

Research at the FMS:

Current Status and Future Directions

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Acknowledgments

- **Interviews**

- L. Baboolal
- B. Bassaw
- C. Carrington
- C. Charles
- D. Dan
- G. Hutchinson
- L. Jaisingh (MOH)
- R. Naidu
- C. Oura
- K. Sealey (MOH)
- T Seemungal

- **Reports**

- D. Crichlow
- E. Greenidge
- M. Lewis
- S. Roberts

Overview

- Current status
 - Structure
 - Research output and uptake
 - Challenges and Opportunities
- Future directions
 - Approaches to increase research output and uptake
 - Systemic, targeted, collaborations
- Conclusion

Current Status of Research

Structure

- Deputy Dean – Research and Graduate Studies
- Research Ethics Committee
- Research Clusters
 - *Tropical Medicine: Infectious Diseases*
 - *Lifestyle-related NCDs*
 - *Dementia, Neuroscience and Mental Health*
 - *Public Health (Vet, Med and Dental)*
 - *Natural Products and Herbal Medicine*
 - *Ethnicity and Health*
 - *Surgery*
- Others groups, individuals in all Schools

Research Output

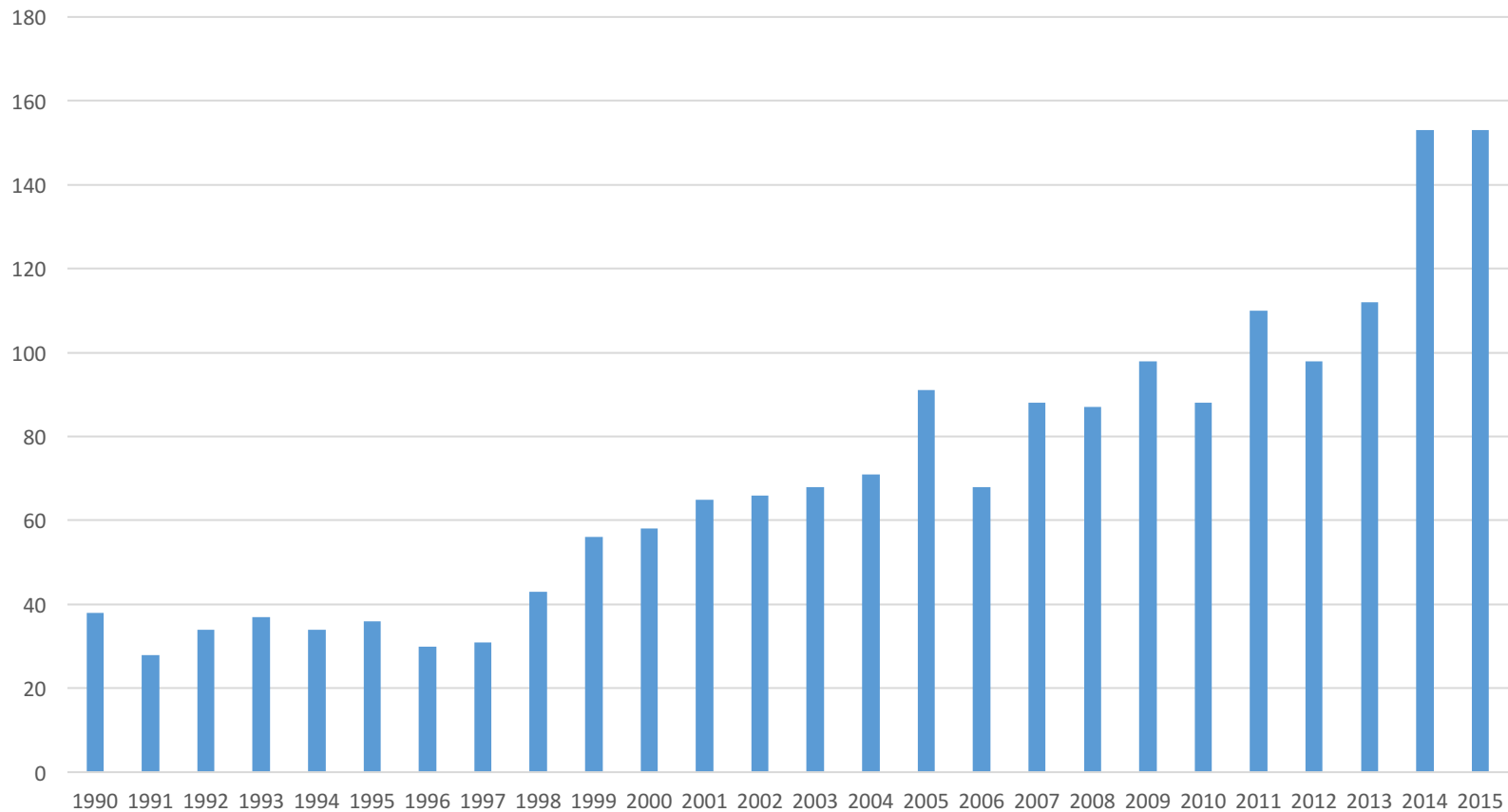
- Publications (primary proxy)
- Research Degrees
- Other measures
 - *Conference presentations*
 - *Innovation – patents, etc.*
 - *Proposals prepared and submitted for funding or implemented*

Methodology

- Number of publications
 - Sources of data
 - PubMed (T&T, UWI and FMS as search terms)
 - Annual Faculty reports (2010-2015)
 - Limitations
 - Inconsistencies – duplications; omissions
 - Quality of Journals
- Student research
 - Focus on PhD and MPhil Degrees
 - Others

Publications 1990 – 2015

(All T&T – PubMed)

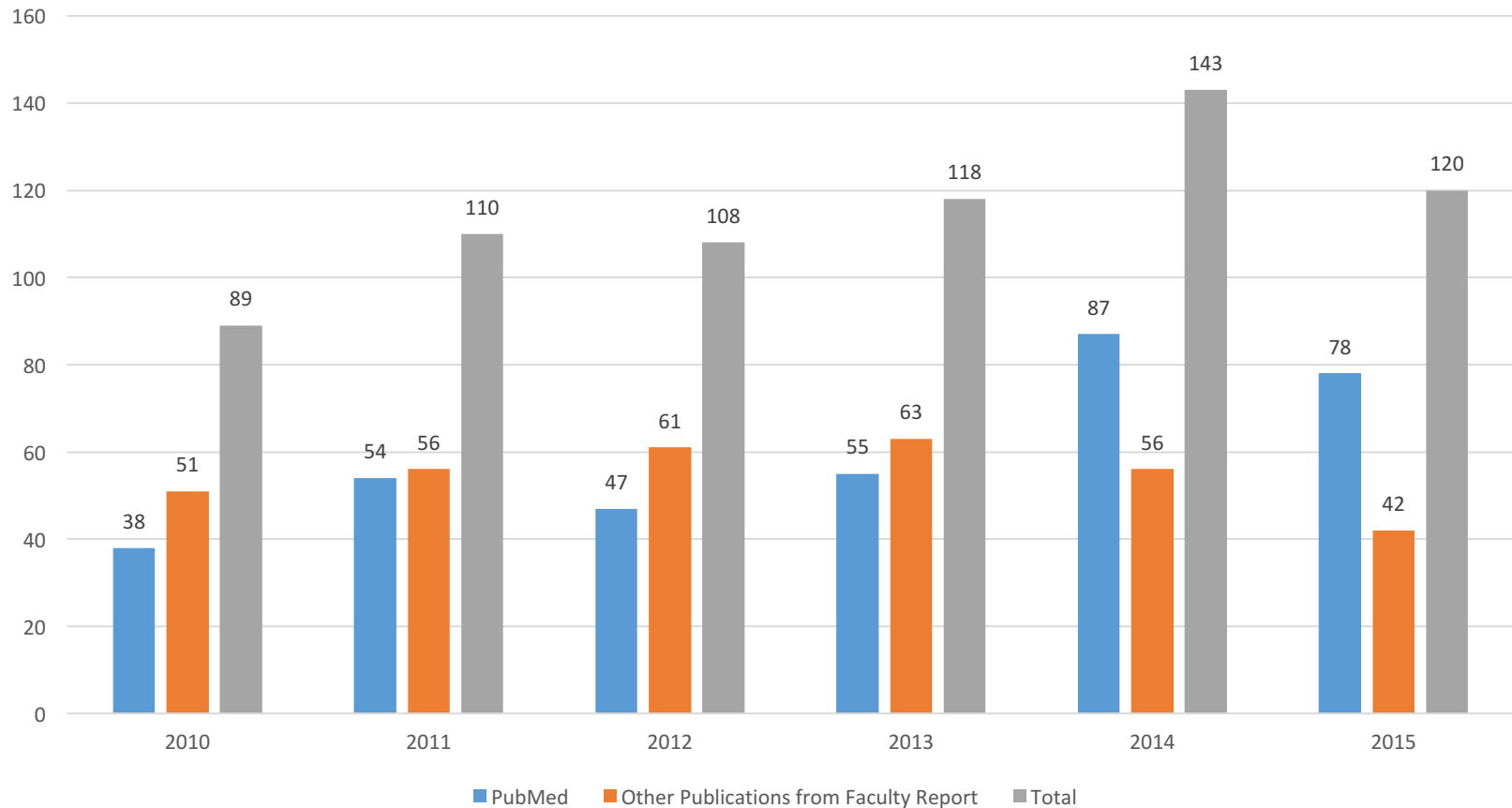


Source of PubMed T&T Publications 2010-2015

UWI (Faculties)	# of Publications	%
Medical Sciences	360	65
Science and Technology	21	4
Social Sciences	10	2
Food and Agriculture	8	1
Humanities and Education	4	1
Non UWI	151	27

FMS Publications 2010-2015

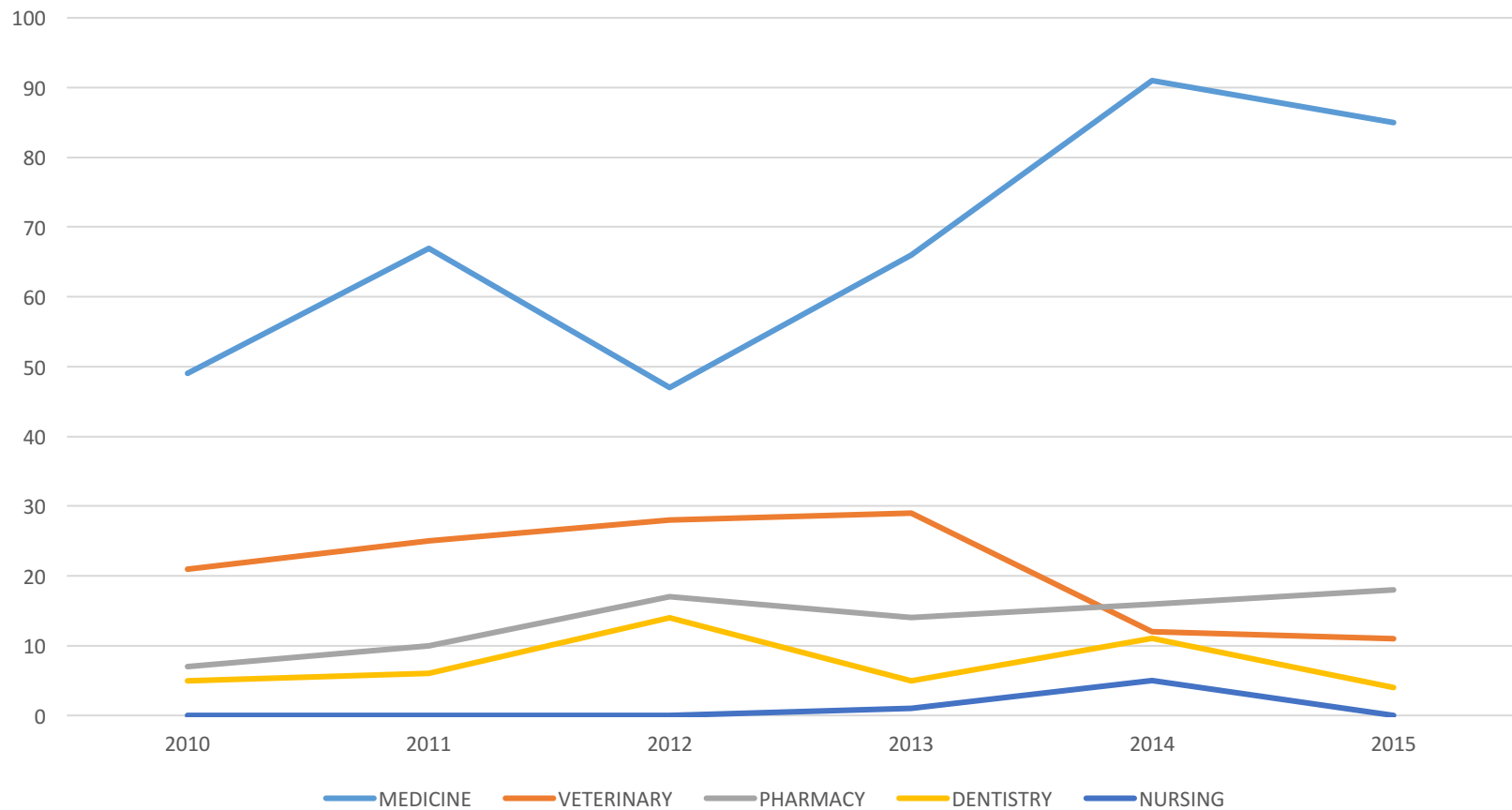
(PubMed and Faculty Reports)



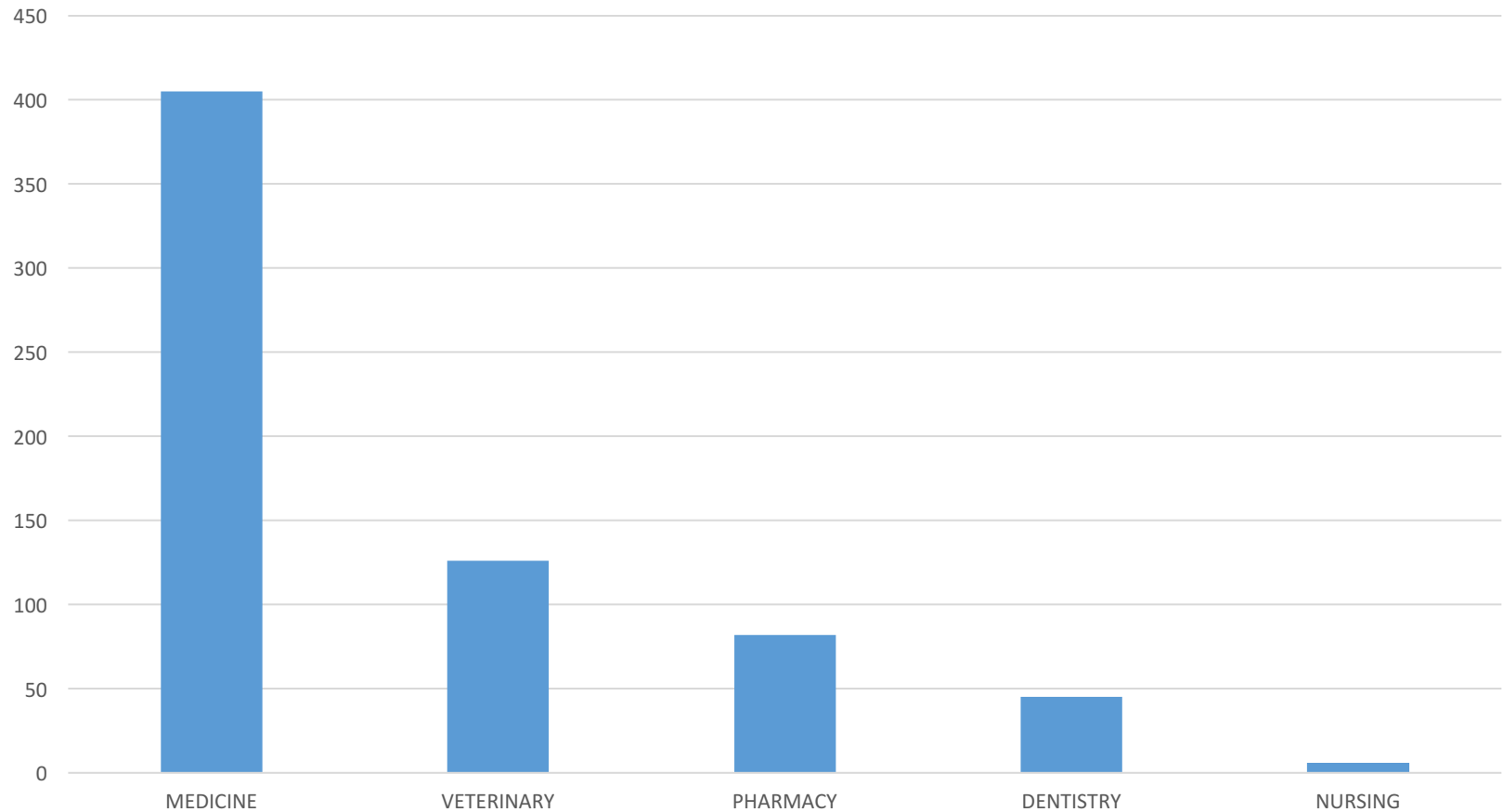
Disparity between PubMed and Faculty Reports

- Authors not reported as being affiliated to FMS in some publications
- Journals not indexed in Medline database
 - New Journals, peer-review process
- Books
- Disciplines not covered by PubMed
 - *Index Medicus: medicine, nursing, dentistry, veterinary medicine, health care systems, preclinical sciences*
 - Multi-disciplinary research teams

FMS Publications, by School



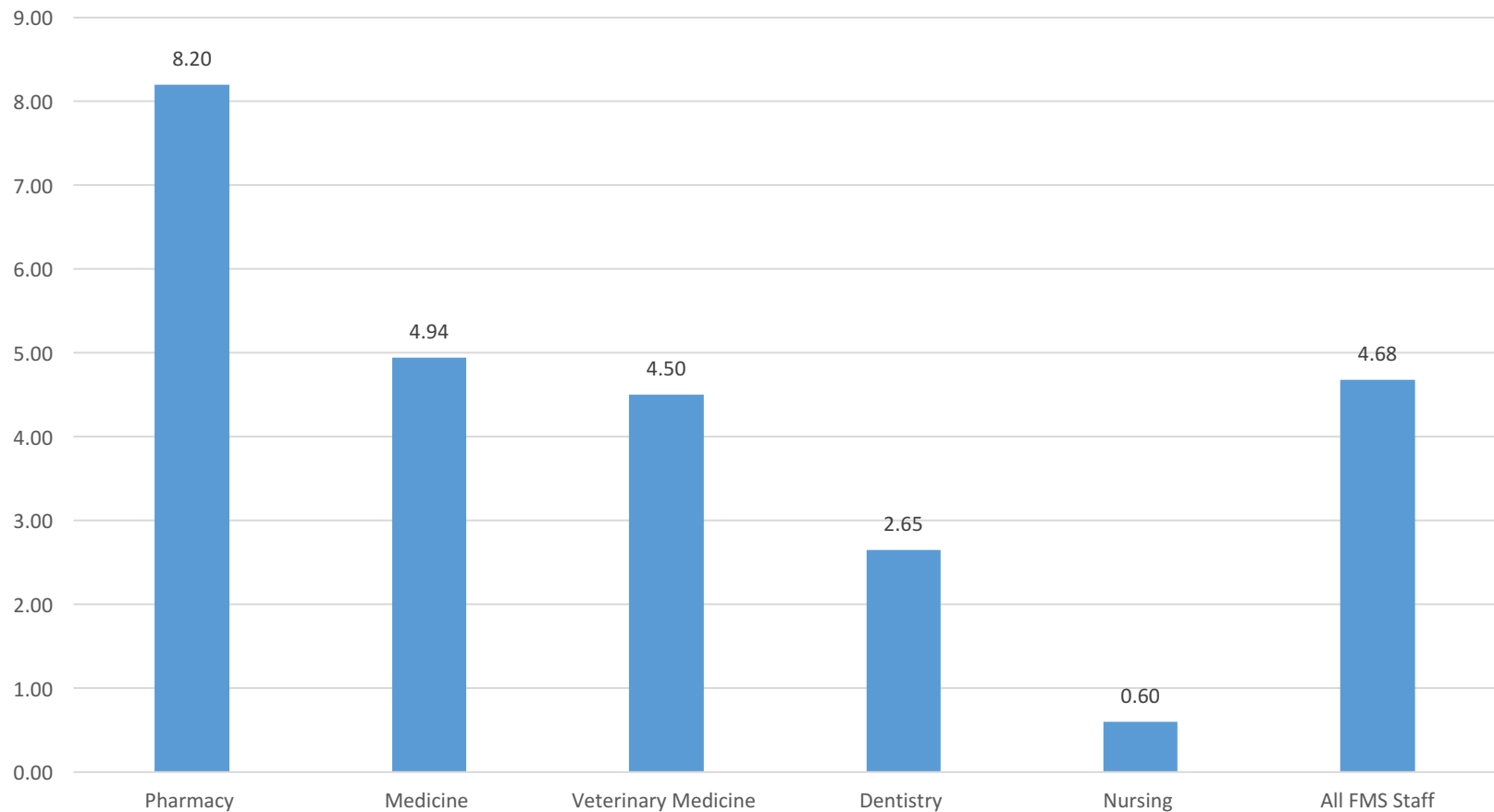
Publications by School 2010-2015



No. of Academic staff, by School

School	Number
Medicine	82
Veterinary Medicine	28
Dentistry	17
Nursing	10
Pharmacy	10

No. of Publication per Academic Staff (2010- 2015)



Journals with Most Publications (2010-2015)

JOURNAL	No.	% of Total	Impact Factor
West Indian Medical Journal	89	12.9	0.29
Archives of Physiology and Biochemistry	12	1.7	2.05
International Journal of Surgery Case Reports	8	1.2	0.63
British Medical Journal Case Reports	7	1.0	0.32
Pan American Journal of Public Health	6	0.9	0.56

Student Research

- **Undergraduate research**

- YR02 School of Medicine
 - Very successful, prizes at CHRC, publications, etc.
 - 32 group projects during 2015-2016 academic year
- Other Schools
 - Group vs. individual projects

- **Graduate students**

- DM
 - 13 programs, require research projects
 - 170 students enrolled during 2015-2016
- MPH
 - Require research projects
 - 25 students enrolled 2015-2016
- MSc
 - 5 programs with 32 students enrolled 2015-2016

Research Degrees

- Pre-Clinical Sciences
 - 12 currently enrolled (7 PhD, 5 MPhil)
 - Biochemistry (6), Molecular Genetics (5), Physiology (1)
 - 7 graduated between 2012-2015
 - 5 PhDs – average duration 8.8 years
 - 2 MPhils – average time 4.5 years
 - Challenges identified
 - Procurement of research materials
 - Lack of reagents, resources and equipment
 - Lack of adequate supervision
- Para-clinical Sciences and Vet School
 - Also have MPhil and PhD students

Research Uptake

- UWI Strategic Plan
 - Sharing of findings with key stakeholders
- Clinical practice
 - Led development of Caribbean Guidelines for Asthma, Depression and Maternal Care in Pregnancy. Also contributed to DM and Hypertension
- Inform health policy and programming
 - No data available
- Innovations
 - No data available
- Research citations
 - Not examined

Current Status: Summary

- Structure
 - In place, time for review?
 - Research Clusters
 - Collaborations – Departments, Schools, Faculties, campuses, external
 - Research awards – at regional and national levels
- Productivity
 - Increasing number of publications but not in all Schools
 - Not all staff members equal
 - Few with many publications and many with very few?
 - Student research has potential for strengthening
- Uptake
 - Contribution to clinical practice
 - Policy impact and innovation unclear

Challenges and Opportunities

Challenges

- Lack of technical support
 - Statistician, epidemiologist, RAs, post-docs
 - Maintenance of Lab facilities and equipment
- Administrative support for grant management
 - Role of Office of Research Development and Knowledge Transfer is unclear
 - Bursary and Legal Office
 - Not very supportive in grant reporting / communication
- Ethics approval from MOH and RHAs
 - Unstructured system – causes delays

Challenges

- Inadequate time for research
 - Heavy teaching and service loads
- Limited funding
 - Conduct of research
 - Also needed for publication fees
- Need for research skills training
 - Insufficient capacity in research design and methodology
 - Conversion of completed research to publications
- Research culture
- Insufficient mentoring

Opportunities


- Attractive for international collaboration
 - Increase in funding opportunities
 - Share expertise and build local capacity
 - Exchange programmes e.g. students
- Geography
 - Tropical but very accessible
- Disease profile
 - High rates of NCDs
 - Infectious such as vector borne, HIV, etc.
- Ethnic distribution / Biological and cultural diversity
 - Good natural lab for genetic and other research

Opportunities

- Scope for multi-disciplinary research
 - Within FMS and with other Faculties
 - Other UWI Campuses, regionally and internationally
- Experienced staff
 - International collaborators and grants
 - Can engage in more structured mentorship
- MOH is a willing partner
 - Research uptake and funding

Future Directions

The Way Forward

- Strengthen the research system at the FMS
 - Establishment of a Research Centre
 - Specific interventions to increase research output
 - More support for student research
 - Strengthen frameworks for collaborations
 - Including with the MOH and regional institutions
 - Strengthen systems for research uptake
-  Strengthen the research culture

Health Research Systems

the people and structures that govern, manage,
demand, generate, communicate or use research
evidence to promote, restore, improve or maintain the
state of health and development

Attributes of functional health research systems

- Stewardship
- Financing
- Developing and Sustaining Research Capacity
- Knowledge Production, Translation and Utilization

- **Stewardship**

- vision (policy), priorities (agenda), coordination, ethical standards
- planning and execution

- **Financing Function**

- Secure research funds
- Grant writing capacity

- **Developing and Sustaining Research Capacity**

- Build, strengthen and sustain the human and physical capacity to conduct health research

- **Knowledge Production, Translation and Utilization**

- Produce scientifically validated research outputs
- Translate and communicate research to inform health policy, health practice, and public opinion
- Promote the use of research to develop interventions to improve health (innovations)



Health Research Policy

for the Caribbean

© 2009

A Research Centre at the FMS

- Raised many times in the past – recent proposals
 - *Emerging Infectious and Lifestyle-related Diseases Research Centre*
 - *Centre for Emerging Diseases and Global Health (C-EDGE)*
- Best approach
 - Specialized Unit or All-Inclusive?
 - Caribbean Institute for Health Research (CAIHR)
 - Formerly TMRI. Specialized units at Mona and Cave Hill; similar approach is best for St Augustine?
 - Focus on strengths, existing clusters, gaps....
 - **For discussion**

FMS Research Centre

- Agenda guided by
 - Regional priorities – *Health Research Agenda for the Caribbean*
 - National priorities – collaboration with the MOH
 - UWI priorities (Strategic Plan)
 - Need to promote more Innovation
- Funding
 - Grant writing – internationally competitive proposals
 - MOH
 - Address national priorities e.g. RDI grants
 - From Development agencies such as IDB, % of budget for research
 - UWI Office of Research
 - International opportunities such as EULAC, NWO, etc.
 - Private sector e.g. banks, Bhagwansingh, Methanex



CARIBBEAN HEALTH RESEARCH COUNCIL



Health Research Agenda

for the Caribbean

Targeted Interventions

- To increase the quantity and quality of research at the FMS
- Based on needs and evaluations
 - Some identified in discussions with staff
 - Results of 2001 FMS Staff Survey
 - Targeted all academic staff with 88% response rate
 - Research productivity, Challenges, Funding
- Literature review
 - Systematic reviews of successful strategies
 - Reasons for rejection of manuscripts by top Journals

Specific Interventions

- **Build capacity** - training workshops to address
 - Research skills – study designs, methodology
 - Writing skills (proposals and manuscripts)
- **Technical resources** – biostatistician, epidemiologist, research assistants, etc.
- **Peer support** – mentors, coaches
- **Incentives** - protected time for research, funding, awards, publication costs, performance-based culture
- **On-line facilities** – EQUATOR Network <http://www.equator-network.org>

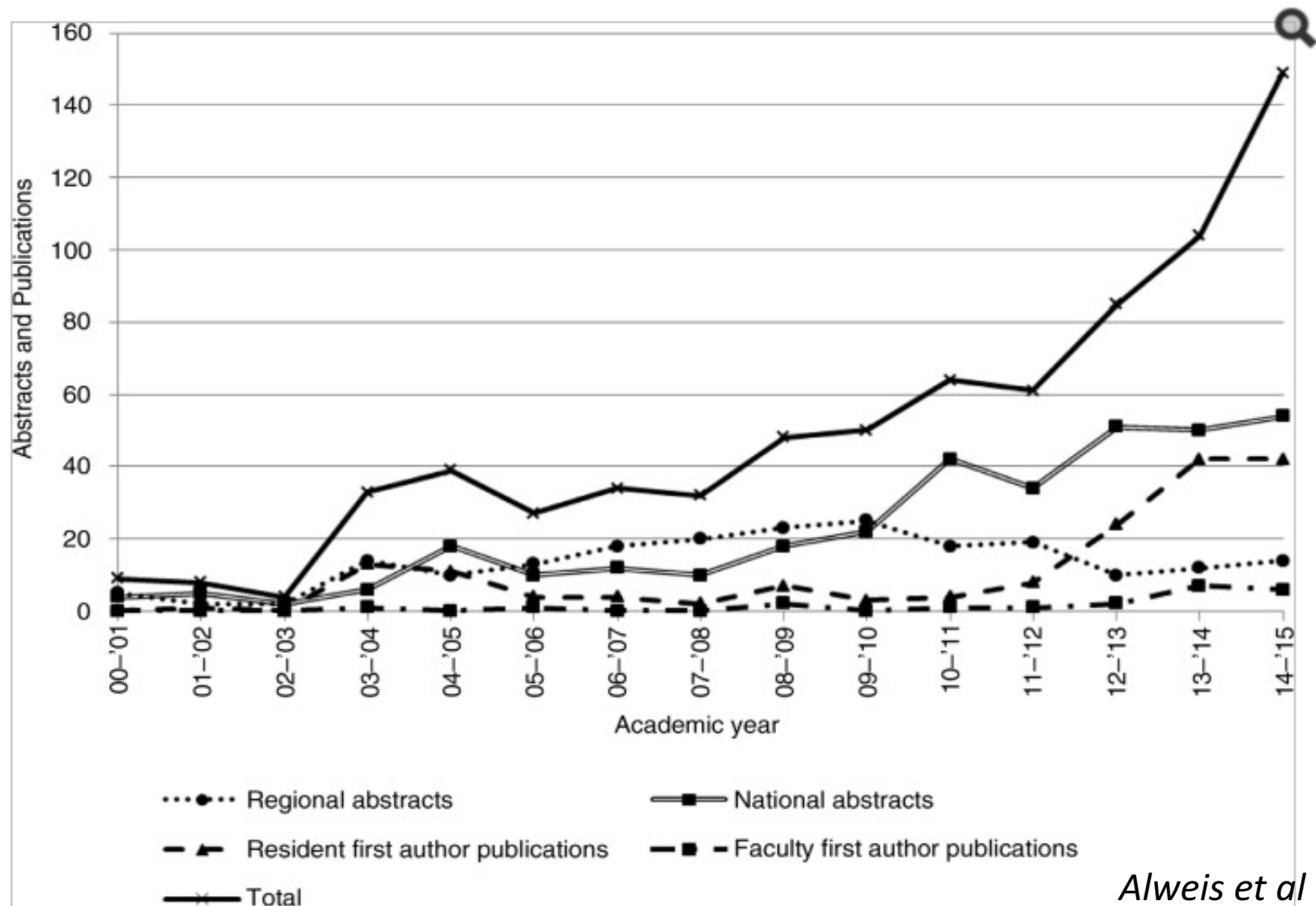
Initiatives implemented in Residency programme

Alweis et al 2015

Demonstrated success over time with interventions including:

- Research director
- Journal club
- Seminars
- Protected time
- Staff – hired a biostatistician
- Defining research requirements in job description
- Mentoring
- Celebrating resident successes
- Incentive plans (reward productive residents)

Research Output of the Programme



Alweis et al 2015

Student Research

- Review incorporation of research in all training programmes
 - Can be strengthened with more technical support
- Challenges with Research Degrees for Pre-Clinical identified
- Need for evaluation
 - Publications – number and quality in terms of duration, etc.
 - Research uptake
 - Follow-up after completion of Degrees
 - Role of post-docs, exchange programmes, etc.

Strengthening Collaborations

- UWI
 - Within FMS
 - Need to share what each is doing – Faculty Research Day is a good facility
 - Other Faculties – HEU, SALISES, Behavioural Sciences, Engineering
 - Other Campuses including CAIHR, CDRC
- Other regional partners
 - Such as WINDREF, PAHO
- International
 - Facilitate greater access to funding, technical experience
 - Should also include South-South – countries such as Brazil (EULAC)
 - Need for infrastructural support to facilitate ease of communication
 - Need to showcase work – high impact publications, conferences

Collaborations with the MOH

- Support to MOH to develop research agenda
 - MOU between MOH and UWI to be established
 - Focus on operational / health services research
 - Conducted by UWI students (and staff)
 - Databases being established at MOH
- Funding usually available from MOH
 - E.g. current IDB funds for NCD
 - *Budget line for research*
 - Research committee to be established for research grants
 - History of collaboration – e.g. NESTT, BOLD, Dementia
- Forum to share research findings and research interests
 - With MOH policy makers and policy influencers

Research Uptake

- Outreach must be a priority
- Role in Knowledge Translation
 - Going beyond publications and scientific reports
 - Collaborations such as with McMasters Health Forum
- Innovation
 - Collaborations with Industry
 - Herbal medicines, Medical Marijuana, etc.
 - Apps , patents for clinical/diagnostic/screening techniques, instruments, etc.
- Publications
 - Need to improve the numbers in high impact journals

Strategies to Improve Publications

Systematic review comprising 9 articles (Franz and Amosun, 2011)

- Successful interventions included:
 - Writing support groups
 - Writing courses
 - Writing retreats
 - Writing coaches
 - Combinations of the above

In Conclusion

- Excellent research being conducted and productivity is increasing
 - Room for improvement as not all Schools or academic staff members are at acceptable levels
- Opportunities for more internal and external collaborations
- Potential for more research, of higher quality and impact
- Both systemic and targeted approaches are needed, including more technical support
- Need for greater focus on research uptake and innovation