoidable admissions, and ambulatory care racial disparities
- Provided substance use disorder (SUD) data for FYs 2012 and 2013. These data were sent to each MCO for the SUD pricing project
- Performed a data analysis of provider types, procedure codes, and costs of providing Medicaid services to individuals enrolled in the Medicaid X02 coverage group (i.e., undocumented aliens) in CYs 2010 through 2012
- Performed a data analysis on dental service utilization and dental disparities for children and pregnant women enrolled in HealthChoice and MCHP
- Provided the Department and Delmarva with data used to identify the number of EPSDT recipients with childhood obesity and assisted in resolving problems with the obesity and Healthy Kids data sets for CY 2012
- Provided data on setting, type of service, and prior coverage group for newly enrolled waiver participants prior to enrolling in the OAW, LAH, Autism, and Medical Day Care Services Waivers



### Exhibit 1, continued

#### Selected Ad Hoc Data Requests and Reports for the Department, FY 2013

- Provided reports on the number of unduplicated users and Medicaid expenditures for individuals receiving Maryland Medicaid State Plan personal care services who were not enrolled in a waiver during the same fiscal year
- Provided information on length of stay for current OAW, LAH, Autism, and Medical Day Care Services Waiver participants
- Provided reports on the types of attendant care provided for LAH Waiver participants from FYs 2008 to 2011
- Provided data pertaining to level of care, monthly resident counts by age group, and both nursing facility and non-nursing facility monthly Medicaid costs for the 65 and over and the under 65 nursing facility populations
- Provided Medicaid dental billing data for CY 2012
- Provided data to use in administering the 2012 CAHPS® satisfaction surveys to eligible HealthChoice enrollees
- Provided data to use in administering the 2012 PAC satisfaction surveys to eligible PAC enrollees
- Provided a data set with a random sample of enrollees for Delmarva's annual HealthChoice managed care encounter validation report
- Provided a random sample of PCPs participating in HealthChoice, as part of the provider directory initiative
- Performed ongoing analyses of behavioral health service utilization by Medicaid enrollees for the behavioral health integration workgroups
- Performed an analysis of HSCRC data to estimate the number of Medicaid and non-Medicaid hospital discharges for the electronic health record incentive payment initiative
- Merged taxpayer data provided by the Comptroller with the MMIS2 and conducted ongoing analyses of Medicaid enrollment as a result of the Kids First tax mailing
- Provided enrollment data to Mathematica Policy Research as part of the national express lane eligibility evaluation
- Performed an analysis of dental service utilization and provider data to respond to the ASTDD survey



### Exhibit 1, continued

#### Selected Ad Hoc Data Requests and Reports for the Department, FY 2013

- Performed the lead quarterly match, prepared the lead quarterly and annual reports for the MDE Lead Poisoning grant, and generated county-based analysis of lead testing rates for children aged 12 to 23 months and 24 to 35 months
- Performed an analysis of the most frequently used diagnoses codes for inpatient admissions for the behavioral health integration project
- Performed a cost analysis of hospital/FQHC physician charges using office visit, surgery, laboratory, radiology, and colonoscopy procedure codes provided by CareFirst and rates provided by Amerigroup
- Analyzed the number of visits and associated costs to achieve \$40 million in Medicaid savings for outpatient non-emergency services by enrollees in HealthChoice MCO, PAC, and FFS
- Performed analyses identifying the number of children and adults enrolling into Medicaid and MCHP as a result of the Structured Employment Economic Development Corporation (SEEDCO) referral program
- Provided eligibility data for enrollees in the Breast, Cervical & Colon Health Program
- Provided utilization data for CY 2011 on ED, inpatient, and nursing home stays for enrollees with heart disease or stroke as their primary diagnosis, and identified the FFS costs for claims, days, and stays for heart disease and stroke-related visits
- Provided data on the utilization of anesthesia services by provider for FYs 2008 through 2010
- Provided data on the frequency and enrollment spans of REM participants who disenrolled from REM but remained in Medicaid from FYs 2003 through 2012



## Exhibit 2

### Selected External Data Requests at the Request of the Department, FY 2013

- **Maryland Women, Infants, and Children Program:** Provided Medicaid enrollment information for individuals potentially eligible for the Women, Infants, and Children (WIC) Program (i.e., pregnant women, post-partum women up to six months after birth of child, breastfeeding women up to one year after birth of child, and children up to 5 years of age) to Maryland WIC to assist in planning the future locations of clinics
- **Consumer Assessment of Healthcare Providers and Systems (CAHPS®):** Provided data on adult and child Maryland Medical Assistance enrollees and primary care providers in the seven HealthChoice MCO networks for an annual study of consumer health plans
- **Cancer Screening Rates:** Provided data to facilitate the calculation of colorectal cancer screening rates in the Maryland Medicaid population and assist in the identification of individuals who are not up to date with screening
- **Buprenorphine Study:** Matched Maryland Medicaid data to the bSAS and SMART databases provided by Health Analytics in a study to determine if buprenorphine is a cost-effective treatment for opioid dependence in Baltimore City
- **Way Station:** Provided data on the number of Medicaid enrollees who received specified mental health services from a non-Way Station provider by county and a preliminary run of the number of unique Medicaid enrollees with specified ICD-9 codes in CY by county
- **Baltimore City Health Department:** Matched Maryland Medicaid data to Baltimore City Health Department data to identify children who did not match to Medicaid and whose demographic variables differed between Medicaid and Baltimore City data, for the Reducing Asthma Disparities initiative
- **Patient-Centered Medical Home:** Provided data to the Maryland Health Care Commission and the University of Maryland School of Pharmacy for the Patient-Centered Medical Home (PCMH) project, including CYs 2010 and 2011 claims and encounters for Medicaid enrollees with a PCP in the study or control group for the PCMH evaluation. Hilltop asked HealthChoice MCOs to identify Medicaid enrollees assigned to specified PCP practices and to price encounters.
- **Optumas.** Transferred MMIS and dual-eligible Medicare data sets to Optumas for their work on the State Innovation Model project



## IT Architecture and Platform

Hilltop is a business associate of the Department and therefore must follow HIPAA regulations regarding electronic security. To this end, Hilltop has implemented several initiatives designed to protect the data warehouse and provided tools that allow Hilltop staff to move data and share protected health information (PHI) with other clients of the Department in a secure fashion. A three-tiered electronic defense and surveillance system that protects against all known types of malware (i.e., viruses and other electronic attacks) has been implemented. Tier One is a firewall/intrusion prevention system (IPS) that protects the system against attacks from the Internet and is located on the UMBC campus. Tier Two is a firewall/IPS designed to protect Hilltop from threats emanating from outside Hilltop's network. Tier Three is a software-based firewall/IPS designed to monitor and protect Hilltop's own network. Additionally, all servers and workstations receive updates on virus definitions and operating system security patches from a local server.

Hilltop's virtual private network (VPN) allows for remote access for off-site work and disaster recovery operations, and increases the protection of web-based applications that collect PHI. In FY 2011, Hilltop isolated WebFocus, the waiver tracking system, and remote access from the Internet via the VPN. Other additions to the Windows infrastructure included a new Storage Area Network (SAN) and high-speed tape backup unit. Hilltop's virtual infrastructure (VMWare) resides on the SAN; it is a solid production environment with several development and production servers, including the SharePoint server. In the web development area, Hilltop added WebFocus servers to improve efficiency in building new websites in the DSS.

In FY 2010, Hilltop provided further protection to its infrastructure by migrating its data warehouse to a new hardware and software platform. In FY 2011, Hilltop implemented a "DMZ" on the UMBC campus to isolate its mail and public web servers and reduce the probability of network intrusions. That same year, Hilltop further strengthened data security with the addition of a new security information and event management (SIEM) system, which collects and monitors 1.4 million system activity records each day. The addition of the SIEM system greatly increased awareness of network security. In FY 2012, Hilltop added the *LTSSMaryland* website (<https://ltssmaryland.org>), which is used for tracking applications to Maryland's Medicaid waiver programs. Security on all of these sites remains a top priority; the sites have been implemented in a separate Windows domain and are only accessible through the Hilltop VPN.

In FY 2013, as discussed in the Long-Term Services and Supports section above, Hilltop participated in outsourcing the *LTSSMaryland* website to an external vendor and closed previous access through Hilltop. Additionally, Hilltop added a high-speed connection to Network



Maryland for its monthly data feed from the Annapolis Data Center, installing new hardware and software and adding encryption to support the connection to this crucial data resource.





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