

FACULTY OF HEALTH SCIENCES

ANNUAL RESEARCH REPORT

2018

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A) Executive Summary

The Faculty of Health Sciences is the largest in South Africa, and is made up of seven research active schools – Anatomical Sciences, Clinical Medicine, Oral Health Sciences, Pathology, Physiology, Public Health and Therapeutic Sciences. During 2018 the Faculty housed 24 recognized Research Entities, eight Department of Science and Technology/National Research Foundation South African Research initiative Chairs, four centres of excellence and four South African Medical Research Council (MRC) Research Units. The Faculty was awarded two new MRC Research Units towards the end of 2018, bringing the total to six. The NRF rated researchers in the Faculty remained at 87 during 2018, with eight being A-rated scientists.

The 3096 faculty staff members are responsible for undergraduate and postgraduate teaching and training, conducting research, providing clinical patient care as well as informing public health policy and service delivery for South Africa. During 2018, the Faculty staff complement was comprised of Wits staff (323 academic, 351 administrative support), and joint staff with either the Department of Health or the National Health Laboratory Services (approximately 2378, of which 47% are registrars). Additionally, the Faculty hosted 45 postdoctoral fellows.

The Faculty takes great pride in the excellence of its researchers, its research output and postgraduate training. Based on the Academic Ranking of World Universities (ARWU) ShanghaiRanking's Global Ranking of Academic Subjects 2018, the Faculty of Health Sciences was ranked 51-75 in Public Health, and 101-150 in Clinical Medicine.

During 2018, the Faculty of Health Sciences researchers maintained their number of publication outputs and postgraduate completions. The Faculty contributed **573.99 publication units**, a 1.94% decrease from 2017. A total of 602 postgraduate students completed qualifications in 2018, including **60 PhD students, 67 Masters by research, 275 Masters by coursework and research report, 41 postgraduate diploma and 159 BHSc Hons**, marking an overall decrease of 0.5% from 2017.

The Faculty of Health Sciences researchers attained remarkable achievements during 2018. For example, a team of doctors from the Wits Donald Gordon Medical Centre performed the world's first intentional HIV-1 positive liver transplant to an HIV-1 negative infant. Researchers at the MRC/Wits Respiratory and Meningeal Pathogens Research Unit (RMPRU) published a landmark paper in the New England Journal of Medicine (NEJM), showing that pregnant women vaccinated against influenza have 50% less pertussis infection than unvaccinated pregnant women. Professor Johnny Mahlangu was the lead author of an NEJM paper describing the multi-centre, global HAVEN3 study, using subcutaneously administered emicizumab to prevent or reduce the frequency of bleeding episodes in adults and children with haemophilia A.

Research excellence of numerous staff and postgraduate students was acknowledged through various international and national awards and prizes. For example, four scientists in the Faculty of Health Sciences won prestigious South African Medical Research Council Scientific Merit Awards during 2018, two platinum medals and two silver medals.

B) Special achievements of the Faculty of Health Sciences

Researchers in the Faculty of Health Sciences celebrated a number of notable achievements in 2018. Some of the highlights are listed below:

Professor Shabir Madhi, director of the RMPRU, was elected as a Fellow of the prestigious The World Academy of Sciences (TWAS). Madhi, renowned for his pioneering work in vaccine-preventable diseases, is one of four South Africans among 55 new Fellows elected into TWAS in 2018. **Professor Lynn Morris** won the 2018 TWAS Prize in the Medical Sciences category.

Professor Laetitia Rispel was elected the President of the World Federation of Public Health Associations. Professor Laetitia Rispel holds the DST/ NRF SARChI Chair entitled Research on the Health Workforce for Equity and Quality.

Professor Stephen Tollman, director of the MRC/Wits Rural Public Health and Health Transitions Research Unit (Agincourt) and the Health and Population Division in the School of Public Health, received a prestigious NSTF-South32 Award, the “Science Oscars” of research. Professor Tollman won the Management Award, which recognises excellence through management and related SET and innovation activities by an individual over the last 5-10 years.

Professor Maureen Coetzee and **Professor Charles Feldman** each won the Platinum Medal for Lifetime Scientific Achievement in recognition of the excellence of their research and their contribution to raising the profile of science in South Africa. **Professor Bavesh Kana** and **Professor Penny Moore** won the Silver Medal for emerging researchers in recognition of their important scientific contributions made within 10 years of receiving their PhDs.

Wits scientists pioneered a process to detect *Mycobacterium tuberculosis* (Mtb) by adding a molecule to the bacteria's own armour that lights up under fluorescent light. A paper published in *Science Translational Medicine* describes that Mtb is specifically detected with a fluorescent trehalose analog, so TB patients can be more accurately and quickly diagnosed and treated. **Professor Bavesh Kana**, Head of the CoE in Biomedical TB Research co-authored the paper.

Wits researchers at the RMPRU published a landmark paper in the *New England Journal of Medicine*, showing that pregnant women vaccinated against influenza have 50% less pertussis infection than those not vaccinated. The paper was co-authored by **Associate Professor Marta Nunes, Dr Clare Cutland and Professor Shabir Madhi**.

Research Professor Patrick Arbuthnot, director of the Wits/SAMRC Antiviral Gene Therapy Research Unit, received the 2018 Vice-Chancellor’s Research Award, for his work in the field of advancing the use of gene therapy to treat hepatitis B virus infection and liver cancer.

In a world first, surgeons from Wits Donald Gordon Medical Centre performed the first living donor liver transplantation from an HIV-positive mother to her critically ill HIV-negative child with end-stage liver disease. The research was published in the prestigious journal *AIDS*, and

Professor Jean Botha, from the Department of Surgery, School of Clinical Medicine, is the principal investigator and transplant surgeon on the study.

Professor Johnny Mahlangu and colleagues published results from the HAVEN 3 clinical trial in NEJM, and described emicizumab can be administered subcutaneously rather than intravenously to replace Factor VIII function in hemophilia A. Subcutaneous administration does not cause an immune response which prevents blood from clotting.

C) Performance against the Faculty Research and Postgraduate Plan

During 2018 the FHS continued to produce world class research, and sustained its level of subsidy earning research and postgraduate output. Currently 45% of the student population was registered for postgraduate degrees (2910 of 6461) in line with the University strategy to increase the percentage of postgraduate students to 45%. The Faculty continues to strive to increase the number of research active staff, although it remains a challenge to determine the exact percentage that is research active because of the complexity of the staff complement.

Research output

Total units awarded by the Department of Higher Education and Training (DoHET) to the Faculty for 2018 amounted to **573.99**, and are shown in **Figure 1**. Additionally, **Table 1** reflects the publication units awarded to individual Schools in the Faculty for the period 2013 – 2018. The publication emphasis is on journal articles. The Faculty enjoyed a consistent increase in publication numbers as well as publication units over the last few years, however reached a plateau in 2018 (**Figure 1, Tables 1 and 2**). Each School has set minimum publication benchmarks per staff member according to ranking/grade, therefore the FHS publication outputs should have increased further as the number of research active staff increases (See also increase of staff with PhDs – Figure 5). Strategies to increase research outputs are to be included in each Schools business plans.

The excellence of research is evident by the quality of publications, as determined by the impact factor of the journals. For example, during 2018 several FHS researchers published in journals such as the New England Journal of Medicine (IF 70.670) and Lancet (IF 59.102). The most prolific authors in the Faculty in 2018, as well as citations of Faculty authors over a 10 year period (2008-2018), are included in **Appendix 1 and 2**, respectively.

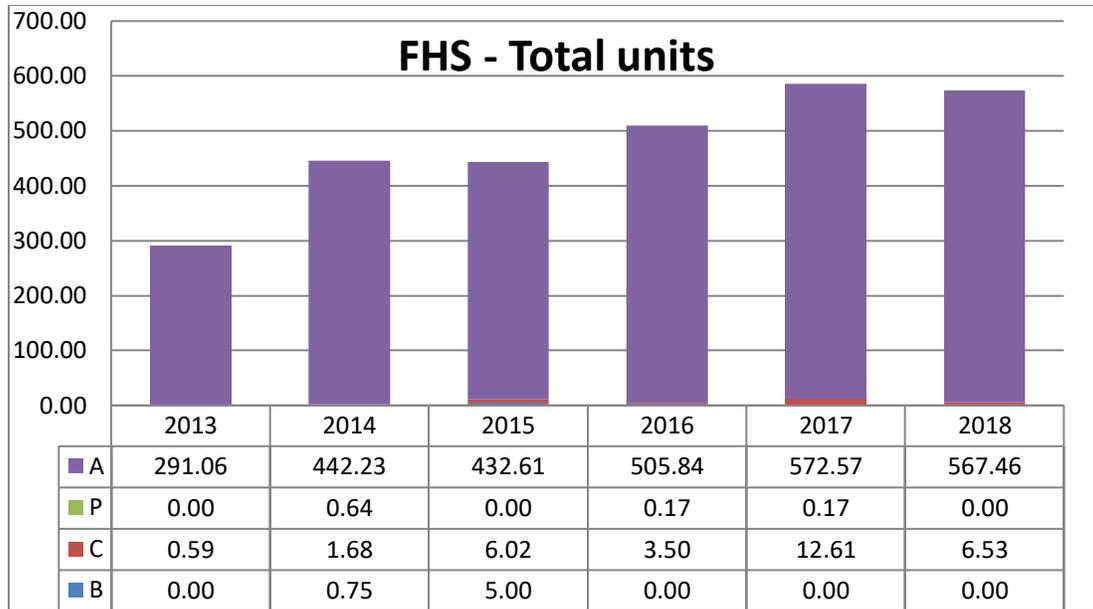


Figure 1: A comparison of the total units awarded to the Faculty of Health Sciences by DoHET for publications submitted for subsidy (2013 – 2018). A= journal articles, B=books, C= chapters and P= conference proceedings.

Table 1: A breakdown of units per School, T&L and HSRO offices, awarded to the Faculty of Health Sciences by DoHET for publications submitted for subsidy (2013 – 2018). The two institutes, SBIMB and WRHI (highlighted in red text) were historically included in the School of Pathology and School of Clinical Medicine numbers, respectively, up until 2016.

School	2013	2014	2015	2016	2017	2018
SOAS	13.57	11.9	10.06	23.01	27.77	35.98
SOCM	142.42	158.4	163.4	190.55	197.87	209.10
WRHI	-	-	-	-	27.25	25.95
SOHS	3.00	18.32	12.99	20.68	18.52	20.07
SPATH	69.96	63.03	74.66	82.9	87.35	83.01
SBIMB	-	-	-	-	2.27	6.41
SOP	34.74	37.15	33.2	38.28	36.56	32.13
SPH	66.82	93.45	85.4	88.25	106.26	88.82
STS	56.40	61.66	60	63.5	70.84	70.38
T&L; HSRO	1.00	1.39	3.92	2.34	3.74	2.14
Total	389.11	443.91	439.71	507.17	585.35	573.99

Table 2: The percentage change in DoHET Units obtained in FHS compared to the previous year.

Year	2013	2014	2015	2016	2017	2018
% change	33.4	14.4	-0.37	14.85	15.4	-1.94

PG student enrolments and completions

The unit allocations for postgraduate students who completed qualifications in 2018 for PhD (D), Masters by dissertation (R), coursework and research report (C), as compared to previous years are shown in **Figure 2**. The actual student numbers per school, including D, R, C, Postgraduate Diploma (X) and BHSc Hons (H) with comparative data for 2013 -2018, is shown in **Table 3**. A total of 602 postgraduate students completed qualifications in 2018, including 60 PhD students, 67 Masters by research, 275 Masters by coursework and research report, 41 postgraduate diploma and 159 BHSc Hons, marking a decrease of 0.5% from 2017. **Figure 3** depicts the total number of postgraduate students enrolled in the Faculty, and the number of postgraduate students graduating in a given year. Trends show an overall increase in the number of enrolled and graduating students over the last 9 years, with a 6.98% increase in enrolled students but a 0.5% decrease in graduating students in 2018, as compared to 2017.

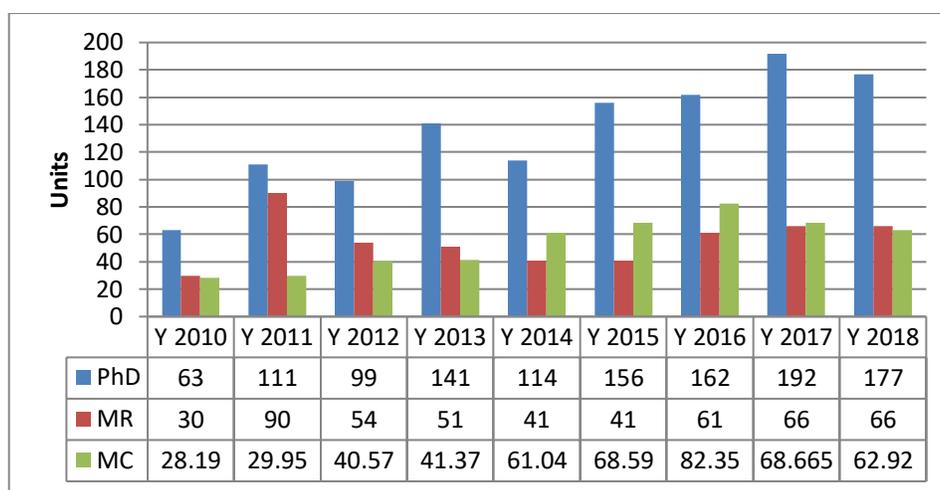


Figure 2: Total units allocated for PhD (D), Masters by dissertation (R), coursework and research report (C) completions for the period 2010-2018 in the Faculty of Health Sciences.

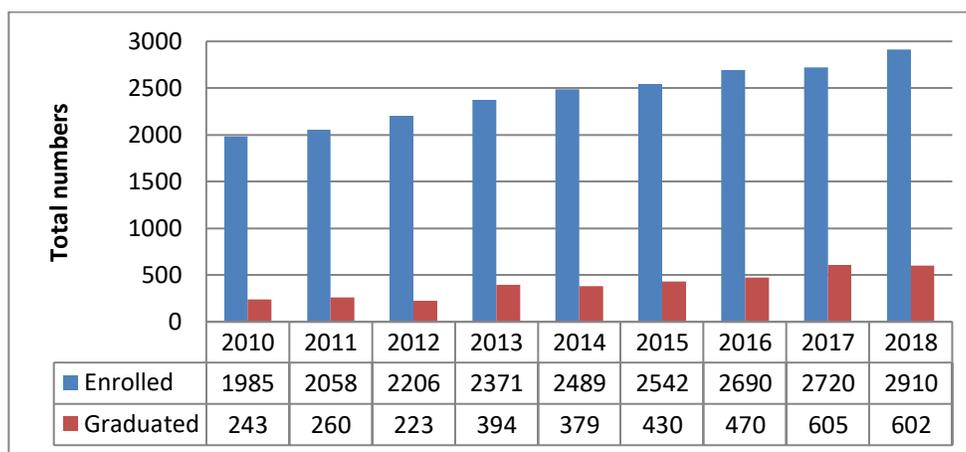


Figure 3: Number of postgraduate students enrolled vs completing in the Faculty of Health Sciences between 2010 and 2018.

Table 3: Numbers of postgraduate students graduating from each School in the Faculty of Health Sciences for the period 2013 to 2018.

Calendar Instance Year	Program Type	School of Anatomical Sciences	School of Clinical Medicine	School of Oral Health Sciences	School of Pathology	School of Physiology	School of Public Health	School of Therapeutic Sciences
2013	C		74	11	7		39	32
	D	1	10		12	8	5	8
	R	1	5		19	6	0	11
	X		1		9		31	25
	H	6			29	13		25
Total per School		8	90	11	76	27	79	106
2014	C		83	9	2		47	34
	D	1	12		10	3	4	7
	R	5	7	0	13	5	2	9
	X		6		3		0	26
	H	18	10		20	14		25
Total per School		24	128	9	48	22	53	101
2015	C		89	14	9		29	35
	D	6	16	0	14	2	7	7
	R	4	2	0	14	4	0	22
	X		22		0		27	18
	H	14	8		14	17		22
Total per School		24	137	14	51	23	63	104
2016	C		138	15	9		30	40
	D	4	14		13	3	11	9
	R	2	9		15	7	1	27
	X		27		7			7
	H	13	8		24	14		31
Total per School		19	196	15	68	24	42	114
2017	C		152	19	12		46	46
	D	3	13		12	6	8	16
	R	4	2		19	8	1	27
	X	12			2		28	14
	H	24	25		33	19		52
Total per School		43	192	19	78	33	83	155
2018	C		153	21	5		44	51
	D	3	19	0	11	8	10	8
	R	21	45		28	19		46
	X	7	9	1	23	3	0	23
	H		15		8		1	17
Total per School		31	241	22	75	30	55	145

Enhancing the Postgraduate Student Experience

During 2018, the Assistant Dean of Research and Postgraduate Support initiated a quarterly Q&A session with the FHS Postgraduate Students, to address any major challenges they are facing and answer general queries. Although attendance has been low, the issues raised during these Q&A sessions have been resolved.

The Health Sciences Research Office (HSRO) manages two postgraduate hubs. Statistics show that overall there were 18940 entries into the Postgraduate Hubs in 2018, with 16 757 entries at the Medical School campus, and 2 183 entries at Chris Hani Baragwanath Academic Hospital.

The updated Postgraduate Information booklet was available on the Faculty of Health Sciences website. This booklet has two sections: the first provides information about postgraduate admission and registration, assessments of research protocols, thesis formats, examination and graduations processes and the second section includes information about funding, facilities available to postgraduate students and the relevant policies.

The Central Postgraduate Affairs Office provided funding for four writing retreats in 2018. These writing retreats are held at the Phillip V. Tobias Health Sciences Building over four days. A total of 52 Masters and PhD students from all schools in the Faculty attended. Statistical support and library services such as database searching and referencing, printing and internet facilities were also provided. Experienced facilitators were available to review the participant's write-ups and provide feedback during the retreat. Participants reported on their progress at feedback sessions and completed evaluation forms on the last day of the writing retreat. Overall, participants achieved their writing objectives by the end of the four days. Additional support was provided post writing retreat to those participants that needed further assistance. Participants found the quiet environment and support provided to be invaluable in achieving their writing goals set out at the onset of the retreat.

The HSRO Postgraduate Page is aimed at providing postgraduate students with useful information regarding research-related activities such as workshops, courses and funding opportunities. For the year 2018, the Facebook page reached a total of 385 likes. Individuals who subscribed to the page used it as a platform to let the public know that they have attended at least an event, a course or a workshop organised by the HSRO. In addition, the followers also shared posts with the public informing them about what the HSRO offers. This page reaches between 46 and 50 active followers every time a post is made.

MRC Units, Research Entities, DST/NRF South African Research Chair Initiative and Centres of Excellence

The Faculty of Health Sciences proudly hosts six MRC Units, (the Rural Public Health and Health Transition Research Unit (Prof S. Tollman), Development Pathways Research Unit (Prof S. Norris), Respiratory and Meningeal Pathogens Research Unit (Prof S. Madhi), the Antiviral Gene Therapy Research Unit (Prof P. Arbuthnot) and the two newly awarded units, namely the Centre for Health Economics and Decision Science Research Unit (Prof K. Hoffman) and

Antibody Immunity Research Unit (Prof L. Morris)), 24 research entities (**Appendix 3**), eight DST/NRF South African Chairs (**Appendix 4**) and four Centres of Excellence (COE): DST/NRF COE for Biomedical Tuberculosis Research (Prof B. Kana), COE in Human Development (Prof L. Richter) , ANDI COE in Advanced Drug Delivery Technology (Prof V. Pillay) and ANDI COE for Viral Gene therapy (Prof P. Arbuthnot).

Four entities (Bone Research Laboratory Unit, Brain Function Research Group, Rural Public Health and Health Transitions Research Unit (Agincourt), Wits Research Institute for Malaria (WRIM)) were reviewed by the MRC and/or University and renewed for another 5-year recognition cycle beginning in 2018. Annual Reports for each research entity are submitted to the FRC and reviewed by the FRC Research Entity review committee. The SYSTEM Programme’s recognized status expired and no renewal was submitted. There will be QQRs held for 10 of the 24 FHS Entities during 2019, so the decision was made to delay the submission of the 2018 annual reports to the FRC, to coincide with the deadlines for the reports to the URC. From the remainder of the annual reports received, most of the entities performed exceptionally well with impressive research outputs and student training. Entity directors continue to raise concerns around research post funding, lack of permanent posts, funding for equipment and international post-doctoral fellows, limited space, publications costs and lack of research time. Annual reports are available upon request.

NRF Rated Scientists 2018

The Faculty of Health Sciences had a total of 87 NRF rated researchers in 2018. Sixteen of these researchers were rated for the first time (8) or re-rated (8) during 2017/8 (**Appendix 5**). A list of the eight NRF A-rated scientists in the Faculty is shown in **Table 4**. Overall the Faculty has 8 A rated, 32 B rated, 38 C rated and 9 Y rated researchers.

Table 4: List of NRF A-rated scientists in the Faculty of Health Sciences during 2018.

Name	School	A rating	Valid until
Gray, G	Clinical Medicine	A1	2023
Brouwer DH	Public Health	A2	2022
Feldman, C	Clinical Medicine	A2	2021
Jewkes, RK (JS)	Public Health	A2	2022
Madhi, SA	Pathology	A2	2022
Manderson LH	Public Health	A2	2021
Mathew CGP	Pathology	A2	2021
Morris, L (JS)	Pathology	A2	2021

Contribution of postdoctoral fellows

Over the course of 2018, the FHS hosted a total of 45 postdoctoral fellows (**Appendix 6**). Postdoctoral fellows are considered essential to advancing the scholarly mission of their host’s research environment. In 2018, they contributed to 46 publications or 2.18% (12.52/573.99)

units to the Faculty. This is translated into an expected income of R 4 500 000.00 for the University in 2020.

Health Sciences Research Office (HSRO) short courses, workshops and consultations

The demand for Short Courses and Workshops run by the HSRO has steadily increased in the last few years. These are aimed at strengthening research capacity of students and staff members. A total of 973 candidates attended the various courses and workshops in 2018 (**Appendix 7**). This includes 207 candidates who attended various statistics (STATISTICA and STATA) courses and workshops, and 70 candidates who attended the monthly data analysis workshops. The HSRO continues to offer 'walk-in' one-on-one statistical consultations to students in the Faculty 4 days per week, or at Chris Hani Baragwanath Academic Hospital (by appointment). The consultations are supported by the School of Public Health which provides some of the tutors since the beginning of this activity. In 2018, more than 763 candidates attended the consultations. Financial support for this initiative is provided by the HSRO.

An online Research Methodology Course was developed during 2018 and tested by the new registrars and supervisors in the Paediatrics department. It is expected to go live during 2019.

D) Self-assessment of Schools' and research entities' contributions

The breakdown of the units across publication types and Schools from 2013-2018 is depicted in **Figure 4**. The School of Clinical Medicine recorded the highest number of units, followed by Public Health and Pathology. Please note that the outputs from the two institutes, SBIMB and WRHI, are not depicted in Figure 4.

Two Schools, Anatomical Sciences and Clinical Medicine, showed an increase in publication units from 2017, whereas the Schools of Oral Health Sciences, Pathology, Physiology, Public Health and Therapeutic Sciences either showed a plateau or a decrease relative to the previous year. The reasons for this will be interrogated further. Each School submits an annual report to the Faculty. The full reports are available upon request.

The contribution of each School to postgraduate throughput is outlined in **Table 2**. Overall, the clinical disciplines, Clinical Medicine, Therapeutic Sciences and Pathology were the major contributors to postgraduate throughputs, followed by Public Health, Anatomical Sciences, Physiology and Oral Health Sciences. The School of Clinical Medicine, followed by Pathology graduated the highest number of PhD's.

It is encouraging that the total number of Wits and Joint staff with a PhD has increased from 204 to 256 from 2016 to 2018 (**Figure 5**). The total number of PhD students graduating has also increased. However, there is definitely scope to increase the PhD throughputs in the Faculty.

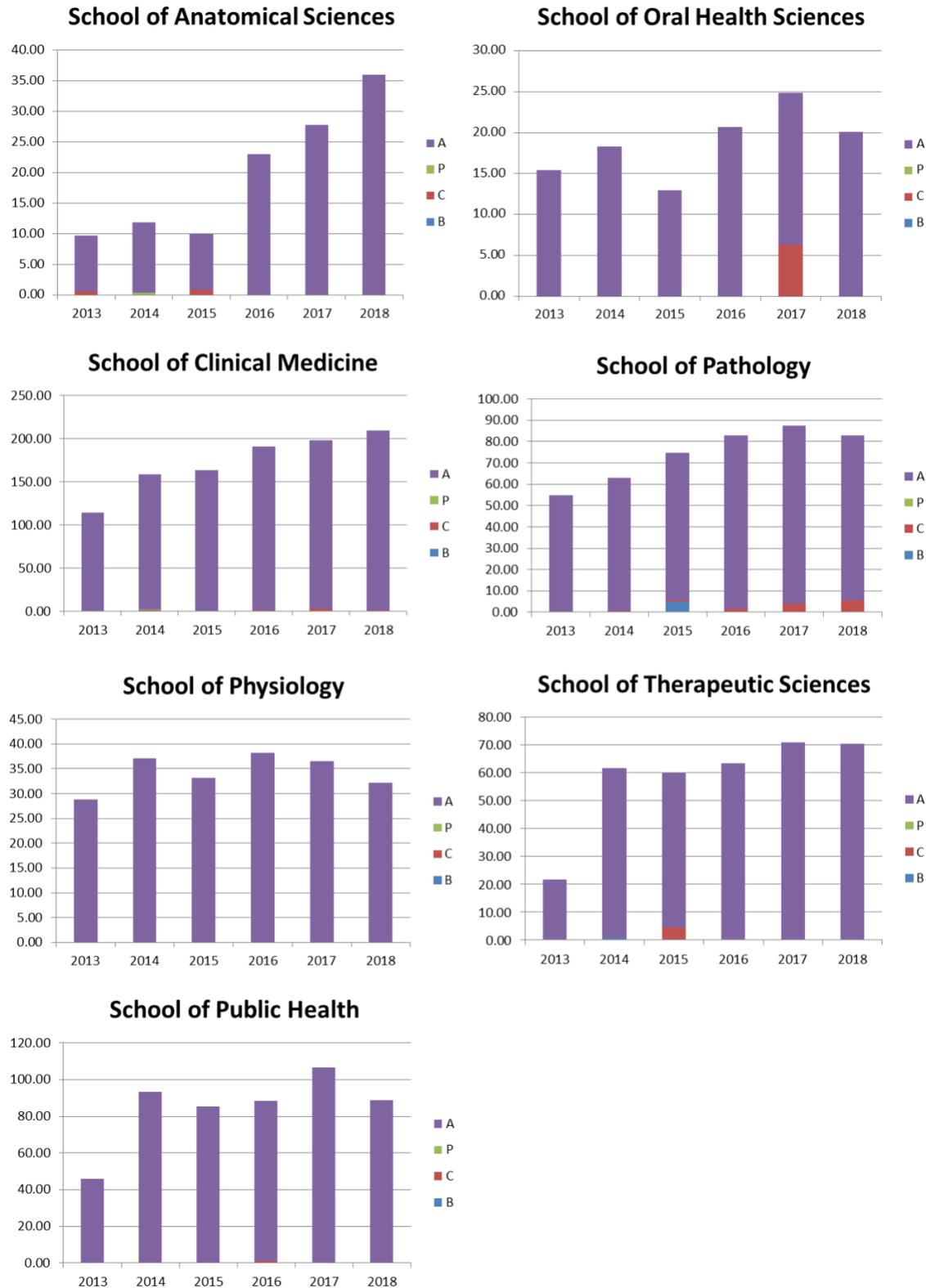


Figure 4: Publication units for each of the seven schools in the Faculty of Health Sciences for the period 2013-2018.

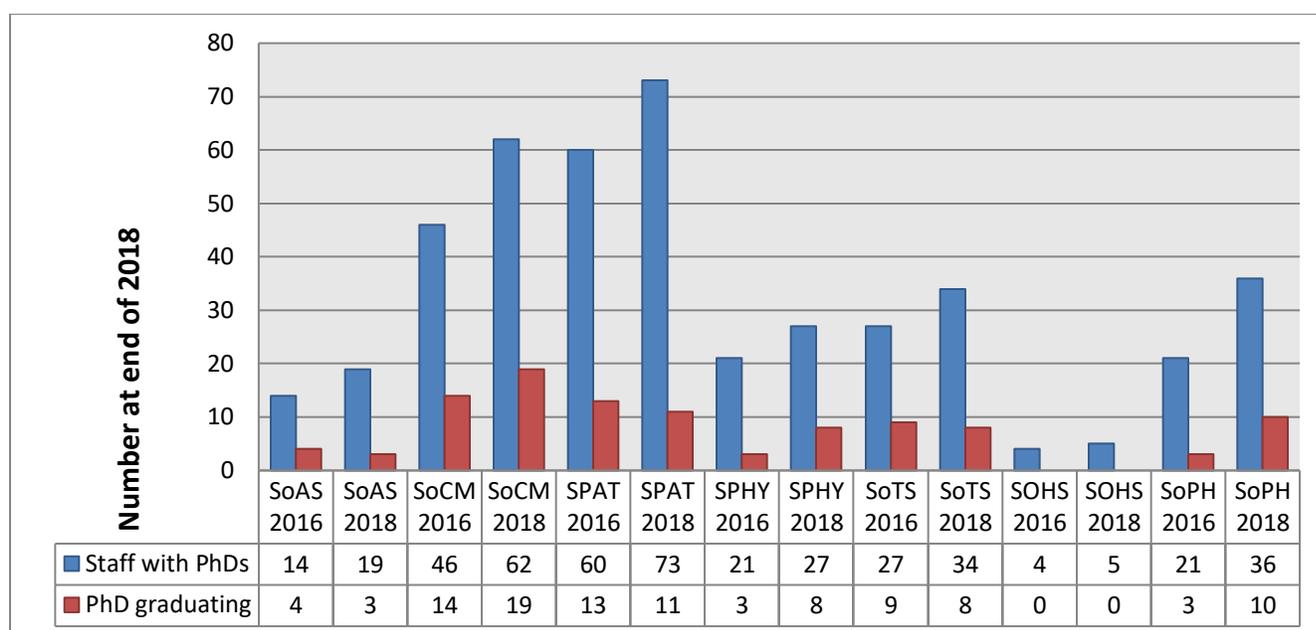


Figure 5: Comparison of the number of staff with PhDs to the number of PhD graduations in each School in the Faculty of Health Sciences as at the end of 2016 and 2018.

E) Financial reporting

Research Funding

The Faculty of Health Sciences received a total of **R 2 256 474 096** in external income specifically for research and development aid work purposes during 2018. This was comprised of R 111 185 793 administered through the University, and R 2 145 288 303 administered through the Wits Health Consortium.

The FHS budget received from the URC was R 13 086 621, of which R 13 016 996 was allocated towards RINC payouts (R 9 371 396 for publications and R 3 645 600 for postgraduate throughputs; discretionary fund of R 69 625). The WHC dividend allocated to the FRC for strategic projects was R 6.0 million in 2018.

How the FRC and WHC dividend budget was utilized

The RINC component of the FRC budget was allocated to all authors and postgraduate supervisors in the Faculty as described above. Approval for the remainder 2017 WHC dividend to be used in 2018 was obtained (see 2017 annual report). **Appendix 8** shows the breakdown of the 2018 WHC dividend that was approved to support strategic projects in the Faculty. Following the 2018 allocation of the funding by WHC to Wits, RFA's were sent to Faculty for the various initiatives, applications were reviewed and letters were sent to all recipients. Disbursement of the funding to the Faculty was however delayed, and these projects will only be funded in 2019.

F) Challenges

The below are ongoing major concerns that impact on progress and optimal functioning of all emergent researchers, research active staff and related structures/systems in the Faculty of Health Sciences, and are highlighted annually.

Financial sustainability

The proportion of funding that the URC allocates to the Faculty of Health Sciences FRC is decreasing annually. Less than 10% of the URC budget comes to the Faculty directly, and this is predominantly the abovementioned RINC allocations. The annual dividend received from the WHC is also variable, and uncertain. This funding provides critical core support to all Faculty researchers.

Shortage of staff in key support posts

a. Human Research Ethics Committee (HREC)

The office that supports the HREC continues to struggle to meet the needs of the University and the Faculty, resulting in considerable time delays. Implications are: increases the time a postgraduate student is registered for their degree, which has direct implications for the subsidy received by the university; Faculty researchers lose grant funding due to delays in getting ethics; University reputation is at risk.

b. Postgraduate Office

Ongoing shortages of staff in the postgraduate office in 2018 have placed a huge burden on the Faculty Registrar, the Assistant Dean: Research and Postgraduate Support and the remaining administrative staff of the postgraduate office. The hard work of the Faculty Registrar and the Postgraduate Office Administrative staff in keeping the Postgraduate Office functional over this period is gratefully acknowledged. In addition, the Graduate Studies Committee, the EXCO of this committee, all MSc and PhD assessors and supervisors and the various internal examiners must be thanked for the role they all play in keeping the quality of our postgraduate students so high and for the huge number of additional hours they spend on tasks associated with postgraduate throughput in the Faculty.

Infrastructure issues

a. School of Oral Health Sciences

The infrastructure issues raised by the staff and students in the School of Oral Health Sciences work have not been resolved. Despite these ongoing challenges, School members remain committed to research.

b. Central Animal Services (CAS) in the FHS

The CAS is a University Core Facility, providing research support to predominantly the Faculty of Health Sciences and the Faculty of Science. These facilities have received URC funding to start major upgrades and maintenance, but ongoing support is required.

Service commitments versus research time

Faculty joint staff are employed by the Department of Health in the Schools of Clinical Medicine and Oral Health Sciences, or the National Health Laboratory Services in the School of Pathology. Although they are allocated a percentage of their time to devote to academic work, including research, this is impossible to monitor and manage. Lower than expected research outputs in this group are attributed to several reasons such as the huge clinical and teaching burden placed on individuals, leaving little to no time for research. Despite these challenges, there are several examples of successful research clinicians who have been major contributors to the international standing of the Faculty.

G) Other important information

Health Sciences Research Office (HSRO)

Remit of the HSRO: The aim of the HSRO is to operationalise the strategic goals of the Faculty. The strategic research and postgraduate goals centre around increased outputs of publications, increased quality of publications (ISI journals) increased throughput and quality of postgraduate students and support (financial where possible, strategic collaborations and courses) for all researchers.

Faculty Research Committee (FRC) and Task Groups

The FRC met every two months during 2018 under the Chairmanship of Professor M. Papathanasopoulos. Minutes of the meetings can be provided upon request.

Reports from Task Groups

The Chairman of the FRC Committee extends her gratitude to the Chairmen of the Task Groups and their committee members for the hard work undertaken on behalf of the Faculty in 2018.

In 2018, the Task Groups and their Chairpersons were as follows:

Research Entities: **Prof Lynne Schepartz**

Individual Research Grants: **Professor J.M Pettifor**

Conference Travel: **Professor T Coetzer**

Faculty Research Prize: **Professor T Coetzer**

Faculty Research Budget: **Professor M Papathanasopoulos**

Faculty Research Day: **Dr Mark Killick**

FRC Equipment: **Professor M Papathanasopoulos**

FRC Research Entity Forum: **Professor M Papathanasopoulos**

FHS Biennial Research Day

The Biennial Faculty of Health Sciences Research Day (FHDRD) and Postgraduate Expo (PE) was held on the 6th September 2018 at the Wits Faculty of Health Sciences. . The event provides an ideal platform for students and staff members within the Faculty to present their research to a broader audience. The event continues to be exceptionally well supported, with more than 1,000 delegates attending the event.

The 2018 FHSRD and PE served as prelude to the Faculty of Health Sciences Centenary celebrations to be held in 2019. As such it was the intention that the Research Day be used as

vehicle to generate momentum for subsequent centenary celebrations that would we taking place in 2019. This was primarily achieved through the committee's selection of the overriding theme for the Research Day event, **#Towards 100 years of Excellence**. This theme was used extensively in the marketing of the event and the formed the basis for the selection of the plenary speaker, which was based on their (Prof. Glenda Gray's) connection with the Faculty of Health Sciences and the exceptional clinically relevant research that she is involved in. Professor Gray's Plenary lecture was entitled "Turning Turmoil into Tenacity into Triumph."

A total of 374 abstracts were received, of which 321 were accepted. The final programme comprised of 90 oral and 231 poster presentations, across five thematic areas: Clinical Sciences and Therapeutics for Health; Education Policy Systems; Infectious Diseases; Diseases of Lifestyle; and Molecular and Comparative Biosciences covering the full spectrum of research in the Faculty. An overall increase of 16% in accepted abstract was noted over the FHSRD 2016 event. Infectious Diseases was the only track in the FHSRD2018 programme that had decreased number of submission over the 2016 FHSRD event. Encouragingly, the largest relative increase in accepted abstracts per thematic track occurred in the historically two smallest tracks, Diseases of Lifestyle and education (56% increase over FHSRD 2016) and Education, Policy and Systems (44% increased over FHSRD 2016). Abstract submissions in the Clinical Science and Therapeutics track continue to increase (22% over the FHSRD 2016 event). A detailed list of the Research Day Prize winners can be viewed at <https://www.wits.ac.za/health/research/news-and-events/health-sciences-research-day--postgraduate-expo/>. In addition, three round table discussions took place along the following themes: i) Maximising the benefit of the sugar tax – will it work? And options for exploration; ii) Listeria – are we sitting on a food safety time bomb? And, iii) Disrupting Healthcare in a Digital World.

Prestigious Research lectures (PRL)

O 19th June, 2018, the Faculty of Health Sciences Research Office hosted the 17th Prestigious Research Lecture entitled, "Mysteries from the Grave: Forensic Aspects of identification". The Prestigious Lecture was presented by **Professor Maryna Steyn** (Head of the School of Anatomical Sciences, Director of the Human Variation and Identification Research Unit) and **Dr Candice Hansmeyer** (Specialist Forensic Pathologist, Roodepoort Medico-legal Laboratory). **Professor Jeanine Vellema** (Head of Department of Forensic Medicine and Pathology, and the seven Forensic Pathology Service Medico-Legal Mortuaries in Southern Gauteng) acted as the commentator.

Research Awards Breakfast

The Health Sciences Research Awards event hosted by the Dean and the Assistant Dean: Research and Postgraduate Support took place on the 24 July, 2018 at the Killarney Country Club. Professor Benita Olivier, an enthusiastic researcher from the Department of Physiotherapy and Dr Nqoba Tsabedze, the Academic Head of the Division of Cardiology were the co-hosts. The annual event celebrates the outstanding achievements of researchers and Research Entities in the Faculty during the previous year. The Faculty uses the opportunity to recognize its exceptional researchers, and is very proud of their continued successes.

The Carnegie Clinician Scientist Postdoctoral Fellowship Programme

The Carnegie Corporation of New York provided the University of the Witwatersrand with new funding from 2018 to 2019/20 to further develop clinicians who obtained their PhDs under the Carnegie Clinician Scientist PhD Fellowship Programme, to allow them to become established researchers in Medicine. The Programme's major objective is to allow the specialists with PhD's to participate in a postdoctoral programme over two years during which they receive mentoring and funding support for their individual research requirements, such as research assistants, consumables, etc. To date, it is believed that the programme is uniquely successful and is at the forefront of addressing the long standing need for emergent clinical researchers to develop into independent researchers.

Carnegie-WITS Alumni Diaspora Programme

The Wits Alumni Diaspora Programme has since 2010, created collaborative research networks between Health Sciences Alumni worldwide and their peers at Wits. Since 2013, the programme has grown into a comprehensive collaborative network with funding from the Carnegie Corporation of New York. In 2018, the Programme hosted eleven diaspora alumni, and provided for five Faculty researchers and emerging academics to engage with global alumni at their institutions abroad. A detailed report can be provided upon request. Details of visits are shown in **Appendix 9**.

Appendix 1: List of top publishing authors in the Faculty of Health Sciences, 2018.

Author	School/Entity/Unit	No. of Papers
Kumar P	Therapeutic Sciences	27
Norris SA	Clinical Medicine	26
Fox MP	Clinical Medicine	25
Pillay V	Therapeutic Sciences	25
Kahn K	Public Health	24
Choonara YE	Therapeutic Sciences	23
Ramsay M	SBIMB	19
Gomez-Olive FX	Public Health	18
Klipstein-Grobusch K	Public Health	18
Du Toit LC	Therapeutic Sciences	17
Madhi SA	Pathology	14
Pettifor A	Public Health	14
MacPhail C	Wits RHI	13
Crowther N	Pathology	12
Manger P	Anatomical Sciences	12
Rosen S	Clinical Medicine	12
Gonzalez-Gay MA	Physiology	11
Morris L	Pathology	11
Adam A	Clinical Medicine	10
Twine R	Public Health (Agincourt)	10
Firnhaber C	Clinical Medicine	9
Owusu-Dabo E	SBIMB	9
Selin A	Anatomical Sciences	9
Tollman S	Public Health	9
Wells M	Clinical Medicine	9
Agyemang C	Public Health	8
Evans D	Clinical Medicine	8
Feldman C	Clinical Medicine	8
Goldstein LN	Clinical Medicine	8
Goudge J	Clinical Medicine	8
Long L	Clinical Medicine	8
Maskew M	Clinical Medicine	8
Raal FJ	Clinical Medicine	8
Smeeth L	Anatomical Sciences	8
Steyn M	Anatomical Sciences	8
Strehlau R	Clinical Medicine	8
Wagner RG	Public Health	8
Bor J	Clinical Medicine	7
Coovadia A	Clinical Medicine	7
Erlwanger KH	Physiology	7
Grobbee DE	Anatomical Sciences	7
Ihunwo A	Anatomical Sciences	7
Kramvis A	Clinical Medicine	7
Kuhn L	Clinical Medicine	7
Mazengenya P	Anatomical Sciences	7
Micklesfield LK	Clinical Medicine	7
Okumu FO	Public Health	7
Racette BA	Public Health	7
Rees H	Wits RHI	7
Shiau S	Clinical Medicine	7
Wells M	Clinical Medicine	7

Appendix 2: Most cited publications in the Faculty of Health Sciences based on the ISI Web of Knowledge and Scopus in a 10-year period (2008 –2018).

Authors	Title	Year	Source title	Cited by	Document Type
Feigin V.L., Forouzanfar M.H., Krishnamurthi R., Mensah G.A., Connor M. , Bennett D.A., Moran A.E., Sacco R.L., Anderson L., Truelsen T., O'Donnell M., Venketasubramanian N., Barker-Collo S., Lawes C.M.M., Wang W., Shinohara Y., Witt E., Ezzati M., Naghavi M.	Global and regional burden of stroke during 1990-2010: Findings from the Global Burden of Disease Study 2010	2014	The Lancet	1495	Article
Nair H., Nokes D.J., Gessner B.D., Dherani M., Madhi S.A. , Singleton R.J., O'Brien K.L., Roca A., Wright P.F., Bruce N., Chandran A., Theodoratou E., Sutanto A., Sedyaningsih E.R., Ngama M., Munywoki P.K., Kartasasmita C., Simões E.A., Rudan I., Weber M.W., Campbell H.	Global burden of acute lower respiratory infections due to respiratory syncytial virus in young children: a systematic review and meta-analysis	2010	The Lancet	1356	Article
Fitzmaurice C., Dicker D., Pain A., Hamavid H., Moradi-Lakeh M., MacIntyre M.F., Allen C., Hansen G., Woodbrook R., Wolfe C., Hamadeh R.R., Moore A., Werdecker A., Gessner B.D., Te Ao B., McMahon B., Karimkhani C., Yu C., Cooke G.S., Schwebel D.C., Carpenter D.O., Pereira D.M., Nash D., Kazi D.S., De Leo D., Plass D., Ukwaja K.N., Thurston G.D., Yun Jin K., Simard E.P., Mills E., Park E.-K., Catalá-López F., DeVeber G., Gotay C., Khan G., Hosgood H.D., III, Santos I.S., Leasher J.L., Singh J., Leigh J., Jonas J.B., Sanabria J., Beardsley J., Jacobsen K.H., Takahashi K., Franklin R.C., Ronfani L., Montico M., Naldi L., Tonelli M., Geleijnse J., Petzold M., Shrimme M.G., Younis M. , et al.	The Global Burden of Cancer 2013	2015	JAMA Oncology	1286	Article
Laxminarayan R., Duse A. , Wattal C., Zaidi A.K.M., Wertheim H.F.L., Sumpradit N., Vlieghe E., Hara G.L., Gould I.M., Goossens H., Greko C., So A.D., Bigdeli M., Tomson G., Woodhouse W., Ombaka E., Peralta A.Q., Qamar F.N., Mir F., Kariuki S., Bhutta Z.A., Coates A., Bergstrom R., Wright G.D., Brown E.D., Cars O.	Antibiotic resistance-the need for global solutions	2013	The Lancet Infectious Diseases	1217	Review

Douillard J.-Y., Oliner K.S., Siena S., Tabernero J., Burkes R., Barugel M., Humblet Y., Bodoky G., Cunningham D., Jassem J., Rivera F., Kocákova I., Ruff P. , Błasińska-Morawiec M., Šmakal M., Canon J.L., Rother M., Williams R., Rong A., Wiezorek J., Sidhu R., Patterson S.D.	Panitumumab-FOLFOX4 treatment and RAS mutations in colorectal cancer	2013	New England Journal of Medicine	1170	Article
Finnerup N.B., Attal N., Haroutounian S., McNicol E., Baron R., Dworkin R.H., Gilron I., Haanpää M., Hansson P., Jensen T.S., Kammerman P.R. , Lund K., Moore A., Raja S.N., Rice A.S.C., Rowbotham M., Sena E., Siddall P., Smith B.H., Wallace M.	Pharmacotherapy for neuropathic pain in adults: A systematic review and meta-analysis	2015	The Lancet Neurology	952	Article
Sabatine M.S., Giugliano R.P., Wiviott S.D., Raal F.J. , Blom D.J., Robinson J., Ballantyne C.M., Somaratne R., Legg J., Wasserman S.M., Scott R., Koren M.J., Stein E.A.	Efficacy and safety of evolocumab in reducing lipids and cardiovascular events	2015	New England Journal of Medicine	915	Article
Violari A. , Cotton M.F., Gibb D.M., Babiker A.G., Steyn J., Madhi S.A. , Jean-Philippe P., McIntyre J.A.	Early antiretroviral therapy and mortality among HIV-infected infants	2008	New England Journal of Medicine	871	Article
Srivastava A., Brewer A.K., Mauser-Bunschoten E.P., Key N.S., Kitchen S., Llinas A., Ludlam C.A., Mahlangu J.N. , Mulder K., Poon M.C., Street A.	Guidelines for the management of hemophilia	2013	Haemophilia	729	Article
Sawyer S.M., Afifi R.A., Bearinger L.H., Blakemore S.-J., Dick B., Ezeh A.C. , Patton G.C.	Adolescence: A foundation for future health	2012	The Lancet	665	Review
Giuliano A.R., Palefsky J.M., Goldstone S., Moreira Jr. E.D., Penny M.E., Aranda C., Vardas E. , Moi H., Jessen H., Hillman R., Chang Y.-H., Ferris D., Rouleau D., Bryan J., Marshall J.B., Vuocolo S., Barr E., Radley D., Haupt R.M., Guris D.	Efficacy of quadrivalent HPV vaccine against HPV infection and disease in males	2011	New England Journal of Medicine	623	Article
Diacon A.H., Pym A., Grobusch M. , Patientia R., Rustomjee R., Page-Shipp L., Pistorius C., Krause R., Bogoshi M., Churchyard G., Venter A., Allen J., Palomino J.C., De Marez T., Van Heeswijk R.P.G., Lounis N., Meyvisch P., Verbeeck J., Parys W., De Beule K., Andries K., Mc Neeley D.F.	The diarylquinoline TMC207 for multidrug-resistant tuberculosis	2009	New England Journal of Medicine	558	Article

McCrory P., Meeuwisse W., Dvořák J., Aubry M., Bailes J., Broglio S., Cantu R.C., Cassidy D., Echemendia R.J., Castellani R.J., Davis G.A., Ellenbogen R., Emery C., Engebretsen L., Feddermann-Demont N., Giza C.C., Guskiewicz K.M., Herring S., Iverson G.L., Johnston K.M., Kissick J., Kutcher J., Leddy J.J., Maddocks D., Makdissi M., Manley G.T., McCrea M., Meehan W.P., Nagahiro S., Patricios J. , Putukian M., Schneider K.J., Sills A., Tator C.H., Turner M., Vos P.E.	Consensus statement on concussion in sport—the 5th international conference on concussion in sport held in Berlin, October 2016	2017	British Journal of Sports Medicine	528	Article
Rosen S., Fox M.P.	Retention in HIV care between testing and treatment in sub-Saharan Africa: A systematic review	2011	PLoS Medicine	500	Review
Blach S., Zeuzem S., Manns M., Altraif I., Duberg A.-S., Muljono D.H., Waked I., Alavian S.M., Lee M.-H., Negro F., Abaalkhail F., Abdou A., Abdulla M., Abou Rached A., Aho I., Akarca U., Al Ghazzawi I., Al Kaabi S., Al Lawati F., Al Namaani K., Al Serkal Y., Al-Busafi S.A., Al-Dabal L., Aleman S., Alghamdi A.S., Aljumah A.A., Al-Romaihi H.E., Andersson M.I., Arendt V., Arkkila P., Assiri A.M., Baatarkhuu O., Bane A., Ben-Ari Z., Bergin C., Bessone F., Bihl F., Bizri A.R., Blachier M., Blasco A.J., Brandao Mello C.E., Bruggmann P., Brunton C.R., Calinas F., Chan H.L.Y., Chaudhry A., Cheinquer H., Chen C.-J., Chien R.-N., Choi M.S., Christensen P.B., Chuang W.-L., Chulanov V., Cisneros L., Clausen M.R., Cramp M.E., Craxi A., Croes E.A., Dalgard O., Daruich J.R., De Ledinghen V., Dore G.J., El-Sayed M.H., Ergor G., Esmat G., Estes C., Falconer K., Farag E., Ferraz M.L.G., Ferreira P.R., Flisiak R., Frankova S., Gamkrelidze I., Gane E., Garcia-Samaniego J., Khan A.G., Gountas I., Goldis A., Gottfredsson M., Grebely J., Gschwantler M., Guimaraes Pessoa M., Gunter J., Hajarizadeh B., Hajelssedig O., Hamid S., Hamoudi W., Hatzakis A., Himatt S.M., Hofer H., Hrstic I., Hui Y.-T., Hunyady B., Idilman R., Jafri W., Jahis R., Janjua N.Z., Jarčuška P., Jeruma A., Jonasson J.G., Kamel Y., Kao J.-H., Kaymakoglu S., Kershenobich D., Khamis J., Kim Y.S., Kondili L., Koutoubi Z., Krajden M., Krarup H., Lai M.-S., Laleman W., Lao W.-C., Lavanchy D., Lazaro P., Leleu H., Lesi O., Lesmana L.A., Li M., Liakina V., Lim Y.-S., Luksic B., Mahomed A. , et al.	Global prevalence and genotype distribution of hepatitis C virus infection in 2015: A modelling study	2017	The Lancet Gastroenterology and Hepatology	456	Article

Krishnamurthi R.V., Feigin V.L., Forouzanfar M.H., Mensah G.A., Connor M. , Bennett D.A., Moran A.E., Sacco R.L., Anderson L.M., Truelsen T., O'Donnell M., Venketasubramanian N., Barker-Collo S., Lawes C.M.M., Wang W., Shinohara Y., Witt E., Ezzati M., Naghavi M., Murray C.	Global and regional burden of first-ever ischaemic and haemorrhagic stroke during 1990-2010: Findings from the Global Burden of Disease Study 2010	2013	The Lancet Global Health	430	Article
Nair H., Brooks W.A., Katz M., Roca A., Berkley J.A., Madhi S.A. , Simmerman J.M., Gordon A., Sato M., Howie S., Krishnan A., Ope M., Lindblade K.A., Carosone-Link P., Lucero M., Ochieng W., Kamimoto L., Dueger E., Bhat N., Vong S., Theodoratou E., Chittaganpitch M., Chimah O., Balmaseda A., Buchy P., Harris E., Evans V., Katayose M., Gaur B., O'Callaghan-Gordo C., Goswami D., Arvelo W., Venter M., Briese T., Tokarz R., Widdowson M.-A., Mounts A.W., Breiman R.F., Feikin D.R., Klugman K.P. , Olsen S.J., Gessner B.D., Wright P.F., Rudan I., Broor S., Simões E.A., Campbell H.	Global burden of respiratory infections due to seasonal influenza in young children: A systematic review and meta-analysis	2011	The Lancet	411	Article
Havlir D.V., Kendall M.A., Ive P. , Kumwenda J., Swindells S., Qasba S.S., Luetkemeyer A.F., Hogg E., Rooney J.F., Wu X., Hosseinipour M.C., Lalloo U., Veloso V.G., Some F.F., Kumarasamy N., Padayatchi N., Santos B.R., Reid S., Hakim J., Mohapi L., Mugenyi P., Sanchez J., Lama J.R., Pape J.W., Sanchez A., Asmelash A., Moko E., Sawe F., Andersen J., Sanne I.	Timing of antiretroviral therapy for HIV-1 infection and tuberculosis	2011	New England Journal of Medicine	395	Article
Raal F.J. , Stein E.A., Dufour R., Turner T., Civeira F., Burgess L., Langslet G., Scott R., Olsson A.G., Sullivan D., Hovingh G.K., Cariou B., Gouni-Berthold I., Somaratne R., Bridges I., Scott R., Wasserman S.M., Gaudet D.	PCSK9 inhibition with evolocumab (AMG 145) in heterozygous familial hypercholesterolaemia (RUTHERFORD-2): A randomised, double-blind, placebo-controlled trial	2015	The Lancet	392	Article
Raal F.J. , Honarpour N., Blom D.J., Hovingh G.K., Xu F., Scott R., Wasserman S.M., Stein E.A.	Inhibition of PCSK9 with evolocumab in homozygous familial hypercholesterolaemia (TESLA Part B): A randomised, double-blind, placebo-controlled trial	2015	The Lancet	386	Article

Olsson B., Lautner R., Andreasson U., Öhrfelt A., Portelius E., Bjerke M., Hölttä M., Rosén C., Olsson C., Strobel G., Wu E., Dakin K., Petzold M. , Blennow K., Zetterberg H.	CSF and blood biomarkers for the diagnosis of Alzheimer's disease: a systematic review and meta-analysis	2016	The Lancet Neurology	377	Article
Doria-Rose N.A., Schramm C.A., Gorman J., Moore P.L. , Bhiman J.N., DeKosky B.J., Ernandes M.J., Georgiev I.S., Kim H.J., Pancera M., Staube R.P., Altae-Tran H.R., Bailer R.T., Crooks E.T., Cupo A., Druz A., Garrett N.J., Hoi K.H., Kong R., Louder M.K., Longo N.S., McKee K., Nonyane M., O'Dell S., Roark R.S., Rudicell R.S., Schmidt S.D., Sheward D.J., Soto C., Wibmer C.K., Yang Y., Zhang Z., Mullikin J.C., Binley J.M., Sanders R.W., Wilson I.A., Moore J.P., Ward A.B., Georgiou G., Williamson C., Karim S.S.A., Morris L., Kwong P.D., Shapiro L., Mascola J.R.	Developmental pathway for potent V1V2-directed HIV-neutralizing antibodies	2014	Nature	364	Article
Fox M.P., Rosen S.	Patient retention in antiretroviral therapy programs up to three years on treatment in sub-Saharan Africa, 2007-2009: Systematic review	2010	Tropical Medicine and International Health	364	Article
Tremblay M.S., Aubert S., Barnes J.D., Saunders T.J., Carson V., Latimer-Cheung A.E., Chastin S.F.M., Altenburg T.M., Chinapaw M.J.M., Aminian S., Arundell L., Hinkley T., Hnatiuk J., Atkin A.J., Belanger K., Chaput J.-P., Gunnell K., Larouche R., Manyanga T., Gibbs B.B., Bassett-Gunter R., Biddle S., Biswas A., Chau J., Colley R., Coppinger T., Craven C., Cristi-Montero C., de Assis Teles Santos D., del Pozo Cruz B., del Pozo-Cruz J., Dempsey P., do Carmo Santos Gonçalves R.F., Ekelund U., Ellingson L., Ezeugwu V., Fitzsimons C., Florez-Pregonero A., Friel C.P., Fröberg A., Giangregorio L., Godin L., Halloway S., Husu P., Kadir M., Karagounis L.G., Koster A., Lakerveld J., Lamb M., LeBlanc A.G., Lee E.-Y., Lee P., Lopes L., Manns T., Ginis K.M., McVeigh J. , et al.	Sedentary Behavior Research Network (SBRN) - Terminology Consensus Project process and outcome	2017	International Journal of Behavioral Nutrition and Physical Activity	342	Article
Peters M.D.J., Godfrey C.M., Khalil H., McInerney P. , Parker D., Soares C.B.	Guidance for conducting systematic scoping reviews	2015	International Journal of Evidence-Based Healthcare	336	Article
Adair L.S., Fall C.H.D., Osmond C., Stein A.D., Martorell R., Ramirez-Zea M., Sachdev H.S., Dahly D.L., Bas I., Norris S.A. ,	Associations of linear growth and relative weight gain during	2013	The Lancet	298	Article

Micklesfield L., Hallal P., Victora C.G.	early life with adult health and human capital in countries of low and middle income: Findings from five birth cohort studies				
Ference B.A., Ginsberg H.N., Graham I., Ray K.K., Packard C.J., Bruckert E., Hegele R.A., Krauss R.M., Raal F.J. , Schunkert H., Watt G.F., Borén J., Fazio S., Horton J.D., Masana L., Nicholls S.J., Nordestgaard B.G., Van De Sluis B., Taskinen M.-R., Tokgözoğlu L., Landmesser U., Laufs U., Wiklund O., Stock J.K., Chapman M.J., Catapano A.L.	Low-density lipoproteins cause atherosclerotic cardiovascular disease. 1. Evidence from genetic, epidemiologic, and clinical studies. A consensus statement from the European Atherosclerosis Society Consensus Panel	2017	European Heart Journal	288	Article
Sliwa K. , Blauwet L., Tibazarwa K. , Libhaber E. , Smedema J.-P., Becker A. , McMurray J., Yamac H., Labidi S., Struhman I., Hilfiker-Kleiner D.	Evaluation of bromocriptine in the treatment of acute severe peripartum cardiomyopathy: A proof-of-concept pilot study	2010	Circulation	281	Article
Rajasingham R., Smith R.M., Park B.J., Jarvis J.N., Govender N.P. , Chiller T.M., Denning D.W., Loyse A., Boulware D.R.	Global burden of disease of HIV-associated cryptococcal meningitis: an updated analysis	2017	The Lancet Infectious Diseases	267	Article
Wiegman A., Gidding S.S., Watts G.F., Chapman M.J., Ginsberg H.N., Cuchel M., Ose L., Avarna M., Boileau C., Borén J., Bruckert E., Catapano A.L., Defesche J.C., Descamps O.S., Hegele R.A., Hovingh G.K., Humphries S.E., Kovanen P.T., Kuivenhoven J.A., Masana L., Nordestgaard B.G., Pajukanta P., Parhofer K.G., Raal F.J., Ray K.K., Santos R.D., Stalenhoef A.F.H., Steinhagen-Thiessen E., Stroes E.S., Taskinen M.-R., Tybjeallig-Hansen A., Wiklund O., Defesche J.C., Descamps O.S., Gidding S.S., Ginsberg H.N., Hegele R.A., Humphries S.E., Kovanen P.T., Nordestgaard B.G., Parhofer K.G., Raal F.J. , Ray K.K., Stalenhoef A.F.H., Steinhagen-Thiessen E., Stroes E.S., Watts G.F.	Familial hypercholesterolaemia in children and adolescents: Gaining decades of life by optimizing detection and treatment	2015	European Heart Journal	253	Review

Appendix 3: List of Research Entities in the Faculty of Health Sciences, 2018.

Research Entity	School/Department	Status	Recognition Cycle	Director/Leader
1. Antiviral Gene Therapy Research Unit	Pathology/ Molecular Medicine & Haematology	FRC/MRC/URC Unit	2015 until 2019	Prof Patrick Arbuthnot Patrick.Arbuthnot@wits.ac.za 011717 2365
2. Bone Research Laboratory Unit	Oral Health Sciences	FRC/URC Unit	2018 until 2022	Prof Ugo Ripamonti Ugo.Ripamonti@wits.ac.za 011717 2300
3. Brain Function Research Group	Physiology	FRC/URC Group	2018 until 2022	Prof Andrea Fuller Andrea.Fuller@wits.ac.za 011717 2359
4. Carbohydrate & Lipid Metabolism Research Unit	Clinical Medicine/Internal Medicine	FRC/URC Unit	2015 until 2019	Prof Frederick Raal Frederick.Raal@wits.ac.za 011488 3538
5. Cardiovascular Pathophysiology and Genomics Research Unit	Physiology	FRC/URC Unit	2015 until 2019	Prof Gavin Norton Gavin.Norton@wits.ac.za 011717 2354
6. Clinical HIV Research Unit	Clinical Medicine/ Internal Medicine/WHC	FRC/URC Unit	2015 until 2019	Prof Ian Sanne Isanne@witshealth.co.za 011 274 9200
7. Developmental Pathways for Health Research Unit	Clinical Medicine/ Paediatrics	MRC/URC Unit	2016 until 2020	Prof Shane Norris San@global.co.za 011933 1122
8. Effective Care Research Unit	Clinical Medicine/ Obstetrics & Gynaecology	FRC/URC Unit	2015 until 2019	Prof Justus Hofmeyr Justhof@gmail.com 083 280 9402
9. Empilweni Services and Research Unit (ESRU)	Clinical Medicine/ Paediatrics	FRC/URC Unit	2015 until 2019	Prof Ashraf Coovadia Ashraf.Coovadia@wits.ac.za 0114709290
10. Health Policy Research Group Centre for Health Policy	Public Health	FRC/URC Group	2014 until 2018	Assoc Prof Jane Goudge jane.goudge@gmail.com 011717 3425/ 489 9931
11. Hepatitis Virus Diversity Research Unit	Clinical Medicine/ Internal Medicine	FRC/URC Unit	2015 until 2019	Prof Anna Kramvis Anna.Kramvis@wits.ac.za 011488 3100
12. HIV Pathogenesis Research Unit	Pathology// Molecular Medicine & Haematology	FRC/ URC Unit	2015 until 2019	Prof Maria Papathanasopoulos Maria.Papathanasopoulos@ wits.ac.za; 0117172618
13. Human Variation and Identification Research Unit	Anatomical Sciences	FRC/URC Unit	2016 until 2020	Prof Maryna Steyn Maryna.Steyn@wits.ac.za 0117172405
14. Maternal, Adolescent and Child Health (MatCH) Research Unit	Clinical Medicine/ Obstetrics & Gynaecology	FRC/ URC Unit	2016 until 2020	Prof Jennifer Smit jsmit@matchresearch.co.za 031 001 1904
15. Perinatal HIV Research Unit	Clinical Medicine/ Paediatrics	FRC/ URC Unit	2015 until 2019	Prof Neil Martinson (Acting Director) martinson@phru.co.za 011989 9700

16. PRICELESS (Priority Cost Effective Lesson for System)	Public Health	FRC/ URC Unit	2018 until 2022	Prof Karen Hoffman Karen.Hoffman@wits.ac.za 0117172083
17. Project for Improving Neonatal Care (PRINCE)	Clinical Medicine/ Paediatrics	FRC Programme	2016 until 2020	Prof Daynia Ballot Daynia.Ballot@wits.ac.za 0114884232
18. Pulmonary Infection Research Unit	Clinical Medicine/Internal Medicine	FRC/URC Unit	2016 until 2020	Prof Charles Feldman Charles.Feldman@wits.ac.za 011488 3840
19. Respiratory & Meningeal Pathogens Research Unit	Pathology/ NICD	MRC/URC/NH LS Unit	2015 until 2019	Prof Shabir Madhi ShabirM@nicd.ac.za 011489 8723
20. Rural Public Health and Health Transitions Research Unit (Agincourt)	Public Health	MRC/URC Unit	2018 until 2022	Prof Stephen Tollman Stephen.Tollman@wits.ac.za 011717 2085
21. Sydney Brenner Institute for Molecular Biosciences	Faculty	FRC/URC Institute	2016 until 2020	Prof Michele Ramsay Michele.Ramsay@wits.ac.za 0117176635
22. Wits Advanced Drug Delivery Platform (WADDP)	Therapeutic Sciences/ Pharmacy & Pharmacology	FRC/URC Unit	2014 until 2018	Prof Viness Pillay Viness.Pillay@wits.ac.za 0117172274
23. Wits Reproductive Health and HIV Institute (WRHI)	Faculty	FRC/URC Institute	2015 until 2019	Prof Helen Rees hrees@wrhi.ac.za 011933 1228
24. Wits Research Institute for Malaria (WRIM)	Pathology/ Therapeutic Sciences	FRC/URC Institute	2018 until 2022	Prof Robyn van Zyl Robyn.VanZyl@wits.ac.za Prof Lizette Koekemoer Lizette.Koekemoer@wits.ac.za 0117172271

Appendix 4: DST/NRF South African Research Chairs Initiative (SARChI chairs) in the Faculty of Health Sciences in 2018.

GrantHolder	Department/School	Short Title
Coetzee, M	Wits Research Institute for Malaria, School of Pathology	Medical Entomology and Vector Control
Eyles, JD	School of Public Health	Health Policy and Systems
Madhi, SA	Respiratory and Meningeal Pathogens Research Unit, School of Pathology	Vaccine Preventable Diseases
Moore, PL	Department of Virology, School of Pathology	Virus-Host Dynamics for Public Health
Pillay, V	Pharmacy and Pharmacology, School of Therapeutic Sciences	Pharmaceutical Biomaterials and Polymer-Engineered Drug Delivery Technologies
Ramsay, M	Human Genetics, SBIMB, School of Pathology	Bioinformatics of African Populations
Eyles, JD	School of Public Health	Health Policy and Systems
Rispel, LC	School of Public Health	Research on the Health Workforce 4 Equity and Quality
Tiemessen, C	School of Pathology/Centre for HIV and STIs, NICD	HIV Vaccine Translational Research

Appendix 5: Faculty of Health Sciences NRF Rated researchers as at end of 2018.

Name	Title	Affiliation in Faculty of Health Sciences	Rating	Valid Until
Gray, G	Professor	Clinical Medicine: Perinatal HIV	A1	2023
Brouwer, DH	Professor	Public Health	A2	2022
Feldman, C	Professor	Clinical Medicine - Internal Medicine	A2	2021
Jewkes, RK (JS)	Professor	MRC - Public Health	A2	MRC
Madhi, SA	Professor	Pathology - RMPRU	A2	2022
Manderson, LH	Professor	Public Health	A2	2021
Mathew, CGP	Professor	Pathology	A2	2021
Morris, L (JS)	Professor	Pathology	A2	2021
Cohen, C	Professor	Public Health (JS)	B	NHLS
Von Gottberg, AM	Professor	Clinical Microbiology	B	NHLS
Coetzee, M (JS)	Professor	Pathology - NICD	B1	2018
Hofmeyr, GJ	Professor	Clinical Medicine - Obstetrics & Gynaecology	B1	2020
Manger, PR	Professor	Anatomical Sciences	B1	2020
Pillay, V	Professor	Therapeutic Sciences - Pharmacy	B1	2018
Rees, VH	Professor	Clinical Medicine - WRHI	B1	2019
Ripamonti, U	Professor	Physiology - Bone Research Laboratory	B1	2022
Sliwa-Hahnle, K (JS)	Professor	Clinical Medicine	B1	2021
Kramvis, A	Professor	Clinical Medicine - Internal Medicine	B2	2018
Lewis, DA (JS)	Professor	Pathology	B2	2019
Norton, G	Professor	Physiology	B2	2023
Paweska, JT (JS)	Professor	Pathology	B2	2017
Raal, FJ	Professor	Clinical Medicine - Internal Medicine	B2	2021
Ruff, P	Professor	Clinical Medicine	B2	2022
Sanne, IM	Professor	Clinical Medicine - Clinical HIV Research Unit	B2	2019
Steyn, M	Professor	Anatomical Sciences	B2	2023
Tollman, SM	Professor	Public Health	B2	2020
Violari, A	Dr	Clinical Medicine - PHRU	B2	2022
Weinberg, MS	Professor	Pathology - Molecular Medicine & Haematology	B2	2020
Woodiwiss, AJ	Professor	Physiology	B2	2021
Arbuthnot, PB	Professor	Pathology - Molecular Medicine & Haematology	B3	2018
Brooke, BD (JS)	Dr	Pathology	B3	2021
Dessein, PH	Professor	Clinical Medicine - Internal Medicine	B3	2022
Fuller, A	Professor	Physiology	B3	2021
Glencross, DK	Professor	Pathology - Molecular Medicine & Haematology	B3	2022
Kahn, K	Professor	Public Health	B3	2020
Kana, BD	Professor	Pathology – CoE e in Clinical TB Research	B3	2021
Moore, PL (JS)	Professor	Pathology	B3	2020
Naicker, S (JS)	Professor	Clinical Medicine - Nephrology	B3	2021

Schepartz, LA	Professor	Anatomical Sciences	B3	2018
Tiemessen, CT (JS)	Professor	Pathology - NICD	B3	2023
Gulumian, M	Professor	NIOH	C	NHLS
Phillips, JI (JS)	Dr	Pathology	C	2017
Behrens, KG	Professor	Clinical Medicine - Bioethics	C1	2021
Coetzer, TL (JS)	Professor	Pathology	C1	2020
Groome, MJ	Dr	Pathology - RMPRU	C1	2023
Koekemoer, LL	Professor	Pathology - NICD	C1	2018
Papathanasopoulos, MA	Professor	Pathology - Molecular Medicine & Haematology	C1	2021
van Vuuren, SF	Professor	Therapeutic Sciences - Pharmacy	C1	2020
Adrian, PV	Dr	Pathology - RMPRU	C2	2018
Baeyens, AJC	Dr	Clinical Medicine	C2	2023
Ballot, DE	Professor	Clinical Medicine - Paediatrics	C2	2021
Crowther, NJ	Professor	Pathology - Chemical Pathology	C2	2022
Daniels, WMU	Professor	Physiology	C2	2020
Du Plessis, M (JS)	Dr	Pathology	C2	2017
Flanagan, CA	Dr	Physiology	C2	2023
Janse van Rensburg, ABR	Professor	Clinical Medicine - Psychiatry	C2	2021
Kammerman, PR	Professor	Physiology	C2	2019
Libhaber, EN	Professor	Clinical Medicine	C2	2021
Micklesfield, LK	Dr	Clinical Medicine - Paediatrics	C2	2021
Myezwa, H	Professor	Therapeutic Sciences - Physiotherapy	C2	2021
Nelson, G	Professor	Public Health	C2	2020
Potterton, JL	Professor	Therapeutic Sciences - Physiotherapy	C2	2021
Scott, LE (JS)	Professor	Pathology - Molecular Medicine & Haematology	C2	2022
Smith, AM (JS)	Dr	Pathology	C2	NHLS
Stewart, AV	Professor	Therapeutic Sciences - Physiotherapy	C2	2020
Van Aswegen, H	Professor	Physiotherapy	C2	2023
Brooksbank, RL	Professor	Physiology	C3	2021
Chasela, CS	Professor	Public Health	C3	2019
Chivandi, EC	Professor	Physiology	C3	2019
Erlwanger, KH	Professor	Physiology	C3	2021
Frean, JA (JS)	Professor	Pathology	C3	2018
Ihunwo, AO	Professor	Anatomical Sciences	C3	2021
Maree, JE	Professor	Therapeutic Sciences - Nursing	C3	2020
Michel, FM	Dr	Physiology	C3	2023
Musenge, E	Professor	Public Health	C3	2021
Patel, M	Professor	Pathology - CMID	C3	2019
Perovic, OP (JS)	Professor	Pathology	C3	2018
Ware, L	Dr	Clinical Medicine: DPHRU	C3	2023
Choonara, YE	Professor	Therapeutic Sciences - Pharmacy	Y1	2018

Du Toit, LC	Professor	Therapeutic Sciences - Pharmacy	Y1	2021
Ahmad, A	Dr	Pathology	Y2	2023
Ely, A	Professor	Pathology - Molecular Med and Haematology	Y2	2021
Gravett, N	Dr	Anatomical Sciences	Y2	2023
Moeno, SGKM	Dr	Oral Biological Sciences	Y2	2021
Olivier, B	Professor	Therapeutic Sciences - Physiotherapy	Y2	2022
Wade, AN	Dr	Public Health	Y2	2018
Wolter, N (JS)	Dr	Pathology	Y2	2018

Appendix 6: Postdoctoral Fellow in the Faculty of Health Sciences, 2018.

Surname, First name	Discipline	Sponsor
Adeyemi, Dr Samson	Pharmacy	SARChI
Ajidahun, Dr Adedayo	Therapeutic Sciences	URC
Akilo, Dr Olufemi	Pharmacy	SA Research Chairs
Baillie, Dr Vicky	Respiratory & Meningeal Pathogens Research Unit	RMPRU
Brandenburg, Dr Jean-Tristan	SBIMB	SARC & HOST
Camina Ceballos, Dr Francisco Yago	SBIMB	NRF & HOST
Chikowore, Dr Tinashe	Human Genetics	NRF
Christmal, Dr Christmals	Public Health	NRF
Coetzee, Dr Jenny	Gender Health Research Unit	RMPRU
Cohen, Dr Emmanuel	DPHRU	NRF
De Franca Carvalho Fonseca, Dr Vinicius	Physiology	FAPESP
Dhar, Dr Nisha	RMPRU	CLF
Dietrich, Dr Janan	PERINATAL HIV RESEARCH UNIT	SAMRC
Ditse, Dr Zanele	NICD	Hillel Friedland
Do Nascimento Coimbra, Dr Joao Paulo	Anatomical Science	CLF
Fana, Dr Thamuxolo	Centre for Health Policy	SSRC NRF
Frimpong, Dr Emmanuel	Physiology	School
Govender, Dr Mershen	Therapeutic	SSFP NRF
Gunter, Dr Sule	Physiology	RDGR NRF
Idowu, Dr Ayodeji	Surgery	School
Indermun, Dr Sunaina	Therapeutic Sciences	PDGR NRF
Kaddumukasa, Dr Martha	WRIM	NRF
Kamiza, Dr Bunya	SBIMB	SAMRC
Kandhavelu, Dr Jeyalakshmi	Clinical Medicine	PDGR NRF
Khan, Dr Amber	Therapeutic Sciences	PDGR NRF

Khan, Dr Shama	Pathology	URC
Kitchin, Dr Dale	Pathology	SARChI
Kwatra, Dr Gaurav	RMPRU	RMPRU
Lamont, Dr Kim	Clinical Medicine	SSFP NRF
Liebenberg, Dr Dale	Biomedical TB Research	DST/NRF
Loubser, Dr Alistair Shayne	Public Health	SA Research Chairs
Marimani, Dr Musa Donald	Pathology	PDGR NRF
Mkwanazi, Dr Ntombizodumo	DPHRU	DST-NRF
Moyo, Dr Thandeka	Pathology	SA Research Chairs
Ngoepe, Dr Mpho	Oral Biological Sciences	NRF & URC
Nweke, Dr Emmanuel	Surgery	HOST& MRC
Oduaran, Dr Ovokeraye	SBIMB	URC+WHC
Olwagen, Dr Courtney	RMPRU	SARChI
Omar, Dr Aadilah	Clinical Medicine	SSFP NRF
Oosthuysen, Dr Wilhelm	RMPRU	RMPRU
Phantshwa, Dr Monwabisi	Pharmacy	SARChI
Pretorius, Dr Susanna	Centre for Exercise Science and Sports Medicine	SA Research Chairs
Ramburrun, Dr Poornima	Pharmacy	URC
Redelinghuys, Dr Mathys (Shane)	Wits Reproductive Health	WHC
Sengupta, Dr Dhriti	SBIMB	WHC
Srivastava, Dr Vartika	Pathology	URC
van den Berg, Dr Fiona	Antiviral Gene Therapy Research Unit	SAMRC
Wose Kinge, Dr Constance	Clinical Medicine	DST/NRF
Wrottesley, Dr Stephanie	DPHRU	DST-NRF

Appendix 7: Breakdown of courses and number of individuals attending offered by the Health Sciences Research Office during 2018.

Month	Course/Workshop Name	Registered
February	How to use STATISTICA	16
	How to use STATA	20
	Data Management Workshop	12
	FAHS1595 Research Methodology Course	19
March	Applied Statistical Methods using STATA and STATISTICA	6
	Supervisors Course	34
	How to prepare a poster presentation	30
	How to prepare a powerpoint presentation	28
	How to write an abstract	28
	Data Analysis Workshop	11
April	Data Management Workshop	10
	Advanced Statistics with STATA and STATISTICA	20
	Scientific Writing Skills	47
	Qualitative Research Methods using NVIVO	22
May	Examiners Workshop (Mmed and Mdent)	35
	Sample Size Calculation	17
	Data Analysis Workshop	7
	Examiners Workshop (Masters and PhD)	47
June	Data Management Workshop	13
	Introduction to Questionnaire Design	12
	FAHS1595 Research Methodology Course	51
July	Data Analysis Workshop	12
	Applied Statistical Methods using STATA and STATISTICA	26
	Supervisors Course	30
	How to use STATISTICA	27
	How to prepare a poster presentation	44
	How to prepare a powerpoint presentation	37
	How to automate reports for your research	54
August	How to use STATA	37
	Data Management Workshop	12
	FAHS1595 Research Methodology Course	26
	Qualitative Research Methods using MAXQDA	14
September	Data Analysis Workshop	12
	Scientific Writing Skills	42
October	Data Management Workshop	12
	Applied Statistical Methods using STATA and STATISTICA	21
	Examiners Workshop (Mmed and Mdent)	28
	Examiners Workshop (Masters and PhD)	44
November	Data Analysis Workshop	10
	Total	973

Advanced Biostatistics Courses

Title of Course/Workshop	Total Number of Attendees
Applied Statistical Methods using STATISTICA/STATA	33
Applied Statistical Methods using STATISTICA/STATA for researchers and staff	31
Advanced Statistics with STATA	24
Sample Size calculations	19
How to use STATISTICA	43
How to use STATA	57
Total	207

One-on-one consultations

In order to assist students on an individual basis, the HSRO has continued to offer 'walk-in' one-on-one statistical consultations to students in the Faculty 4 days per week at the PVT Health Sciences Building. The consultations are also offered at the Chris Hani Baragwanath Academic Hospital but by appointment. The consultations have been supported by the School of Public Health which has been providing the tutors since the beginning of this activity. In 2018, more than 763 candidates attended the consultations. In 2018 additional consultations were offered every morning mainly for established researchers and PhD students carried out by a senior biostatistician, Dr Innocent Maphosa. Financial support for this initiative is provided by the HSRO.

Undergraduate medical students (GEMP 3) support

Annually, the HSRO provides statistical workshops and one-on-one consultations for GEMP3 students who have to perform and present a research project for their curricula.

Appendix 8: Wits Health Consortium dividend breakdown for 2018. Funding was committed, and details of successful recipients of funding for minor equipment, start-up funds and seed funding, writing retreats, and travel incentives can be provided upon request.

Activity	Budget allocated	Committed	Actual Spend
FRC Individual grants	R 540 000,00	R 540 000,00	R 0,00
Minor equipment grant	R 600 000,00	R 600 000,00	R 0,00
Start-up funds for new staff	R 300 000,00	R 300 000,00	R 0,00
Seed funding for new projects	R 600 000,00	R 600 000,00	R 0,00
Staff writing retreats	R 150 000,00		R 0,00
Multidisciplinary Collaborative incentive grants	R 1 200 000,00	R 1 200 000,00	R 0,00
Prestigious research lectures, communications	R 210 000,00		R 0,00
Software: Stata, Statistica, Nvivo and MaxQDA	R 271 550,00		R 0,00
Biostatistics assistance	R 235 000,00		R 0,00
Emergent researcher travel awards	R 350 000,00	R 350 000,00	R 0,00
Established Staff and PG students travel awards	R 400 000,00		R 0,00
Biennial Research Day	R 350 000,00	R 350 000,00	R 0,00
Scientific/grant writing support	R 700 000,00		R 0,00
Miscellaneous (Research Africa; data capturer's, research awards breakfast, etc)	R 517 000,00		R 0,00
TOTAL	R 6 423 500,00		R 0,00

Appendix 9: List of Alumni Diaspora fellows visiting Wits FHS during 2018.

Alumni Diaspora Fellow	Affiliations	Wits Host	Visit dates
Dr Muhammed Spocter	Associate Professor in Anatomy, Des Moines University, USA	Professor Paul Manger, Anatomical Sciences	January 2018
Professor Ian Michelow	CEO, Lifespan, USA	Professor Ashraf Coovadia, Rahima Moosa	February 2018
Dr Roshni Khatri	Senior Lecturer in Occupational Therapy, University of Northampton, United Kingdom	Associate Professor Daleen Casteleijn, Department of Occupational Therapy, School of Therapeutic Sciences	March 2017
Professor Shane Maloney	Professor of Anatomy, University of Western Australia, Australia	Professor Andrea Fuller, Physiology	March/April 2018
Professor Michael Berk	Professor of Psychiatry, Deakin University, Australia	Professor Christopher Szabo, Psychiatry	April 2018
Professor Roy Zent (Professor Ambra Pozzi)	Vice Chair of Research in the Department of Medicine, Vanderbilt University School of Medicine, United States	Emeritus Professor Beverley Kramer, School of Anatomical Sciences	June 2018
Dr Michele Verdonck	Lecturer, University of the Sunshine Coast, Australia	Professor Benita Olivier, Therapeutic Sciences	June 2018
Dr Carolynne Vaizey	London North West University	Professor Martin Smith, Clinical Medicine (Surgery)	July 2018
Professor Nalini Pather	Professor in Anatomy, University of New South Wales, Australia	Dr Carol Hartmann, Unit for Undergraduate Medical Education	August 2018
Dr Neil Gordon	CEO, Intervent, USA	Professor Demitri Constantinou, Therapeutic Sciences	September 2018
Mrs Izel Obermeyer	Director, Westchester Institute for Human Development, USA	Professor Daleen Casteleijn, Therapeutic Sciences	October 2018
Return Visits: Staff Member	Alumni Diaspora Fellow	Institution visited	Visit dates
Professor Jerome Loveland	Professor Kokila Lakhoo	Oxford University, United Kingdom	July 2018
Associate Professor Daleen Casteleijn	Dr Roshni Khatri	Northampton University, United Kingdom	July 2018
Professor Andrea Full	Professor Shane Maloney	University of Western Australia, Australia	October 2018
Professor Theresa Coetzer	Professor Ian Michelow	Lifespan, United States of America	October 2018

www.wits.ac.za/health/research/