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*Applying Science to Strengthen
and Improve Systems*

USAID ASSIST Project

Nicaragua Country Report FY14

Cooperative Agreement Number:

AID-OAA-A-12-00101

Performance Period:

October 1, 2013 – September 30, 2014

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DISCLAIMER

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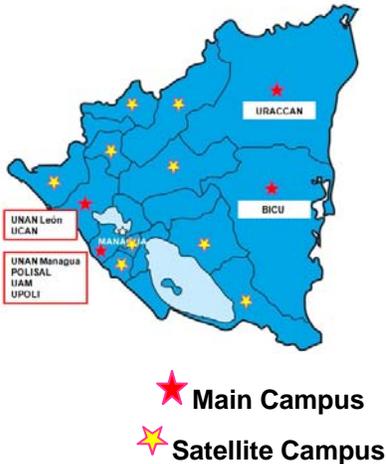
Abbreviations

AIDS	Acquired immunodeficiency syndrome
ANSAP	Nicaraguan Association of Public Health
ART	Antiretroviral therapy
ASSIST	USAID Applying Science to Strengthen and Improve Systems Project
BICU	Bluefields Indian and Caribbean University
CQI	Continuous quality improvement
FY	Fiscal year
HCI	USAID Health Care Improvement Project
HIV	Human immunodeficiency virus
KAP	Knowledge, attitudes, and practices
MOH	Ministry of Health
PEPFAR	U.S. President's Emergency Plan for AIDS Relief
POLISAL	<i>Instituto Politécnico de la Salud "Luis Felipe Moncada"</i> (Health Polytechnic Institute)
STI	Sexually transmitted infections
UAM	<i>Universidad Americana</i> (American University)
UCAN	<i>Universidad Cristiana Autónoma de Nicaragua</i> (Christian Autonomous University of Nicaragua)
UNAN	<i>Universidad Nacional Autónoma de Nicaragua</i> (Christian Autonomous University of Nicaragua)
UPOLI	<i>Universidad Politécnica de Nicaragua</i> (Polytechnic University of Nicaragua)
URACCAN	<i>Universidad de las Regiones Autónomas de la Costa Caribe de Nicaragua</i> (University of the Autonomous Regions of the Caribbean Coast of Nicaragua)
URC	University Research Co., LLC
USAID	United States Agency of International Development

1 Introduction

Since January 2014, the USAID Applying Science to Strengthen and Improve Systems (ASSIST) Project has supported the institutionalization of improvement methods and pre-service training in HIV services in the medical and nursing schools of eight public and private universities in Nicaragua. The project is assisting in developing the skills of nursing and medical faculty to apply a teaching package for quality care. It is continuing the work with universities in Nicaragua begun under the USAID Health Care Improvement Project (HCI) in October 2012. The work to institutionalize the HIV teaching package in Nicaraguan universities is supported by the U.S. President’s Emergency Plan for AIDS Relief (PEPFAR). In fiscal year (FY) 2014, eight universities received technical assistance from ASSIST: Universidad Nacional Autónoma de Nicaragua (UNAN) León, Universidad Nacional Autónoma de Nicaragua (UNAN) Managua, Bluefields Indian and Caribbean University (BICU), Universidad de las Regiones Autónomas de la Costa Caribe de Nicaragua (URACCAN), Instituto Politécnico de la Salud “Luis Felipe Moncada” (POLISAL), Universidad Cristiana Autónoma de Nicaragua (UCAN), Universidad Americana (UAM), and Universidad Politécnica de Nicaragua (UPOLI). The first five are public universities, and the last three are private universities. All universities train future medical doctors and nurses; some universities, including UNAN León and BICU, train doctors and nurses simultaneously.

Scale of USAID ASSIST’s Work in Nicaragua



8 universities of 13 existing in the country (62%)



8 Quality Improvement Teams



5,157 students out of 6,192 (83%)

2 Program Overview

Activities	What are we trying to accomplish?	At what scale?	Improvement Activity	Activity
1. Strengthen teaching of the continuous quality improvement (CQI) process and the use of the methodological designs included in the Teaching Package	<ul style="list-style-type: none"> Promote CQI in teaching by identifying gaps through HIV knowledge, attitudes, and practices (KAP) surveys among medical and nursing students Increase capabilities among university faculty in the use of assessment methodologies for medical and nursing students 	8 universities: UNAN Managua, UNAN León, BICU, POLISAL, UPOLI, URACCAN, UCAN and UAM. 8 of 13 existing in the country (62%) 8 QI teams Students: 5,157 Teachers: 50	x	

Activities	What are we trying to accomplish?	At what scale?	Improvement Activity	Activity
2. Strengthen participation of professional associations in health care quality improvement in Nicaragua	<ul style="list-style-type: none"> Involve public medical associations in the management of information on HIV Transfer knowledge to medical associations of: MOH standards and protocols; the Teaching Package for skill development of HIV prevention and care; as well as best practices for quality improvement 	Managua, with medical associations and in the public health arena		X

3 Key Activities, Accomplishments, and Results

Activity 1. Strengthen teaching of the CQI process and the use of the methodological designs included in the Teaching Package in 8 universities

BACKGROUND

Table 1 shows the universities and types of students receiving technical assistance in FY14. Table 2 provides a summary of activities that were implemented in the universities during FY14.

Table 1: Universities and careers receiving technical assistance from ASSIST (Oct 2013 – Sept 2014)

Universities	Career Tracks	
	Medicine	Nursing
UNAN Managua	x	
UNAN León	x	x
BICU	x	x
URACCAN	x	
POLISAL		x
UPOLI		x
UAM	x	
UCAN	x	x
TOTAL	6	5

Table 2: Summary of activities developed at universities (Oct 2013 – Sept 2014)

University	KAP HIV Surveys	Gap analysis in knowledge teaching methodologies	Adjustments to study programs and micro programming	Competency development among teachers	Competency development among graduate students	Training teachers on the HIV protocol according to the new WHO guidelines	Training teachers on Stigma and Discrimination
UNAN Managua	X	X	X	X	X	X	-
UNAN León	X	X	X	X	X	-	X
POLISAL	X	X	X	X	X	X	-
UPOLI	X	X	X	X	X	X	-
BICU	X	X	X	X	X	-	X
URACCAN	X	X	X	X	X	-	-
UCAN	X	X	X	X	X	-	-
UAM	-	-	-	X	X	-	-

KEY ACCOMPLISHMENTS

- Conducted HIV knowledge, attitudes, and practices (KAP) surveys among medical and nursing students at seven universities:** As shown in Table 3, ASSIST applied HIV KAP surveys to medical and nursing schools in seven of the eight; the only university which did not implement the survey was UAM, due to difficulties in conducting the survey there.

Table 3: Summary of numbers of HIV KAP surveys completed, by university (Oct 2013 – Sept 2014)

Universities	Career Tracks	
	Medicine	Nursing
UNAN Managua	168	-
UNAN León	-	28
BICU	12	21
URACCAN	35	-
POLISAL	-	107
UPOLI	-	38
UAM	0	-
UCAN	27	-
Sub-total per career track	242	194
Grand total	436	

- The purpose of the assessments was to objectively identify existing gaps in HIV knowledge, attitudes, and practices among medical and nursing students in order to focus teaching improvement efforts towards bridging those gaps. As part of technical assistance provided to universities, the KAP assessments were conducted with 436 participants: 242 medical students and 194 nursing students. The KAP questionnaire contained 44 questions which were adapted from a questionnaire on HIV and AIDS designed by the International Planned Parenthood Federation for health staff and professionals.¹

RESULTS

- KAP HIV survey results among medical students at BICU, UNAN Managua, UCAN, and URACCAN universities** (Table 4) show that the average percentage of correct responses for all survey questions was between 70% and 81%. In general, students scored higher on questions related to overall HIV and AIDS knowledge than on those related to attitudes about HIV and AIDS. BICU and UNAN Managua students scored highest on knowledge questions (87% and 84%, respectively), while UCAN and URACCAN universities' students scored slightly lower (75% each). Student responses showed sound knowledge of methods of HIV transmission, with percentages of correct responses ranging between 89% and 94%. There was a wider range between knowledge scores for mother-to-child transmission and antiretroviral therapy, with UCAN and URACCAN students scoring lower than UNAN Managua and BICU students. Average percentage of correct responses for questions related to mother-to-child transmission ranged between 72% and 95%; knowledge of antiretroviral therapy ranged between 62% and 82%. For attitude questions specifically on human rights and stigma and discrimination towards people with HIV, percentage of correct responses varied between 75% and 84%.

Table 4: Average percentage of correct responses in HIV KAP surveys among medical students, by topic and university (Oct 2013 – Sept 2014)

Topic evaluated	UNAN Managua (n=168)	UCAN (n=27)	BICU (n=12)	URACCAN (n=35)
All questions	78%	72%	81%	70%
HIV-related knowledge questions	84%	75%	87%	75%
HIV-related attitude questions	66%	66%	70%	62%
Knowledge of modes of HIV transmission	94%	89%	94%	90%
Knowledge of mother-to-child transmission	86%	72%	95%	75%
Knowledge of antiretroviral therapy (ART)	85%	62%	82%	72%
Attitudes related to human rights – HIV stigma and discrimination	74%	75%	84%	76%

- KAP HIV survey results among nursing students at POLISAL, UNAN León, BICU, and UPOLI universities show that the average percentage of correct responses were lower than among medical students, ranging between 65% and 72%. The lowest percentages were from BICU and UPOLI universities. Students scored lowest on attitude-related questions, with scores ranging between 60% and 63%. The average percentage of correct responses to HIV-related knowledge questions was slightly higher, between 67% and 76% (Table 5).

¹International Planned Parenthood Federation "HIV/AIDS KAP Questionnaire for Health Care Providers and Staff"; available at: https://www.ippfwhr.org/sites/default/files/HIV_AIDS%2520Tool%2520Kit.pdf.

Table 5: Average percentage of correct responses in HIV KAP surveys among nursing students, by topic and university (Oct 2013 – Sept 2014)

Topic evaluated	UNAN León (n=28)	POLISAL (n=107)	UPOLI (n=38)	BICU (n=21)
All questions	71%	72%	65%	66%
HIV-related knowledge questions	75%	76%	67%	68%
HIV-related attitude questions	63%	63%	60%	61%
Knowledge of modes of HIV transmission	90%	93%	88%	87%
Knowledge of antiretroviral therapy	75%	77%	69%	71%
Knowledge of antiretroviral therapy	71%	71%	58%	50%
Attitudes related to human rights – HIV stigma and discrimination	79%	75%	76%	69%

- KAP HIV survey results identified gaps in knowledge and care for people with HIV among both medical and nursing students and raised awareness among university authorities about the need to make adjustments to study programs. This resulted in university authorities including the teaching package's HIV module topics and teaching methodologies into the academic year, starting at the beginning of FY14 as well as adjusting the number of hours allocated to each. The gaps identified in the KAP surveys included:
 - At URACCAN, the greatest gaps in knowledge identified among medical students were in care for people with HIV, counselling principles, antiretroviral therapy (ART), and human rights (stigma and discrimination). Low levels of correct responses among students to attitude-related HIV questions measuring stigma and discrimination (ranging from 58% for fourth year medical students to 63% among seventh year medical students) show that there are still myths and manifestations of stigma and discrimination towards people with HIV.
 - At POLISAL, the greatest gaps in knowledge were in care for people with HIV, counselling principles, ART and human rights (stigma and discrimination). Students expressed statements that indicate that myths, stigma, and discrimination still exist: they consider that people with HIV became infected because they were irresponsible (64% among fourth year and 55% among fifth year students), and 64% of fourth year and 55% of fifth year students feel uncomfortable buying food from someone with HIV.
- Gaps in knowledge and attitudes were identified and analyzed with teachers and university authorities, with the following gaps found:
 - Some teachers have still not been trained on the teaching package's methodological designs and therefore have not yet developed capabilities to implement them.
 - Some teachers work under contracts per hour and do not feel part of the university, thus dedicating less time to teaching and showing little interest, motivation, and commitment to use the methodologies proposed in the teaching package.
 - The HIV topics are allocated little time within the medical and nursing study programs.
- As a result of ASSIST technical assistance, knowledge and attitudes among UNAN Managua medical students increased 6 percentage points in knowledge questions and 5 percentage points in attitude questions based on KAP assessment results from the baseline conducted in November 2012 and November 2013 (Table 6).

Table 6: Average percentage of correct answers by topic, UNAN Managua medical students (Nov 2012 and Nov 2013)

Topic evaluated	November 2012 (n=386)	November 2013 (n=168)
All questions	72%	78%
HIV knowledge questions	79%	84%
HIV attitude questions	58%	66%
Modes of HIV transmission	93%	94%
HIV mother-to-child transmission	80%	86%
Antiretroviral therapy	78%	85%
Human rights - stigma and discrimination	67%	74%

- **During FY14, ASSIST staff developed competencies among medical and nursing graduates at the eight universities and addressed gaps and issues identified in the KAP HIV survey results, including:**
 - Revised and adjusted the content of the HIV module in the teaching package to match changes made by the Ministry of Health, updating methodological designs and technical notes for: HIV combination prevention strategy; gender-based violence; stigma and discrimination structural interventions; behavioral interventions and counselling for HIV and sexually transmitted infections (STI); prevention biomedical interventions; STI diagnosis and treatment; voluntary testing; care for adults with HIV; care for pregnant women with HIV and children exposed to HIV; and post-exposure prophylaxis. Power point slides and complementary materials were also adapted accordingly (Q4).
 - Revised and adjusted content and time allocated to HIV topics in medical and nursing study programs at all universities.
 - Increased capabilities among university teachers in the use of assessment methodologies for medical and nursing students, as a response to survey results which identified that teachers had not been trained on the teaching package methodologies. These training sessions, in addition to the topics on care for adults and pregnant women with HIV, included the following technical areas: pediatrics, gynecology, obstetrics, and internal medicine classes.
 - Trained 19 BICU nursing and medical teachers on stigma and discrimination associated with HIV and sexual diversity (Q2): The ASSIST Nicaragua team contributed to the successful inclusion of the topics of HIV, stigma, discrimination, and sexual diversity in medical and nursing study programs throughout the full curriculum. Training for the students was also conducted for those who participated in surveys, focused on the specific topics where knowledge gaps were found.
 - Forty-eight nursing students at UPOLI participated in a workshop to develop competencies in HIV combination prevention and care for people with HIV (Q3). Forty-one (41) of them (85%) completed and passed the workshop. A 24% increase in scores from a few months earlier when the KAP exam was administered as a baseline, in February and March 2014 (Q2), reflects the effectiveness of the workshop.
 - Trained 11 internal medicine, surgery, gynecology, and dermatology professors at UNAN Managua and POLISAL on methodology and changes in the care protocol. Twenty-nine (29) nursing teachers were trained, including three from the Ocotal and Estelí nursing schools (Q4).
 - Trained 28 teachers from the Preventive Medicine and Community-Based Medical Practices Departments from UNAN Managua on the new WHO guidelines for HIV care and HIV post-exposure prophylaxis (Q2).
 - Trained 16 medical and nursing teachers at UNAN Leon on stigma and discrimination associated with HIV and sexual diversity, to develop their skills to teach this topic to their students in order to

break barriers of existing stigma and discrimination that were found according to the KAP survey results (Q2).

- In coordination with USAID Program for Strengthening the Central American Response to HIV/AIDS, 15 doctors from 6 medical clinics of the Nicaraguan Chamber of Health received training on occupational and non-occupational HIV post-exposure prophylaxis regulations (Q4).
- Designed an information system to track people trained at universities, which records information about the medical and nursing students and teachers from the eight universities who received USAID technical assistance between 2012 and 2014.

Improvement in Key Indicators

Activity	Indicators	Total (FY14)
To strengthen the teaching of the CQI process and the use of the methodological designs included in the Teaching Package in 8 universities	Number of surveys conducted among medicine students	436 completed out of goal of 363 (120%)
	% of universities implementing rapid cycles	57% (4 out of 7)
	Number of teachers per university applying methodological designs	102 out of 120 in the 7 universities (85%)
	Number of students per university, trained and assessed using methodological designs	423 of goal of 500 (85%)
	Number of students trained in the new evidence for clinical care for people with HIV	464 of goal of 500 (93%)
	Number of teachers trained in the new evidence for clinical care for people with HIV	107 of goal of 50 (214%)

SPREAD OF IMPROVEMENT

- ASSIST support reached eight universities, but with branches of the universities spread throughout the country, technical assistance coverage was nationwide.

Activity 2. Strengthen participation of professional associations in health services quality improvement in Nicaragua

ACCOMPLISHMENTS:

- Established the first contact with members of the gynecology and obstetrics, pediatrics, and public health medical societies to share objectives and action items of the project (Q2).
- Held a session to share the teaching package's contents with the members of the Nicaraguan Association of Public Health (ANSAP) from León and Chinandega. Thirty-five members participated and received a detailed explanation of the teaching package's HIV module contents, as well as the interactive DVD (Q3). ANSAP members also participated in validation of the first draft of the clinical guide to comprehensive care of male and female transgender people (Q3).
- Conducted research and planning for the development of a gender-based violence and human trafficking module for the Teaching Package, in coordination with PrevenSida. The structure of the model will follow the other modules and will include a methodological design, technical notes, support materials, and complementary documentation (Q4).

4 Sustainability and Institutionalization

- ASSIST supported training for university professors and modifications to the curriculum to overcome the identified gaps in HIV-related knowledge, attitudes, and practices among 436 medical and nursing students. ASSIST worked with all universities to institutionalize the changes in the curriculum, creating a teaching package which will lead to sustained improvement in the curriculum.
- In FY14 the teaching package module was incorporated into medical practice and teaching at Leon and Chinandega Universities as a result of being shared with members of the ANSAP from Leon and

Chinandega. The occupational and non-occupational HIV post-exposure prophylaxis topic has also been added to study programs as a result of ASSIST's training and capacity building.

5 Knowledge Management Products and Activities

- Methodological designs, technical notes, and complementary materials for the HIV module in the teaching package were all updated for HIV combination prevention, stigma and discrimination, gender-based violence, behavior change, counseling for HIV and STI prevention, diagnosis and treatment of STI, voluntary testing, care for adults, pregnant women with HIV, and children exposed to HIV, and post-exposure prophylaxis.
- A manuscript for peer-reviewed publication describing ASSIST's experience working with seven universities in Nicaragua was drafted and is currently under review. It will be submitted for publication in FY15, targeting the *Global Health: Science and Practice* journal.

6 Gender Integration Activities

The ASSIST team in Nicaragua addressed gender issues in FY14 by introducing a new health paradigm that links the universities' epidemiology and health research classes with educational training on persons living with HIV in relation to stigma, discrimination, sexual diversity, and gender-based violence, to address the sentiments of discrimination and stigma directed towards females and males living with HIV among students and faculty at UNAN Leon. ASSIST Nicaragua designed an HIV education training package that includes the above themes, and trained teachers on how to use the methodological design of the teaching package to address these subjects. HIV and STI prevention and testing was discussed, and students were directed to health facilities offering services. The ASSIST team also conducted research and planning for a gender-based violence and human trafficking module.

7 Directions for FY15

For FY15 activities, ASSIST activities will be closely coordinated with the PEPFAR continuum of care strategy, the PEPFAR focus on HIV for the Central America region, and USAID Nicaragua HIV graduation strategy.

Technical assistance recipients include the same eight universities from FY14 plus two additional universities and three sexual diversity organizations. The work with universities aims to strengthen capabilities among teachers to teach the new HIV care protocols, stigma and discrimination reduction, gender approach, gender-based violence, human trafficking, and knowledge management. In addition, ASSIST will work to support continuous quality improvement in teaching, emphasizing the use of teaching and evaluation methodologies applying rapid improvement cycles. To accomplish this, ASSIST will retrain teachers in the rapid cycles' methodology and coach them in identifying the teaching processes that require improvement. Rapid cycles design, implementing changes, and measuring processes systematically will be promoted during technical visits. Documentation of improvement reached through rapid cycles' implementation will be promoted in each university in order to share continuous improvement experiences among universities.

ASSIST work with sexual diversity organizations will center on developing capabilities to design and implement a quality management program.

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University Research Co., LLC
7200 Wisconsin Avenue, Suite 600
Bethesda, MD 20814

Tel: (301) 654-8338

Fax: (301) 941-8427

www.usaidassist.org