Framework for VCOM International Research and Team Development

November 11, 2017
VCOM 2017 Research Retreat
Ashville, North Carolina
CURRENTLY

• Three International Clinic Sites
• Estimate >3700 Patients per Month
• 11 – 12 Outreach Trips Annually with 300 + VCOM students
• 50 – 100 VCOM Rotation Students
• Student Research Based on Individual Interest
• Different Patient Charts, Collection Tools, Reports
Progress to Date

- Two National BIOM Research Winner; 1 Second Place
- First National International Essay 1st Place Winner BIOM
- ACOFP Research National Winner
- Numerous Awards VCOM Research Day
- 8 International Research Presentations in China, Singapore, Sweden, Washington DC and Others
- Over 100 Student Research Posters and Presentations across AOA, VCOM Research Day and Venues
- 8 PhD Thesis
- 1 VT Outstanding Undergraduate Research Award
Establish a longitudinal international research program that leads to national and international recognition, contributes to related literature, provides for conference presentations, and leads to local impact.

Images obtained from: https://openclipart.org
International Research Strategies

• Base Research on WHO Priorities and High Need Areas
• Adopt Themes for Longitudinal Research that Have Impact
• Develop Projects within Themes that Provide Systematic Development
• Identify Faculty Leaders for Projects and Themes
• Engage Students in Predetermined Themes on Trips and Rotations
• Determine Outcomes that Lead to Improvements

Images obtained from: https://openclipart.org
Goal for This Research Retreat

- Identify Potential Themes
- Gather Input on Description of Themes
- Identify Projects of Interest
- Determine Faculty Interest in Themes or Projects

Images obtained from: https://openclipart.org
Prevention of disease through water quality testing, patient access to safe water, source identification and analyses, and assessment of current community water supply systems in order to formulate clean water research, education and water improvement projects.
Assess Human Papillomavirus and attitudes toward HPV vaccine among women, status of annual women’s health exam and Pap smears; fetal and maternal assessment utilizing sonography and other topics in order to design educational interventions in disease prevention and improve clinical practice.
Assess nutritional intake of children, developmental milestones, weaning practices, and determine knowledge of mothers on prevention of childhood diseases in order to design educational interventions in disease prevention, child and maternal health, and improve clinical practice.
Nutrition

Assess nutritional intake of patients, determine level of child malnutrition, and patient knowledge of nutritional needs in order to design educational interventions, prevent malnutrition and develop strategies to meet need of malnourished children.
Assess community knowledge in prevention of disease and other key areas related to health, Pre and Post analyses of public health presentations on hygiene, nutrition, oral health, and substance abuse to determine outcomes and formulate future interventions.
Community and Environmental Risk Assessment

Observations and interviews with heads of household to determine critical risks to human health and environmental risk indicators to develop community based risk reduction and management practices, improve clinical practices and public health interventions.

Images obtained from: https://openclipart.org
Infectious Disease

Determine prevalence and sources of infectious diseases presenting at VCOM clinics in order to formulate future clinical and public health interventions.

Images obtained from: https://openclipart.org
Prevalence of disease and health conditions relating to bacteria, viruses, fungi, parasites and vector borne diseases presenting at VCOM clinics, surveillance and monitoring prevalence in villages, and prevalence on medical outreach trips to determine disease outbreaks and formulate community and clinical interventions.
Assess Medical Student Clinical Experiences

Applications of ICD 10 Logger to determine extent of student diagnoses, procedures, and medicines during international outreach trips and international rotations in order to enhance student clinical and medical learning experiences.
**NEEDS IN CLINICAL AND RELATED EPIDEMIOLOGICAL RESEARCH**

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<tr>
<th>Standardized Data Collection Tools</th>
<th>Standardized Reports</th>
<th>Digitalization/Improvement of Data Collection</th>
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<tr>
<td>Assimilation of Data Across Sites</td>
<td>Improved and Systematic Analysis</td>
<td>Stronger Data and Research Guidance</td>
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THE PLAN

• Use World Health Organization Standards and Tools

• Complementation with VCOM Resources
Input & Processes

Output

Patient-level: demographics, socio-economic context, tests, cultural context, health education, etc.
Facility-level: Access, health workforce, health financing
Community-based: Community organization, needs assessment, community access

Analysis & synthesis

Data quality assessment, estimates and projections, use of research results*, assessment of progress and performance, evaluation

Communication & use

Targeted and comprehensive reporting to stakeholders, staff, and community, community-wide review and reporting, global reporting
Reflection and utilization based evaluation, development of community-based public health interventions

Monitoring and Evaluation Framework, VCOM

Indicators

Patient-level: Clinical diagnosis, lab & test results, health status indicators, intervention access
Facility-level: Service utilization, availability of medicines, services quality
Community-based: Community empowerment, planning and managing of local health services, decrease in prevalence

Facility-level: Routine facility reporting systems

Data collection

Patient-level: Patient charts, registrations, surveys, ICD
Facility-level: Administrative reports, ICD
Community-based: Needs assessment, surveys

Patient-level & Community-based: Population based surveys

Communication

Targeted and comprehensive reporting to stakeholders, staff, and community, community-wide review and reporting, global reporting
Reflection and utilization based evaluation, development of community-based public health interventions

Facility-level: Increased quality of service, increased service utilization, decreased expenditures of population
Community-based: Empowered & sustainable communities

Patient-level: Improved health outcomes and equity

Outcomes

Patient-level: Prevalence, behaviors, and risk factors
Community-based: Community empowerment, planning and managing of local health services, decrease in prevalence

Patient-level & Community-based: Population based surveys

Impact

Patient-level: Improved health outcomes and equity
Facility-level: Increased quality of service, increased service utilization, decreased expenditures of population
Community-based: Empowered & sustainable communities
Patient and Facility Level Evaluation and Research
Patient arriving at Clinic

Registration with Isaias

If new patient, new chart that doctor fills out

If returning patient, registration looks for name and folder number - which is handed out to patient

Doctors fill out new patient chart at each visit and place in patient folder

Epidemiological report to MOH - weekly

Data obtained through Excel (doctors) weekly

Data obtained electronically and analyzed through Excel for charts and indicator reports

Service reports to MOH - monthly

Monthly, trimestral, annual reports by Coordinator

Reports to VCOM and Punta Cana foundation

Data obtained through Excel or SPSS

Doctor also registers information in Doctor's Notebook

Avoidance of duplication of data (patient chart and notebook)

Electronic registration with name/DOB/folder number, first or returning patient

Electronic/online completion of patient chart by physician (ICD logger, EMS, online tool, etc) - must include data for all 3 reports

Avoidance of duplication of data (patient chart and notebook)

Data obtained through Excel or SPSS

Doctors fills out new patient chart at each visit and places in patient folder

Electronic registration with name/DOB/folder number, first or returning patient - filled out by physician or registration question?

Electronic/online completion of patient chart by physician (ICD logger, EMS, online tool, etc) - must include data for all 3 reports

Data obtained electronically and analyzed through Excel for charts and indicator reports

Reports to VCOM and Punta Cana foundation

Monthly, trimestral, annual reports by Coordinator

Data obtained through Excel (doctors) weekly
ICD Logger and EMR Online Survey → Export in Excel → Conversion to SPSS

Registration database → Analysis by physicians → Analysis by coordinator/evaluator – monthly, trimestral, annual, etc.

Epidemiological & Services MoH reports, VCOM/Punta Cana reports
Method of merging clinic patient charts, epidemiological surveillance data, and service reports into one data collection tool/database.
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Community Based Level Evaluation and Research

- Epidemiological Trends
- Research Projects
- Guide Health Programs Development
- Implementation of Public Health Programs

Images obtained from: https://openclipart.org
Epidemiological trends can be followed periodically throughout the year with the data collected at each student mission trip. Comparative analysis can then be realized by time and community site. Decreases or increases of disease prevalence can be observed.
Community Based Level Evaluation and Research

Research Projects

The data collected and epidemiological trends can lead to new research projects with more specific emphasis on the local needs.

Images obtained from: https://openclipart.org
Impact of Community Based Level Research

Data from research projects and epidemiological trends can guide VCOM’s local clinics and partners to develop evidence-based community health programs.
Implementation of evidence-based community health programs can be conducted and/or monitored by students during mission trips through the evaluation of epidemiological trends and prevalence.

Implementation of Public Health Programs
Community Level Research and Impact Cycle

- Epidemiological Trends
- Research Projects
- Guide Health Programs Development
- Implementation of Public Health Programs

Images obtained from: https://openclipart.org
Proposed Future for VCOM Evaluation and Research

• **Seamless VCOM “US Campuses” and “International Centers” Fully Integrated for Education, Research and Clinical Practice**

• **National Leader in Global Health Guided by Research and Development**

• **Longitudinal Research** to Plan and Document Change and Impact
Impact of International Centers for Education, Research and Clinical Service

- Change Agent and Model to Improve Health in Caribbean and Central America
- National Leader in Recruitment of Students Interested in Global Health
- National Leader in Residence Training in Global Health
What is Possible for You through VCOM Research at International Centers?

• Project Leader at Your Campus
• Theme Leader Across Campuses
• Presenter at National and International Meetings
• Mentor for Student Research
• And more......