



**Engineering World Health Summer Institute
Dominican Republic 2018
Campus to Country Program
Final Report**

Engineering World Health CEO:

Leslie J. Calman, Ph.D.

EWH Student Programs Director:

Ben Fleishman

EWH Summer Institutes Manager:

Maddy Bishop-Van Horn

On the Ground Coordinators:

Betsy Asma and Will Reid

Program Partners:

University of Portland

Catholic University of America

Instituto American ALPI

Executive Summary

The 2018 EWH Summer Institute in the Dominican Republic was a highly productive contribution to the Dominican health care system. This was our first Dominican Republic program. We had 11 participants: 6 male and 5 female, all undergraduates, 10 from the University of Portland and 1 from the Catholic University of America. Participants completed the technical training course on their home campus before traveling to Santiago de los Caballeros to begin the program.

During the first week of the program, the participants underwent intensive language, cultural, and technical training conducted in Santiago. After their first week of training, the participants began their hospital placements in Santiago.

The participants were placed in 2 hospitals in Santiago. Collectively, the two groups repaired 76 pieces of equipment worth approximately US \$152,000. Equipment ranged in complexity from lamps to autoclaves.

Notable, high impact repairs included repairing 20 broken hospital beds, including one for a patient who was extremely uncomfortable, an ECG machine that was critical to hospital operations, and an infusion pump that was immediately put back into service.

The participants reported feeling needed by the hospitals and overall enjoyed their experience. All participants said they would recommend the program.

Medical Equipment Repair

The 11 participants repaired or completed preventative maintenance on **76 pieces** of medical and hospital equipment, totaling approximately USD \$152,000 [1] of equipment repair service.

Repairs/Maintenance by Type of Equipment

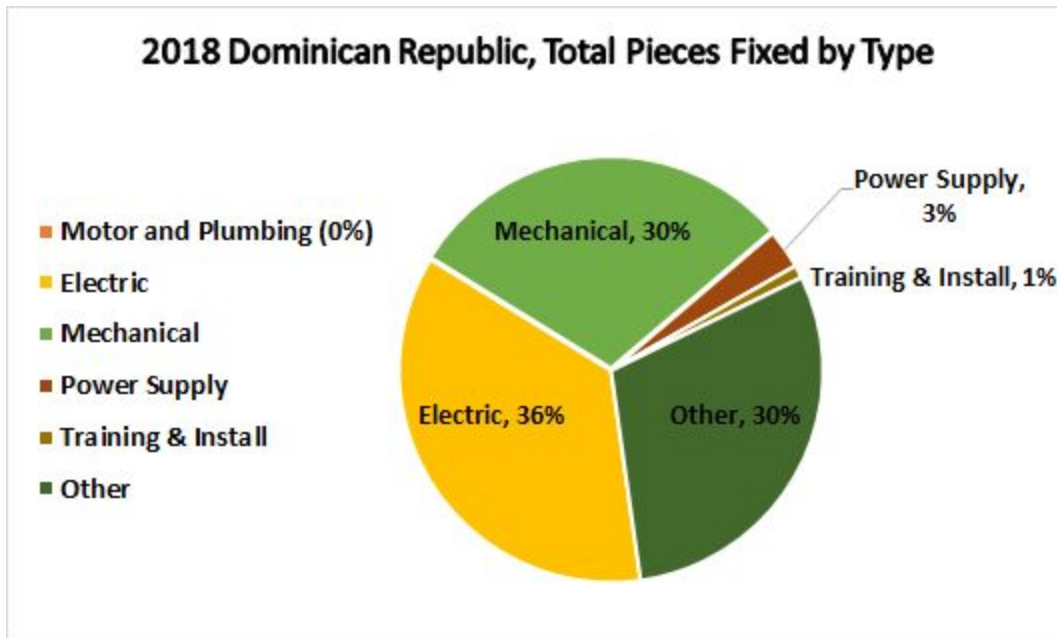
Type of Equipment	Total Pieces	Type of Equipment	Total Pieces
Autoclave	2	Infusion Pumps	1
Bed, delivery	13	Lamp, examination	1
Blood Pressure Device, Automatic	1	Microscope	14
Centrifuge (electric or hand operated)	3	Nebulizer	8
Distiller	1	Phototherapy Device	3
EKG	1	Scale (laboratory and in wards)	5
Electrosurgery Machine*	3	UPS (various)	1
Furniture	1	Ventilator	1
Incubator (infant)	5	Other	11
Infant Warmer (Radiant or other)	1		

*User training and/or low voltage and peripherals repairs only

Repairs by Hospital

Hospital	Pieces Touched	Repaired	Abandoned	Repair Percentage
Hospital 1	51	36	15	71%
Hospital 2	43	40	3	93%
Total	94	76	18	81% avg

Repairs by Type of Fix



Participant Debriefs and Feedback

Engineering World Health seeks not only to assist the hospitals in which our participant volunteers work, but also to influence the volunteers' own development as engineers and as global citizens. Our participant feedback was generally very positive. When asked if they would recommend this program, everyone answered "yes." Some of the words used to describe the program were enlightening, exhilarating, phenomenal, eye-opening, adventurous and fulfilling. Many felt very needed by the hospital, enjoyed being able to repair highly necessary equipment, and found their work gratifying. The On The Ground Coordinators received overwhelmingly positive feedback. A few participants noted that they wished the program was longer, suggesting four weeks instead of three.

Acknowledgments

The On the Ground Coordinators were Betsy Asma and Will Reid. The engineering courses were taught by Kathleen Bieryla (UP) and Jeff Hooper (CUA). Language and cultural training were provided by ALPI School. Thank you to all who helped make this program possible.

[1] EWH estimates the mean value of each repair at USD\$2000

