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USAID
ASSIST PROJECT
*Applying Science to Strengthen
and Improve Systems*

USAID ASSIST Project

Georgia Country Report FY14

Cooperative Agreement Number:

AID-OAA-A-12-00101

Performance Period:

October 1, 2013 – September 30, 2014

DECEMBER 2014

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DISCLAIMER

This country report was authored by University Research Co., LLC (URC). The views expressed do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

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For more information on the work of the USAID ASSIST Project, please visit www.usaidassist.org or write assist-info@urc-chs.com.

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Abbreviations

ACE-I	Angiotensin-converting-enzyme inhibitor
ACS	Acute coronary syndrome
ARB	Angiotensin II receptor blockers
ASSIST	USAID Applying Science to Strengthen and Improve Systems
BMI	Body mass index
CAD	Coronary artery disease
CME	Continuing medical education
COP	Chief of Party
COPD	Chronic obstructive pulmonary disease
CVD	Cardiovascular disease
ECEA	Effectiveness and cost-effectiveness assessment
HCI	USAID Health Care Improvement Project
ICS	Inhaled corticosteroids
LABA	Long-acting beta agonist
MOLHSA	Ministry of Labour, Health and Social Affairs
MONA	Morphine, oxygen, nitrate, and aspirin
NCD	Non-communicable diseases
QI	Quality improvement
RTI	Respiratory tract infections
USAID	United States Agency for International Development
WI-HER	Women Influencing Health, Education, and Rule of Law LLC

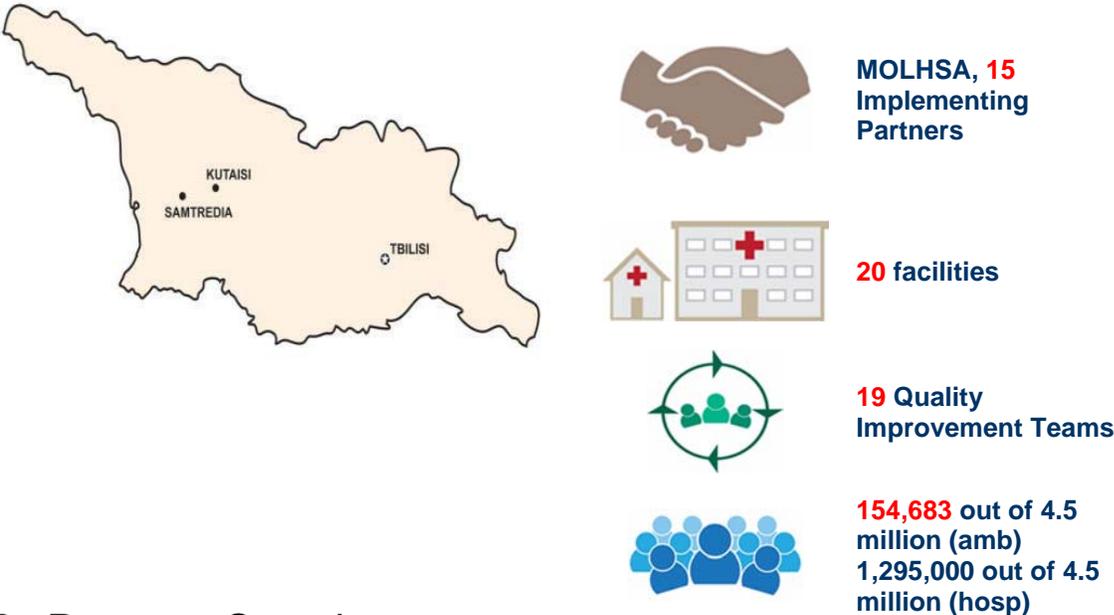
1 Introduction

The USAID Applying Science to Strengthen and Improve Systems (ASSIST) Project is working with the Ministry of Labour, Health and Social Affairs (MOLHSA) and other stakeholders in Georgia to address the quality, consistency, and continuity of medical care in one region of Georgia; to improve access to and use of evidence-based medical information by physicians; and to enhance the availability of modern evidence-based treatments throughout Georgia. The project is supporting quality improvement (QI) teams in hospitals and primary care health facilities to improve the quality of prevention and treatment of cardiovascular disease (CVD) and its risk factors, management of chronic obstructive pulmonary disease (COPD) in adult patients, and management of asthma and respiratory tract infections (RTIs) among children. ASSIST is also supporting private providers and insurance schemes to adopt evidence-based clinical protocols.

ASSIST’s work in Georgia in FY14 built on and complemented the program of work supported in Georgia since 2011 through the USAID Health Care Improvement Project (HCI). HCI funding for these activities was wrapped up in August 2014. Because both ASSIST and HCI were contributing to the same overall objectives, it should be noted that results presented in this report were also supported with funding through HCI.

To support the Government of Georgia’s strategic priority on improving quality of medical services in the country, ASSIST’s work in FY14 strengthened the health system by enhancing strategic coordination of non-communicable disease prevention and treatment and improving monitoring and evaluation of the implementation of evidence-based policies in the health sector. ASSIST has supported the development of strategies and tools to institutionalize and spread evidence-based medical practices and quality improvement methods countrywide, including individual and institutional capacity building.

Scale of USAID ASSIST’s Work in Georgia



2 Program Overview

Activities	What are we trying to accomplish?	At what scale?	Improvement Activity	Activity
1. Improve	<ul style="list-style-type: none"> Improve timeliness, continuity, effectiveness, efficiency, and patient- 	Demonstration	x	

Activities	What are we trying to accomplish?	At what scale?	Improvement Activity	Activity
quality, consistency and continuity of medical care	<p>centeredness of provided services and their consistency with clinical guidelines through the improvement collaborative approach</p> <ul style="list-style-type: none"> Strengthen capacity of medical providers to provide safe, timely, continuous, effective and efficient medical care Improve awareness on quality improvement experiences countrywide Strengthen health information system to support development of evidence-based decisions on improvement quality of medical care Ensure equitable access to priority “best-buy” high impact medical services in demonstration regions 	<p>phase is taking place in:</p> <ul style="list-style-type: none"> Imereti (1 of 11 regions in Georgia) 3/40 hospitals 4/42 polyclinics 13/212 village doctors 19 QI teams <p>This region has a population of 699,890</p>		
2. Improve access and use of evidence based medical information and treatments	<ul style="list-style-type: none"> Improve access to evidence-based medical literature (guidelines, manuals, pathways, protocols) of Georgian physicians Enhance the use of evidence-based clinical guidelines, protocols and pathways in clinical practice Strengthen capacity of professional associations in developing and adapting international guidelines and evidence-based literature to Georgian context 	Dissemination of evidence for priority conditions to all physicians countrywide		x

3 Key Activities, Accomplishments, and Results

Activity 1. Improve medical care in a demonstration region of Georgia

ACCOMPLISHMENTS

- Integrated gender in quality improvement activities:** With support from Dr. Taroub Faramand of WI-HER LLC, the project took various steps to ensure that men and women in collaborative improvement facilities receive equal care. With support from Dr. Faramand at the 8th regional learning session conducted on February 13-14, 2014 at the Kutaisi National Medical Center, the ASSIST team oriented participants about gender issues. Presenting sex-disaggregated data from different sources (population level data, results of medical chart audit, and patient and provider interviews conducted under HCI) led to group discussions about specific changes that QI teams plan to implement to reduce disparities in cardiovascular disease risk factor screening and modification practices between men and women. To identify any gender gaps in CVD risk factor screening and modification practices, ASSIST supported collection and analysis of sex-disaggregated data from two different sources: 1) routine monitoring of medical charts and 2) the cost-effectiveness study of QI interventions. Based on the identified needs, the project team supported facilities during site visits and learning sessions to implement gender-sensitive interventions to address these gaps.
- Continued clinical, quality improvement, and other needs-based training and coaching of project-supported medical facilities.** During July – September 2014, the project team continued providing support to improvement teams of facilities in the Imereti Region to test and implement changes in their care processes and to improve prevention and treatment of cardiovascular disease, asthma, COPD, and RTIs. During FY14, the ASSIST Georgia team conducted three field trips and

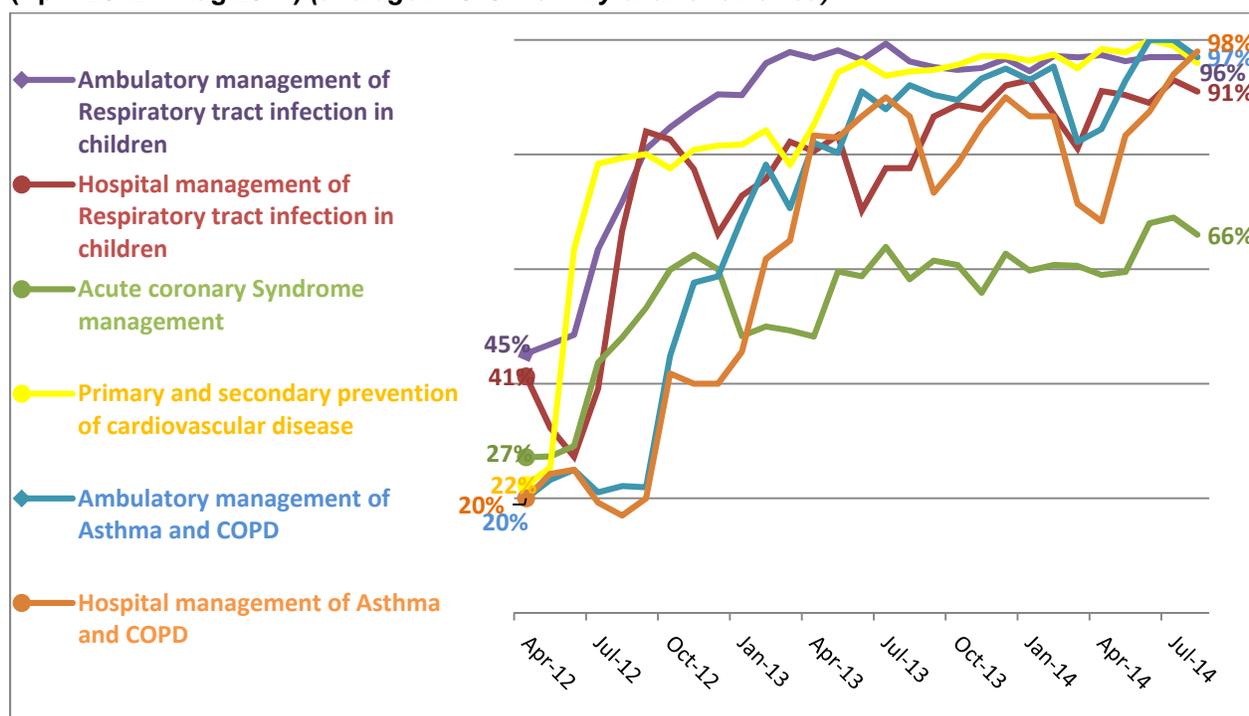
488 provider-hours of training, including: 52 provider-hours in quality improvement; 185 provider-hours in CVD risk factor screening and modification; 72 provider-hours in acute coronary syndrome (ACS) management; 158 provider-hours in pediatric RTI management; and 21 provider-hours in asthma/COPD management.

- **Used diversified methods of training to respond to quality improvement teams' needs:** USAID ASSIST expert Dr. Ivane Chkhaidze conducted a workshop with open consultation (directly observed consultation practice) at the village Nabakevi Primary Health Care Center in Samtredia District (Aug 1, 2014). Pediatricians and family doctors from Samtredia hospital, Kutaisi #3 children polyclinic, as well as village doctors from Samtredia and Terjola-Tskaltubo districts participated in this workshop. ASSIST experts also conducted continuing medical education (CME) courses in diagnosis and management of hypertension, assessment and management of ischemic heart disease, coronary artery disease (CAD), and hospital management of ACS and COPD exacerbation for project-supported medical facilities (Sept. 4-6, 2014). Fifty-five providers from project-supported facilities (out of 60 participants) who successfully passed the exam (pre- and post-testing) received CME credits and certificates from the Georgia ASSIST Project and relevant professional associations.

RESULTS

- **After 28 months of QI interventions, routine monitoring showed sustained improvement of best care practices in all project priority clinical areas from April 2012 (baseline) to August 2014 (Figure 1).**
 - Average compliance with evidence-based best practices for screening, prevention, and management of CVD risk-factors reached 98%; this represents an increase of 74 percentage points from baseline.
 - Average compliance with standards for management of acute coronary syndrome improved by 39 percentage points.
 - Average compliance with RTI management best practices in children in intervention ambulatories and hospitals improved by 52 and 50 percentage points, respectively.
 - Average compliance with asthma and COPD management best practices in ambulatories and hospitals improved on average by 77 and 78 percentage points, respectively.

Figure 1: Average compliance with process indicators per clinical focus area, Imereti, Georgia (April 2012 – Aug 2014) (average n=343 monthly charts reviewed)



- **Primary and secondary prevention of cardiovascular disease (including CVD risk factor screening and modification):** As shown in Table 1, by August 2014, 11 out of 12 process indicators in CVD risk factor screening and modification reached or remained above 90% compliance.

Table 1: Baseline and ongoing compliance of CVD risk-factor screening and modification indicators (March 2012 – Aug 2014) (average n=110 medical charts reviewed monthly)

Indicator	March 2012	May 2014	August 2014	Magnitude of improvement (percentage points)	
Current updated list of chronic medications (or documentation of their absence)	0%	99%	93%	93	
Body mass index (BMI) documentation	6%	99%	100%	94	
Counseling on diet and physical activity during last 12 month	6%	100%	100%	94	
Smoking status documentation at last visit	1%	97%	97%	96	
Tobacco cessation intervention (counseling or medication) at last visit if smoker	-	100%	100%	--	
Blood pressure measured at last visit	93%	100%	100%	7	
Anti-hypertension treatment prescribed/adjusted at last visit if hypertension	84%	100%	100%	16	
Cholesterol/lipid measurement during last 5 year if ≥ 1 CVD risk factor or diabetes, heart failure, MI, PCI	Planning	-	97%	98%	--
	Measurement	9%	29%	33%	24
10 year CVD risk calculated if two or more CVD risk factors	0%	100%	100%	100	
Primary prevention of CVD: aspirin+antihypertensive+statin prescribed if CVD risk $\geq 20\%$ or diabetes	0%	100%	94%	94	
Secondary prevention of CVD: aspirin, B-blocker, ACE-I/ARB, Statin prescribed if CAD	6%	100%	93%	87	

- The only indicator to remain below 50% compliance was lipid/cholesterol measurement. Although the prescription of the test by providers was 98%, not all patients received the test due to lack of availability. Total cholesterol measurement among patients with one or more CVD risk-factors or diabetes, CAD, heart failure, stroke in 3 polyclinics and 13 village practices increased from 9% of charts in March 2012 to 33% in August 2014.
- **Management of Acute Coronary Syndrome within hospital care in Georgia showed steady improvement, and overcame issues which were found to be thwarting improvement.** Providers were more resistant to changes without formal requirements and their busy schedule, given a completely private hospital market (in a weak regulatory environment) trying to reach maximum efficiency frequently through understaffing medical facilities leaves a lack of time among care providers for quality improvement meetings and clinical coaching (Table 2).

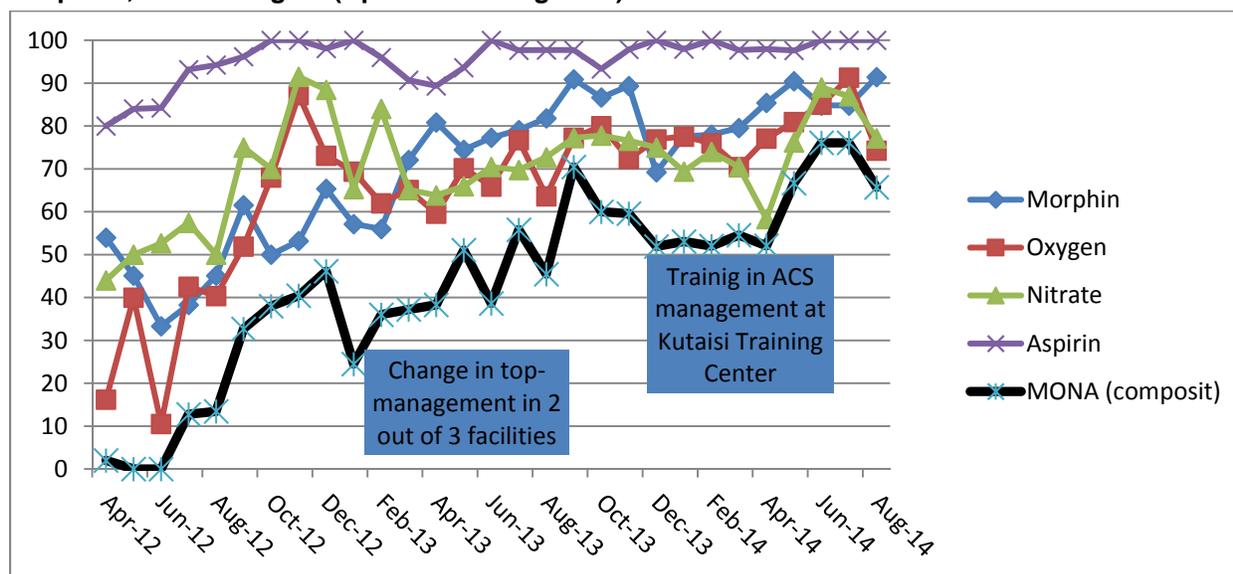
Table 2: Baseline and ongoing compliance with ACS management indicators (April 2012 – Aug 2014) (average n=50 medical charts reviewed monthly)

Indicator	April 2012	May 2014	August 2014	Magnitude of Improvement (percentage points)
Initial assessment				
Vital signs documented in 10 minutes at presentation	26%	93%	94%	68
EKG and interpretation in 10 minutes at presentation	27%	100%	100%	73
Cardiac enzymes measurement performed according to diagnosis		83%	80%	80
Documentation of acute pre-hospitalization course	12%	69%	71%	59
EKG tracking requirements fulfilled according to diagnosis	50%	86%	97%	47
Severity of early risk documented	0%	0%	0%	0
Initial treatment: MONA (all components documented)	2%	67%	66%	64
Morphine (Use of adequate pain reliever)	54%	90%	91%	37
Oxygenation (if pulsoxymetry<95% or not measured)	16%	81%	74%	58
Nitrate (or contraindication documented)	44%	76%	77%	33
Aspirin (or contraindication documented)	80%	98%	100%	20
Ongoing treatment				
Aspirin (or contraindication documented)	74%	95%	100%	26
Beta-blocker (or contraindication documented)	36%	36%	45%	9
ACE Inhibitor (or contraindication documented)	55%	62%	73%	18
Thienopiridins (or contraindication documented)	38%	88%	94%	56
Discharge planning and discharge				
Lipids measured prior to discharge	-	43%	39%	-4
Screened for tobacco and received tobacco cessation intervention if smoker	-	36%	61%	25
Standard discharge form fully completed	0	24%	35%	35
Discharged home with post-myocardial infarction high-impact treatment bundle	9%	12%	29%	20
Controlled blood pressure at discharge	-	98%	100%	

Evidence-based initial treatment of patients with ACS increased by 54% compared to baseline.

Evidence-based initial treatment is a composite of four measures: evidence-based pain relief, oxygen if needed, ischemia control, and aspirin or contraindications noted. As shown in Figure 2, none of these four components show less than 70% compliance, with one above 90%. With refresher trainings on evidence-based management of ACS at the Kutaisi Training Center and in project-supported facilities in 2014 and ongoing coaching, the project team expects to observe a further increase in compliance with best ACS care practices in FY15.

Figure 2: Evidence-based initial treatment of patients with acute coronary syndrome in three hospitals, Imereti Region (April 2012 – Aug 2014)



- Achieved sustained improvement in management of Pediatric RTIs at the ambulatory level.** All indicators assessing management of pediatric RTI at ambulatory level sustained improvements gained. Providers in collaborative improvement facilities and the project staff attributed this success to continuous group and individual training, supportive supervision through medical record review and case study discussions, regular monitoring and analysis of progress of improving quality of RTI management (Table 3).

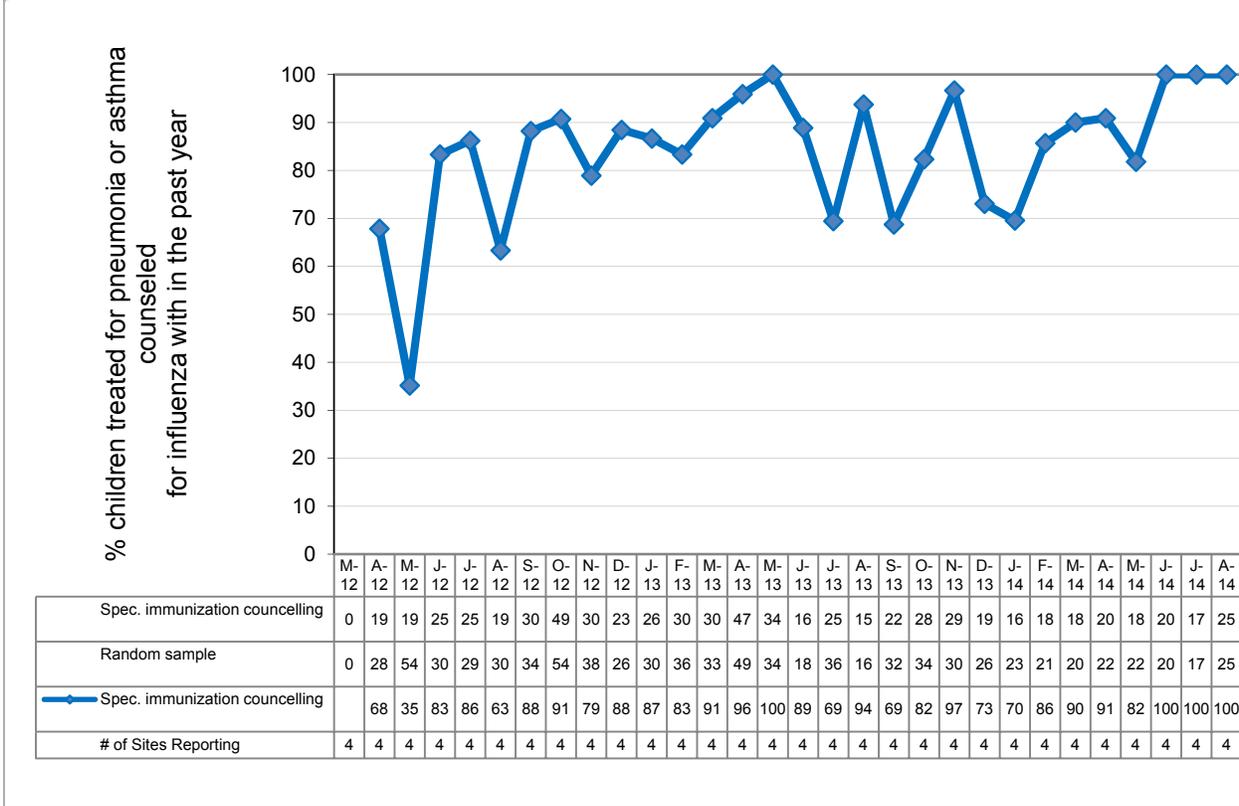
Table 3: Compliance with ambulatory management best practices for respiratory tract infections in children (April 2012 – Aug 2014) (average n=80 charts reviewed monthly)

Indicator	April 2012	May 2014	August 2014	Magnitude of improvement (percentage points)
% of medical charts of children diagnosed with acute RTI for whom diagnosis is supported by medical chart documentation	37%	100%	100%	63
% of medical charts of children diagnosed with respiratory tract infection for whom vital signs recorded in medical record	60%	95%	100%	40
% of medical charts of children treated with antibiotic for RTI for whom chart documentation supports antibiotic use	14%	100%	100%	86
Average # of antibiotics prescribed for each child treated for RTI with an antibiotic	1.03	1.00	1.00	-0.03 (count)
% of medical charts of children treated with antibiotic for RTI for whom 1st line antibiotic is used	15%	100%	100%	85
Average # of non-evidence-based medications prescribed per child treated for RTI	0.82	0	0	-0.82 (count)
Proportion of injectable medication in therapy of children treated for RTI in the past month	0	0.01	0	0
% of medical charts of children treated for RTI diagnosis for whom adequate follow up visit/contact is recorded in chart	30%	100%	97%	67

Indicator	April 2012	May 2014	August 2014	Magnitude of improvement (percentage points)
% of medical charts of children evaluated for RTI referred to hospital if acute illness signs recorded in chart	67%	-	100%	33
% of medical charts of children treated for RTI diagnosis for whom recommendations, prescription with dosages and their duration documented in the chart	73%	91%	90%	17
% of medical charts of children treated for pneumonia or asthma counseled for influenza vaccination within the past year	68%	82%	100%	32

- **Average compliance with RTI management best practices at the ambulatory care level reached over 98%.** In addition, counseling of caretakers of children treated for pneumonia or asthma about influenza vaccination shows a positive trend of improvement during the last two quarters (Figure 3).

Figure 3: Percentage of children treated for pneumonia or asthma whose caretakers were counseled for influenza within the past year, 4 sites of Imereti Region (March 2012 – Aug 2014) (average n=25 charts reviewed monthly)



- **Hospital management of pediatric RTI showed continued positive trends in FY14,** based on the seven measures. Five indicators exceeded 90% compliance (see Table 4). The routine monitoring results in Table 4 shows that in parallel with improved evidence-based medication prescription practices to treat pediatric RTIs in hospitals, the average number of X-rays per RTI hospitalization as well as the use of unnecessary diagnostic tests decreased. Improved antibiotic prescription practices and decreased irrational use of services will most likely lead to decreased antibiotic resistance, death and disease burden among children and associated cost-savings.

Table 4: Baseline and ongoing compliance with RTI hospital management best practices in children (March 2012 – Aug 2014) (average n=40 medical charts reviewed monthly)

Indicator	March 2012	May 2014	August 2014	Magnitude of Improvement (percentage points)
% of charts of children hospitalized respiratory tract infection with diagnosis justified by chart documentation	49%	100%	100%	51
% of charts of children hospitalized for RTI with vital signs (heart rate, respiratory rate, temperature) documented	97%	100%	100%	3
% of charts of children hospitalized for RTI administered oxygen if indicated (respiratory distress or low pulseoxymetry).	0	100%	100%	100
% of medical charts with justified use of antibiotic during RTI hospitalization	47%	100%	100%	53
% of charts of children hospitalized for RTI treated with evidence-based first-line antibiotic (if antibiotics used)	32%	97%	95%	63
Average # of antibiotics prescribed for each child treated with antibiotics during RTI hospitalization	1.37	1.00	1.05	-0.32 (count)
Average # of non-evidence-based medications prescribed per RTI hospitalization	5.95	0	0	-5.95 (count)
Average number of X-rays per child per RTI hospitalization	0.76	0.63	0.64	-0.12 (count)
% of charts of children hospitalized for RTI for whom unnecessary diagnostic tests ordered.	76%	3%	3%	-73
% of charts with standard discharge form fully completed for children hospitalized for RTI	0	50%	58%	58

- **Improvement in ambulatory management of asthma/COPD:** Seven out of nine process indicators for specific evidence-based best practices reached 100% compliance by Q4 (Table 5). Due to low number of clinical cases of asthma and COPD seen during the reporting period in project-supported facilities, valid analysis of specific process measures could not be conducted.

Table 5: Baseline and ongoing compliance with best clinical practices in ambulatory management of asthma and COPD (April 2012 – Aug 2014) (average n=4 medical charts reviewed monthly)

Indicator	April 2012	May 2014	August 2014	Magnitude of improvement (percentage points)
% of charts of patients for asthma/COPD last month, with current updated list of regular medications	0	100%	100%	100
% of charts of patients seen for asthma/COPD last month, with classification/severity status documented	50%	100%	100%	50
% of charts of patients seen for asthma last month, for whom status of asthma control is recorded	0	100%	100%	100
% of charts of patients seen for COPD last month for whom severity of disease is assessed according to validated questionnaire	0	100%	N/A	100
Average number of non-evidence-based medications	4.20	0	0	-4.20 (count)

Indicator	April 2012	May 2014	August 2014	Magnitude of improvement (percentage points)
Treatment plan adjusted to severity/control status	20%	100%	100%	80
% of charts of patients seen for persistent asthma last month, for whom controller medication is prescribed	100%	100%	75%	-25
% of charts of patients seen for symptomatic COPD last month for whom LABA, anticholinergic or ICS is initiated	50%	100%	N/A	50
% of charts of patients seen for asthma/COPD last month, for whom risk factors (BMI, diet) is assessed and modification plan recorded	0	100%	100%	100
% of charts of patients seen for asthma/COPD last month, for whom triggers (pets, viral infections, dust, smokers at home) is assessed and modification plan is recorded	0	100%	100%	100
% of charts of patients seen for asthma/COPD last month, for whom smoking status is assessed and counseling/treatment provided	10%	100%	100%	90
% of patients seen for asthma last month who report good control	0%	50%	25%	25

- Improvement in hospital management of asthma/COPD: 9 out of 10 process indicators describing percentage of charts with specific evidence-based best practices reached 100% compliance (Table 6).

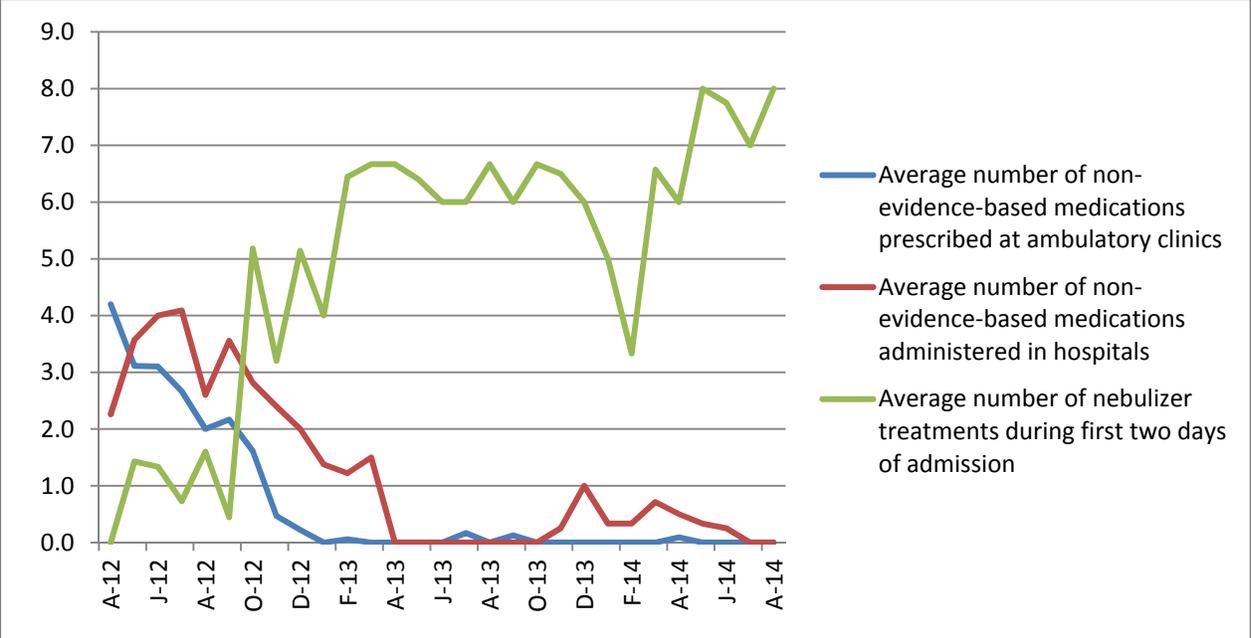
Table 6: Baseline and ongoing compliance with best hospital management practices of Asthma and COPD exacerbation (April 2012 – Aug 2014) (average n=5 medical charts reviewed monthly)

Indicator	April 2012	May 2014	August 2014	Magnitude of improvement (percentage points)
% of charts of patients discharged for asthma/COPD last month, with heart rate, blood pressure, respiratory rate, temperature recorded at admission	50%	100%	100%	50
% of charts of patients discharged for asthma/COPD last month, with pulseoxymetry measured at admission	0	100%	100%	100
% of charts of patients discharged for asthma/COPD last month, for whom oxygen is given if indicated	50%	100%	100%	50
% of charts of patients discharged for asthma/COPD last month, with severity of respiratory status recorded	0	100%	100%	100
Average number of non-evidence-based medications in patients discharged for asthma/COPD last month	1	0.33	0.0	-1 (count)
% of charts of patients discharged for asthma/COPD last month, with oral steroid started at the day of admission	100%	100%	100%	0
Average number of nebulizer treatments during first two days of admission in patients discharged for asthma/COPD last month	0	8.00	8.0	8.0 (count)
% of charts of patients discharged for asthma/COPD last month, with spirometry results recorded	0	100%	80%	80

Indicator	April 2012	May 2014	August 2014	Magnitude of improvement (percentage points)
% of charts of patients discharged for asthma/COPD last month, for whom smoking status is assessed and respective intervention performed	0	100%	100%	100
% of charts of patients discharged for asthma/COPD last month, for whom bronchodilator was prescribed at discharge	0	67%	100%	100
% of charts of patients discharged for asthma/COPD last month, for whom controller was prescribed at discharge	0	67	100%	100
% of charts of patients seen for asthma/COPD last month, with fully completed standard discharge form	0	0	100%	100

- The interventions led to improved compliance with evidence-based asthma and COPD clinical practices both at ambulatory and hospital settings, including increased use of effective nebulizer treatments in hospitals (Figure 4) with parallel decrease in the use of non-evidence-based medications.

Figure 4: Number of non-evidence-based medications prescribed and number of evidence-based nebulizer treatments applied during ambulatory and hospital management of asthma and COPD per patient medical chart review (April 2012- Aug 2014) (average n=20 charts reviewed monthly)



Activity 2. Improve access and use of evidence-based medical information

ACCOMPLISHMENTS

- **With technical, organizational, and financial support from ASSIST, the Georgian-American Medical and Public Health Association organized the 3rd Annual International Medical Conference** which brought together medical professionals from all over Georgia, representatives of various international organizations, non-governmental and private sector stakeholders supporting health sector reform programs in Georgia, and about 10 Georgian medical diaspora representatives practicing in the United States, Europe, Germany, Holland, and other countries (total 5152 provider-hours of CME conducted).

- **Dr. Tamar Chitashvili, Chief of Party (COP) ASSIST Georgia, presented project interventions and results at the international conference on Caucasus Healthcare Infrastructure and Pharma Investment Summit (Tbilisi, June 19, 2014).** Health care policy makers, European professional associations, pharmaceutical regulators, international financial institutions, and private sector representatives participated in the various panel sessions, covering different topics in health care sector. The presentation of the COP was focused on improving quality as a part and essential tool for results-based budgeting and sustainable public health financing.
- **ASSIST COP and quality improvement consultants of ASSIST Georgia participated in the 4th International Congress of the Georgian Respiratory Association** (Batumi, Georgia, June 19, 2014). At the Congress, speakers from the association, ASSIST, Georgian medical diaspora in the US and Europe, and clinical experts from various countries participated (approximately 1000 doctors representing different medical specialties in Georgia) and provided current recommendations for diagnosis and management of different respiratory conditions. The Congress was widely covered by Georgian media: <https://www.youtube.com/watch?v=eObmCaPOvcl>
- **Evidence-based Medical Portal and project Facebook page.** The project continued uploading evidence-based resources on the web-page: www.healthquality.ge. To increase awareness about the project, concept, and methods of improving health care quality and access to evidence-based medical information, the project sponsored the Facebook page <http://www.facebook.com/USAIDGeorgiaHealthCareImprovementProject>. During reporting period, the Georgia ASSIST team posted 220 updates on evidence-based management of different clinical conditions. The updates contain links to the original resources on best clinical and QI practices and translated summary evidence updates in Georgian. By the end of FY14, the Facebook page had 1,657 likes, mostly from medical personnel, professional medical associations, and health care facilities.

4 Sustainability and Institutionalization

- **To improve sustained access to high-quality, cost-effective treatment services and medications in Georgia, the project team developed the draft State Program on Outpatient Medications for Chronic Patients.** At the request of the MOLHSA and National Center for Disease Control and Public Health, in consultation with MOLHSA representatives and the Georgia Family Medicine Association, the ASSIST team developed the medication package and budget for the program, based on the prevalence, utilization patterns, and retail price of the medications in Georgia pharmaceutical market. The program considers coverage of high-impact, cost-effective medications to prevent and treat priority chronic diseases (hypertension, ischemic heart disease, diabetes, cerebro-vascular disease, asthma, and COPD). The project also provided the rationale for choosing each medication and corresponding evidence on their effectiveness/cost-effectiveness to prevent and manage above-mentioned priority NCDs. The ASSIST team hopes that the program greatly contributes to sustained access to essential NCD medications and consequently to enhanced adherence to evidence-based treatment of NCDs in Georgia.
- **Organized roundtable discussion on NCDs.** To support the Georgian Government in its effort to sustain, institutionalize, and scale up quality improvement interventions in NCD prevention and treatment services countrywide, on September 26, 2014, ASSIST supported the Embassy of Georgia in the United States to organize and conduct a Roundtable Discussion on “Future Collaborations for Improving NCD Care and Outcomes in Georgia” in Bethesda, Maryland. In attendance were the Minister of Labour, Health and Social Affairs of Georgia, the Director of Georgia’s National Center for Disease Control, USAID representatives, and participants from the US Centers for Disease Control and Prevention, National Institutes of Health, World Bank, Rostropovich-Vishnevskaya Foundation, the American Psychiatric Association, and Development Finance International. The meeting participants highlighted the importance of sustaining, institutionalizing, and scaling up successful QI interventions achieved under the USAID ASSIST Project in Georgia and agreed to continue dialogue to guide future integrated actions on prevention and control of NCDs.
- **With close involvement of relevant professional associations, the ASSIST team translated and adapted national protocols in the project’s clinical focus areas.** The protocols are intended to standardize diagnostic/treatment interventions at inpatient and outpatient levels of care, provide standard audit criteria to evaluate quality of medical services, and make evidence-based clinical

decisions at each level of health service delivery system. During FY14, the following nine protocols were adopted by ministerial decrees:

- Management of ST Elevation Myocardial Infarction (approved by #01-58/o Decree of Minister of MOLHSA on March 11, 2014)
- Management of Non-ST Elevation Myocardial Infarction and Unstable Angina (approved by #01-66/o Decree of Minister of MOLHSA on March 20, 2014)
- Management of Hypercholesterolemia/Dyslipidemia (approved by #01-158/o Decree of Minister of MOLHSA on June 28, 2014)
- Cardiovascular Disease Risk Detection and Modification (approved by #01-53/o Decree of Minister of MOLHSA on February 28, 2014)
- Management of Asthma at Ambulatory Level (approved by #01-160/o Decree of Minister of MOLHSA on June 26, 2014)
- Management of Asthma Exacerbation (approved by #01-53/o Decree of Minister of MOLHSA on February 28, 2014)
- Management of Chronic Obstructive Pulmonary Disease at Ambulatory Level (approved by #01-159/o Decree of Minister of MOLHSA on June 26, 2014)
- Management of Chronic Obstructive Pulmonary Disease Exacerbation (approved by #01-53/o Decree of Minister of MOLHSA on February 28, 2014)
- Spirometry in Clinical Practice (approved by #01-53/o Decree of Minister of MOLHSA on February 28, 2014)
- **Improved access to quality improvement implementation tools countrywide:** Incorporated all improvement tools tested and successfully implemented in project-supported medical facilities of Imereti Region into national protocols. These tools include but are not limited to: job aids, chart standardization tools, change packages, routine monitoring indicators, provider job aids, and decision support tools. As the result, these tools are now institutionalized at the national level as recommended best practices through the above-mentioned ministerial decrees and are available at the MOLHSA website: http://www.moh.gov.ge/index.php?lang_id=GEO&sec_id=68.

5 Knowledge Management Products and Activities

- **Developed RTI single facility case study on experience of a multi-facility improvement team in the town of Samtredia.** The RTI quality improvement team consisted of pediatricians in district ambulatories and hospitals and a few family doctors from neighboring villages. The case study outlines novel approaches the team used to implement changes and results in terms of process measures and reductions in the use of unnecessary diagnostic services and medications. The case study captures perspectives of a quality improvement coach, a care provider, and a patient in the quality improvement journey.
- **Developed poster on improving rational use of medications in pediatric patients with RTIs in Georgia.** The poster, presented at the Global Symposium on Health Systems Research in Cape Town, South Africa, highlights statistically significant improvements in rational use of medications, particularly, antibiotics during management of RTIs among children. The poster is available at: https://usaidassist.org/sites/assist/files/hsr_rti_poster_final.pdf
- **Developed blog on gender integration work in Georgia:** The blog, written by Dr. Faramand of WIHER, was published on the ASSIST website in June 2014 and may be accessed at: <https://usaidassist.org/blog/art-gender-integration-non-communicable-disease-improvement-activities>

6 Research and Evaluation Activities

- **With the support of ASSIST headquarters' research and evaluation team, the project is conducting a study to assess the effectiveness, cost-effectiveness, and efficiency of the quality improvement interventions in ambulatory and hospital facilities.** Data collection was completed. Analysis of the assessment data and cost information continues.
- **Validated results of QI interventions through different approaches:**
 - **Validated more than 25% of indicators reported by improvement teams against primary data sources.** During site visits, the project's QI coaches randomly selected medical charts and reviewed them together with facility improvement teams.

- o In order to properly ascribe the impact of the project interventions to the results, in addition to routine monitoring of medical charts, the **ASSIST staff assessed the effectiveness of QI interventions in participant and comparison sites through the effectiveness and cost-effectiveness assessment (ECEA)** before and after 18 month of project interventions. The assessment was comprised of: medical chart review; patient, provider, and manager interviews; and review of key inventory inputs of intervention and control ambulatory care facilities and hospitals. Consequently, the results of QI interventions were validated by: 1) comparing routine monitoring results to ECEA results (almost all routine monitoring indicators were collected during the ECEA); 2) comparing results of the ECEA between intervention and control facilities before and after the project interventions and calculating the “attributable difference” to QI; 3) triangulating results from different sources of the ECEA, such as medical chart audit and provider and patient interviews.
- o Figure 5 shows routine monitoring data collected and reported by improvement teams related to calculation of CVD risk factors and prescribing of high-impact treatment bundles. Table 7 shows results of cardiovascular disease risk management from the non-randomized controlled assessment of effectiveness and cost-effectiveness of QI before and after the project interventions in project-supported and control (comparison) ambulatory care clinics. The results show dramatic improvement in CVD risk assessment and management attributable to QI interventions in project-supported medical facilities at the endline compared to performance in the control facilities. The fact that these assessment results are comparable to the routine assessment results shown in Figure 5 and that the results are statistically significant, lends credibility to the validity of the routine monitoring data.

Figure 5: Calculation of 10-year risk of CVD event and primary and secondary prevention of CVD with high-impact medication bundle in three polyclinics and 13 village practices (March 2012 – Aug 2014)

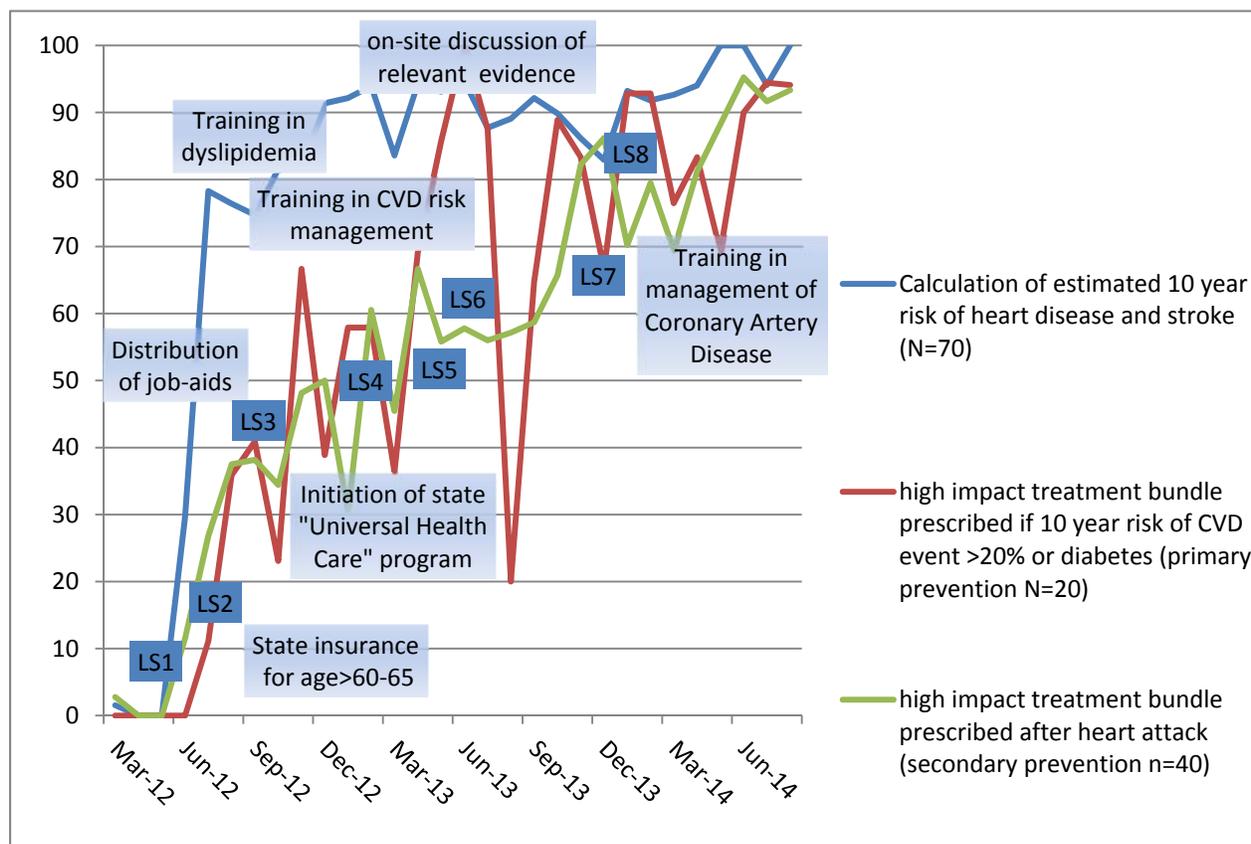


Table 7: Results of cost-effectiveness assessment: CVD risk screening and management practices in Georgia (April 2012 and Nov 2013)

Indicators	Baseline (Apr 2012)	End-line (Nov 2013)	Attributable difference between intervention and control facilities, compared to baseline
% of charts of patients with at least two CVD risk factors in which risk of CVD event in next 10 years calculated	0/48	93.7% (59/63)	Improved by 94% p<0.0001
% of charts of patients with established risk of CVD event in 10 years > 20% or diabetes treated with multi-drug therapy: aspirin, statin, BP-lowering drugs	0/24	93.3% (14/15)	Improved by 92% p<0.0001
% of patient charts with CAD on secondary prevention (Aspirin, beta-blocker, ACE-I/ARB, Statin)	5.77% (3/52)	91.4% (53/58)	Improved by 73% p<0.0001

7 Gender Integration Activities

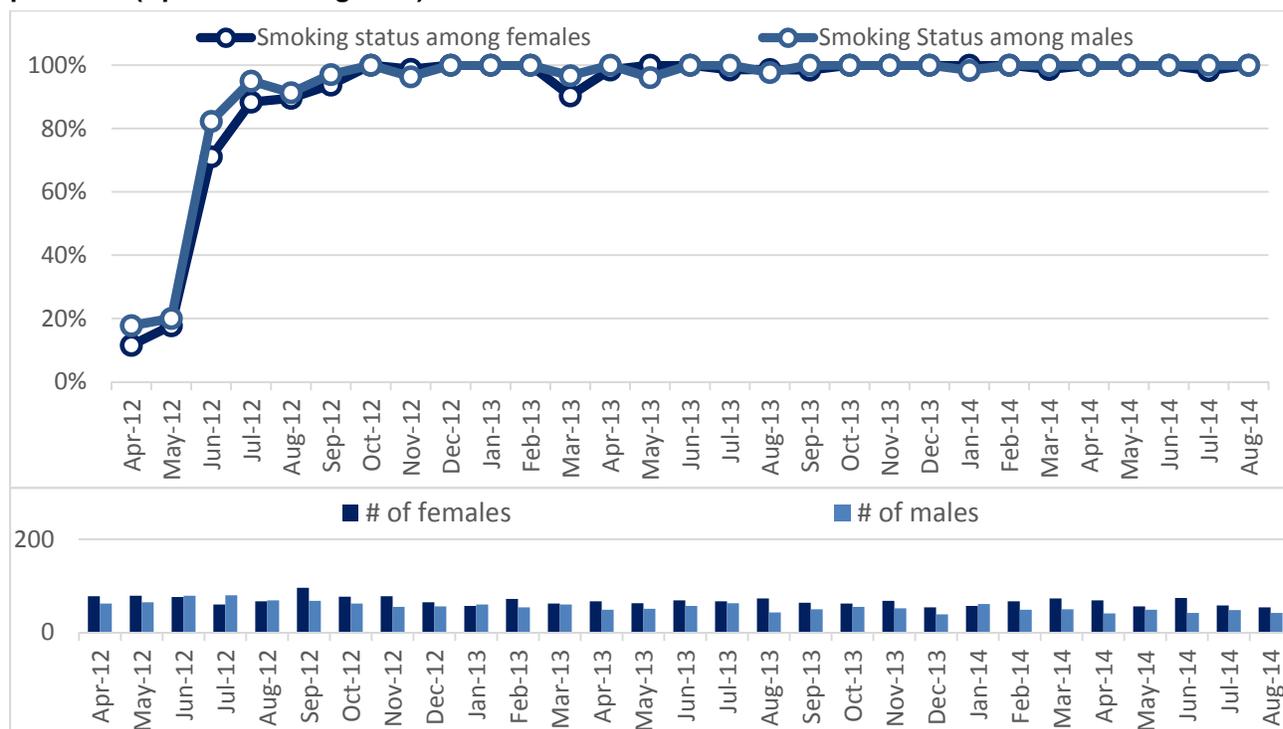
- The ASSIST team in Georgia integrated gender into the program in FY14:** The team analyzed baseline data disaggregated by sex to identify gaps. With support from ASSIST Senior Gender Technical Advisor Dr. Taroub Faramand, who travelled to Georgia in February 2014, ASSIST staff in Georgia supported QI teams to identify and respond to gender-related issues affecting outcomes. One gap identified was in the CVD risk factor calculation rates. Health care providers based the analysis of male and female clients' charts on an incorrect, preconceived idea that CVD is more prevalent in men than in women, thereby underestimating the existence of disease in female patients, suggesting that women who were at high risk of CVD may not have been receiving the proper health services and treatment. The team addressed this challenge and has improved the screening and management of CVD risk factors in primary care. The team's latest results demonstrate 100% compliance with the CVD 10-year risk calculation in both male and female patients.
- The ASSIST team in Georgia initiated gender-sensitive interventions to close the gaps identified in screening processes. The ASSIST team in Georgia collected and reported the following sex-disaggregated and gender-sensitive indicators in FY14:

 - 10-year CVD risk assessment calculation
 - Provider counseling related to: Smoking, diet, physical activity, hypertension, hyperlipidemia, and hyperglycemia
- As the result, the project closed gender-related gap and improved tobacco screening, counselling, and patient awareness:** After 18 months of improvement interventions, the intervention facilities demonstrated improved chart documentation of tobacco status and awareness of its negative influence on children's and family members' health among both women and men (Table 8).
- Routine monitoring fully coincides with the results of cost-effectiveness assessment.** As shown in Figure 6, some sex-related differences between men and women were apparent at the beginning of our intervention but for almost two years, performance has been sustained at above 90% level compliance without gender-related differences.

Table 8: Georgia: Sex-disaggregated results for smoking status assessment and patient awareness of smoking dangers (April 2012 and Oct 2013)

Data source	Indicators		Intervention baseline (April 2012)	Intervention endline (Oct. 2013)	Magnitude of improvement (percentage points)
Chart reviews	Documentation of tobacco status	Male	2% (1/64)	91%(53/58)	89
		Female	0% (0/66)	91% (68/75)	91
Patients interviews	Agrees that there are effective treatments to help motivated individuals stop smoking	Male	33% (14/43)	70% (37/53)	37
		Female	31% (30/98)	65% (61/94)	34
	Knows that smoking greatly increases persons and their children's/family members risk of asthma attack	Male	72% (31/43)	96% (51/53)	24
		Female	58% (57/98)	99% (93/94)	41

Figure 6: Smoking status documentation disaggregated by sex in three polyclinics and 13 village practices (April 2012 – Aug 2014)

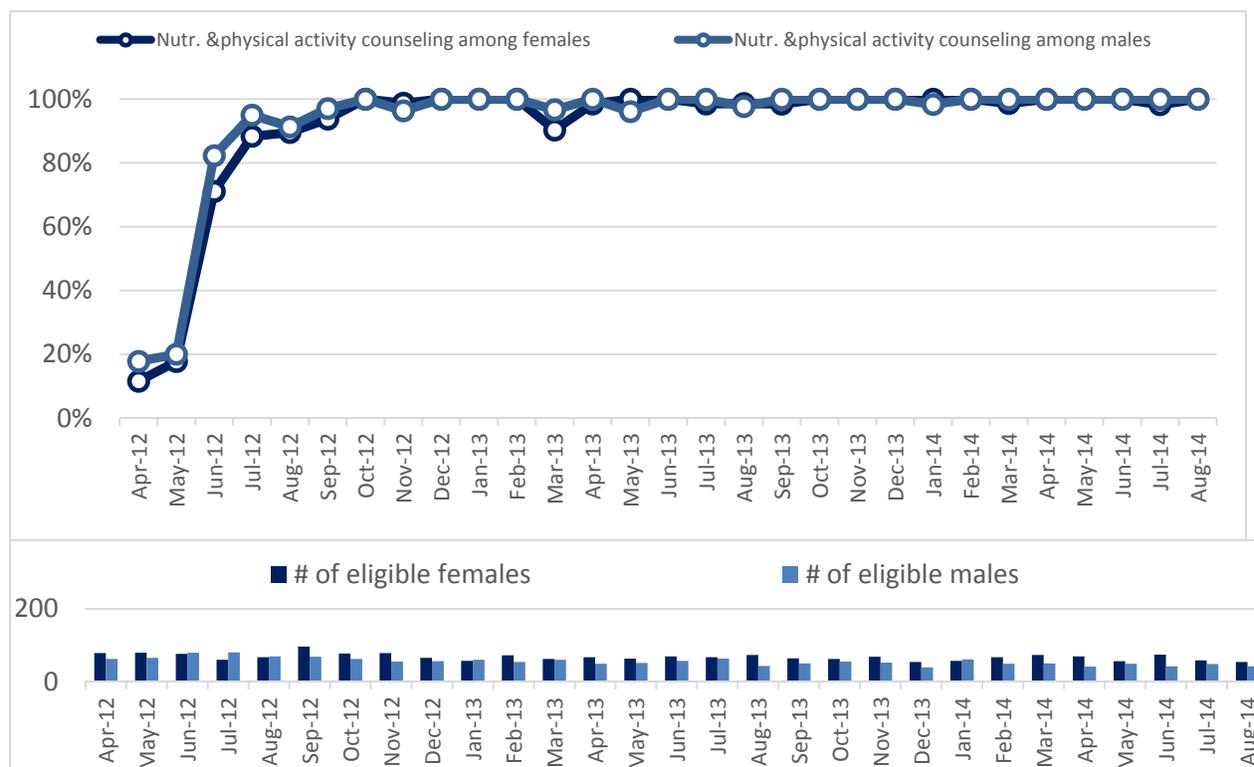


- Improved physical activity assessment and counselling:** After 18 months of improvement interventions, intervention facilities have shown improved chart documentation of physical activity assessment and counselling, particularly among women (Table 9). With intensive support and implementation of the “every patient, every time” principle by providers, the documentation of nutrition and physical activity counselling overcame a disparity in the rates of counselling for males compared to female patients. As shown in routine monitoring results in Figure 7, counselling rates were higher among males than females during the baseline. At the intervention end, counselling shows higher than 90% compliance with no gender disparities.

Table 9: Sex-disaggregated results of unhealthy eating, lack of physical exercise, and excess weight (April 2012 and Oct 2013)

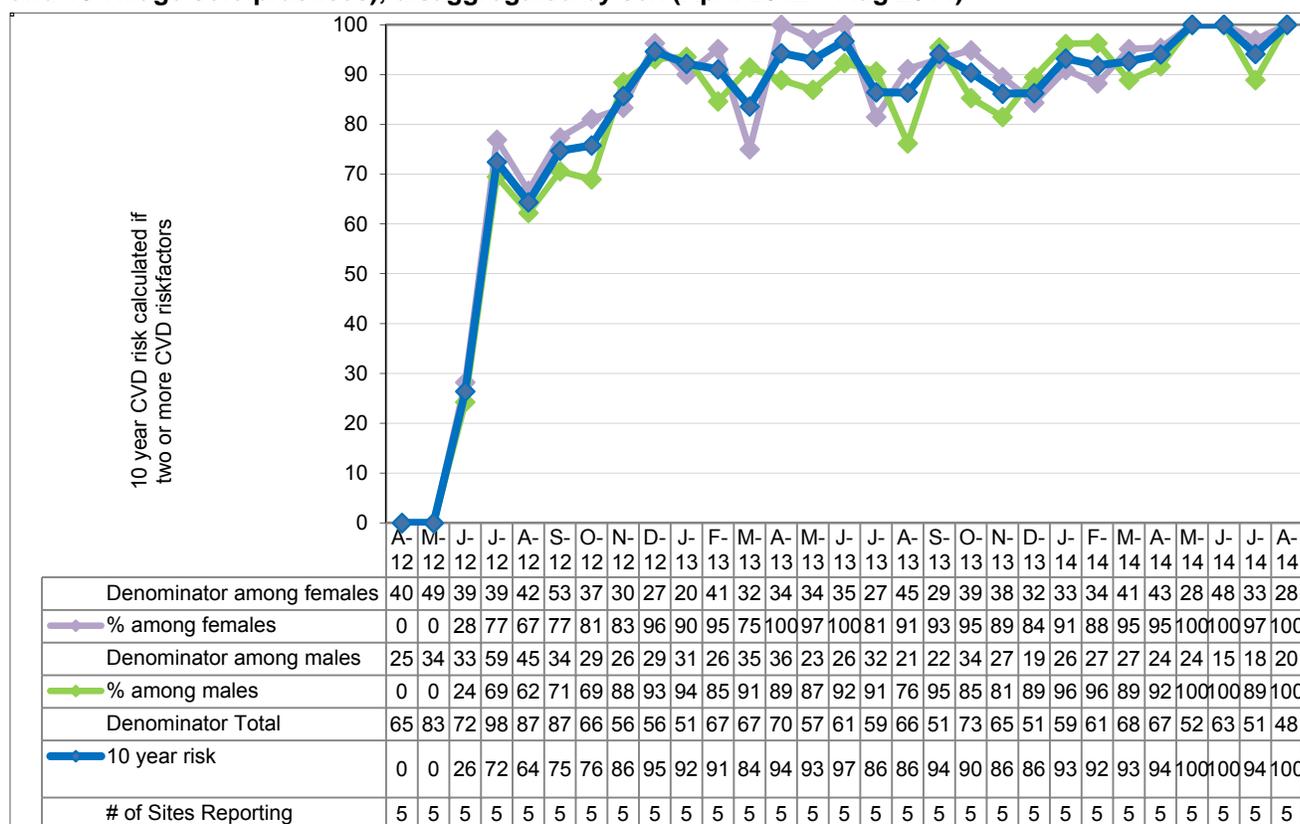
Data source	Indicators		Intervention baseline (April 2012)	Intervention end line (Oct. 2013)	Magnitude of improvement (percentage points)
Chart reviews	Physical activity status last year	Female	2% (1/66)	99% (74/75)	97
		Male	3% (2/64)	100% (58/58)	97
	Physical activity counseling last year	Female	3% (2/66)	99% (74/75)	96
		Male	8% (5/64)	98% (57/58)	90
	Documentation of nutrition and physical activity counseling during last 12 months	Female	2% (1/66)	99% (74/75)	97
		Male	3% (2/64)	100% (58/58)	97

Figure 7: Documentation of nutrition and physical activity counselling disaggregated by sex among patients with one or more CVD risk-factors or diabetes, CAD, heart failure or stroke in three polyclinics and 13 village practices (April 2012 – Aug 2014)



- Improved assessment of 10-year CVD risk by providers:** Sex-disaggregated data of routine monitoring results in quarter 2 (Q2) revealed that the gender-specific gaps might be found even in the practices with more than 90% compliance. For example, in February 2014, calculation of 10-year CVD risk was 88% in female and 96% in male patients. The difference could be explained with providers' perception that cardiovascular disease is more prevalent in men than in women. Since this perception is currently not confirmed by modern scientific evidence, the ASSIST team initiated gender-sensitive interventions to fill the gap in women in this very important screening practice, considered as a best-buy by the World Health Organization. As a result of these efforts, results in FY14 Q3 and Q4 showed 100% compliance with CVD risk assessment best practices in both men and women (Figure 8).

Figure 8: Calculation of 10-year CVD risk in five sites in Georgia (encompassing three polyclinics and 13 village solo practices), disaggregated by sex (April 2012 – Aug 2014)



8 Directions for FY15

- Continue provision of regular coaching of collaborative facility improvement teams
- Continue competency-based clinical and improvement trainings in intervention facilities in Imereti
- Support ongoing measurement of simple quality of care indicators, testing of changes, tracking progress, analyzing results, and continuously refining interventions in project-supported facilities in Imereti
- Complete cost-effectiveness assessment of improvement interventions in intervention and control facilities (data analysis and report writing), including development of article for peer-reviewed publication
- Develop/translate/adapt evidence-based medical information in Georgian language and share them on the project web site and project Facebook page
- Close out project in third quarter of FY15

**USAID APPLYING SCIENCE TO STRENGTHEN
AND IMPROVE SYSTEMS PROJECT**

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