FACULTY OF HEALTH SCIENCES RESEARCH SUPPORT HUB

ANNUAL REPORT

2024/2025



Make today matter

VISION

To be a vibrant, inclusive, coherent and efficient research environment that contributes to University of Pretoria's performance targets and South Africa's health socio-economic and environmental priorities.

MISSION

- Stimulate an inclusive, collaborative, multidisciplinary and transdisciplinary research environment
 - Inspire research excellence
 - Enable bridging the gap between researchers, policymakers and implementers
 - Offer support to our students and staff research career development
 - Constantly improve the visibility and impact of our research
 - Promote transformative research that leads to social impact

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Foreword

It is with great pride that I present the 2024/2025 report on the Faculty of Health Sciences (FHS) Research Support Hub (RH) at the University of Pretoria (UP). Established on July 4, 2023, the RH has rapidly become a vital platform for advancing research, innovation, and academic excellence within our Faculty. Guided by the strategic leadership of the Faculty Research Committee (RESCOM), the RH is firmly rooted in the principles of Responsible Research and Innovation (RRI), ensuring that our research efforts are inclusive, reflexive, anticipatory, responsive, caring, and sustainable.

The RH remains committed to fostering a research culture that aligns with UP's broader research objectives and addresses the social and developmental needs of our local and global communities. Through collaboration with the UP's Department of Research and Innovation (DRI), the RH provides targeted research support to bridge gaps in research excellence, ensuring that all staff and students—regardless of background, have equitable opportunities to contribute meaningfully to scientific discovery and impact-driven scholarship.

This report serves as a continuation of our 2023/2024 research support initiatives, presented in the 2023/2024 report, detailing the progress made in implementing key programs and strategies. It reflects our ongoing commitment to strengthening research capacity, driving innovation, and supporting our researchers at every stage of their academic journey from April 2024 to April 2025. As we move forward, we remain dedicated to fostering an environment where research thrives, addressing critical health challenges, and positioning the Faculty as a leader in transformative research.

I extend my sincere gratitude to all who have contributed to the success of the RH, and I look forward to witnessing its continued impact in the FHS and beyond.



Prof. Tivani Mashamba-Thompson

Background

The FHS RH is grounded by RRI values such as inclusion, reflexivity, anticipation, responsiveness, care, and sustainability. The RRI values promoting inclusive and transformative research to contribute to the UP's research targets and contribute to the local region's unique social and developmental needs. The RH is designed to centralize and enhance research support while cultivating a culture of inclusion, reflexivity, anticipation, responsiveness, care, and sustainability.

The FHS RH provides a comprehensive suite of support services to contribute to the FHS's research productivity, postgraduate success, and internationalisation. Below are core services provided in the 2024/2025 cycle covering activities from April 2024 to March 2025.

- Capacity building: Developing and strengthening knowledge and skills necessary to enable staff and students to conduct high-quality research.
- **Scientific and manuscript editing:** Assistance with writing, formatting, and adhering to journal standards.
- **Article processing charges top-up:** Financial aid for staff and students without publication funds.
- **Conference funding top-up:** Support for conference participation by addressing funding shortfalls.
- **Grantsmanship and scholarship support:** Guidance and training in securing research grants and postgraduate scholarships.
- Research output tracking and recording: Monitoring journal and conference publications as well as patents and other research outputs.
- NRF rating applications: Internal reviews and mentorship for faculty seeking NRF ratings.
- **Biostatistical support service:** Assistance with statistical analysis for research projects.
- **Evidence synthesis and translation support service**: Assistance with the completion of high-quality evidence synthesis research in collaboration with the library.
- **Postgraduate student support:** Wellness and academic support designed to enhance the academic and research experience of postgraduate students.
- **Conferences/Symposiums:** Platforms to foster collaboration and networking within and beyond the Faculty.
- **Enhancing research and postgraduate governance:** To coordinate the development of research guidelines within the Faculty.
- Continuous professional development: Skills and knowledge development for the RH team to ensure continued service delivery.



Faculty of Health Sciences Research Support Hub Team

The RH operational team comprises a Grant Manager, Scientific Editor, Research Coordinator, and Postgraduate Studen Advisor supported by research assistants and interns.



Mrs Natasha JefthaGrant Manager



Dr Cheryl ToshScientific Editor



Ms Anwani NekhumbeResearch Coordinator



Mrs Gertrude Nonhlanhla
Mamabolo
Senior Management Assistant
for the Deputy Dean



Ms Sebueng RamasokotlaResearch Assistant



Mrs Mahlatse Mokwena Postgraduate Student Advisor

Capacity-building

Improving access to research methods support for students and staff is a critical priority within the FHS. We organised and delivered 18 research capacity-building sessions focused on improving knowledge research methodologies. We sent out 18 invitations to staff and students in the FHS with details of the session topic, the biography of the invited experts, and the workshop webinar synopsis (Figure 1).



Figure 1. An example of a Faculty of Health Sciences Research Support Hub advert for webinars and workshops.

The research capacity-building sessions were delivered in various formats, including online, hybrid, and in-person formats. Snacks were provided for the in-person workshops.

As illustrated in Table 1, a diverse array of research capacity-building initiatives was offered, encompassing various formats, including online and hybrid delivery (Figure 2) to ensure accessibility for FHS staff and students operating beyond the Prinshof campus. All online and hybrid activities were recorded and are available to all staff and students via the RH webpage

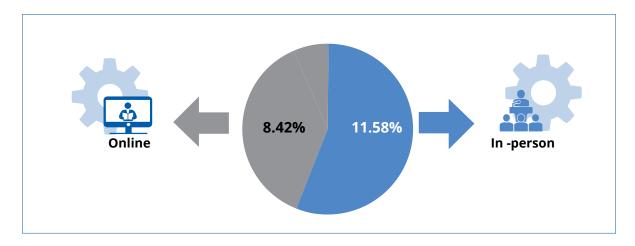


Figure 2: Delivery format of 2024/2025 Research Capacity Building Sessions

Table 1. Faculty of Health Sciences 2023/2024 Research Capacity Building Sessions

			:	Department/Faculty		Mode of delivery	ery	Number of
	Date	Session title	Name of facilitator	or Institution	In-person	Hybrid	Online	respondents
—	04/06/2024	Covidence Training	Covidence	Faculty of Health Sciences (FHS), University of Pretoria (UP) Covidence			Online (recording removed)	45
7	25/06/2024	APC webinar & TopUp for conference attendance	Prof T Mashamba-Thompson	Faculty of Health Sciences (FHS), University of Pretoria (UP)			Online (No recording)	54
m	12/07/2024	Data Science Workshop - STATS SA	STATS SA	Faculty of Health Sciences (FHS), University of Pretoria (UP), STATS SA	In-Person			65
4	05/08/2024	Paperpal demo	Paperpal	Faculty of Health Sciences (FHS), University of Pretoria (UP) Paperpal			Online Watch demo <u>here</u>	50
5	06/08/2024	National Cancer Research Strategy Workshop	Research Support Hub and Department of Science, Innovation and Technology	Faculty of Health Sciences (FHS), University of Pretoria (UP)	In-Person			08
9	16/08/2024	Accessibility Barriers in Medical Technology or Patients and Healthcare Professionals	Prof Theresa Rossouw Ms Rosina Ramokgola	Faculty of Health Sciences (FHS), University of Pretoria (UP)			Online Watch webinar <u>here</u>	45
7	30/09/2024- 23/10/2024	FHS Group Supervision Initiative	Dr Christa de Vries Ms Natasha Jeffha DRI Grant Management Unit	Faculty of Health Sciences (FHS), University of Pretoria (UP)	3-day In-Person		5 Sessions online	11
_∞	09/10/2024	Air pollution and Climate: Equity considerations for getting to Net Zero	Prof Ana Iglesias	Faculty of Health Sciences (FHS), University of Pretoria (UP)			Online Watch webinar <u>here</u>	13
6	25/02/2025	Scoping review workshop	Prof T Mashamba-Thompson	Faculty of Health Sciences (FHS), University of Pretoria (UP)	In-Person			40
10	05/03/2025	Paperpal Academic and Student Demonstration	Prof Kalpana Balakrishnan	Faculty of Health Sciences (FHS), University of Pretoria (UP) SAMRC	In-Person			18
11	13/03/2025	Biostatistics/Stata workshop	Prof Tivani Mashamba-Thompson Dr Siphesihle Nxele Dr Kuhlula Maluleke Mr Jeff Morerwa	Faculty of Health Sciences (FHS), University of Pretoria (UP)	In-Person			14
12	27/03/2025	Explainable AI for Decision-making in Healthcare: A case study of COVID-19	Prof Janette Bester Ms Sanele Mathibela	Faculty of Health Sciences (FHS), University of Pretoria (UP)			Online Watch webinar <u>here</u>	185
13	04/04/2025	Grant Writing Workshop	Prof Alfred Musekiwa	Faculty of Health Sciences (FHS), University of Pretoria (UP)	In-Person			87

Biostatistics support service

In response to this pressing need, a Faculty Biostatistics support team was assembled. This team comprises a school-level biostatistician, two pre-screeners, one biostatistician (responsible for pre-screening as well), and one experienced biostatistician at the Faculty level, tasked with mentoring interns and providing support to pre-screeners to ensure the longevity of these services. The pre-screeners, who were volunteers from within the schools, are established researchers who possess expertise in the application of biostatistics within their respective fields and aid in improving proposal quality by conducting initial assessments, ensuring that the submission is ready for biostatistics services. Administrative support for the biostatistics team was provided by interns from the FHS RH. A research assistant was allocated to the School of Health Systems and Public Health to assist with their in-house biostatistics.

The Biostatistics support services team



Prof Alfred Musekiwa
Biostatistician and Head of
Health Measurement Division
in SHSPH



Dr Kuhlula MalulekeBiostatistician and Senior
Lecturer in Epidemiology and
Biostatistics in SHSPH



Dr Victoria Oyekunle Biostatistician and Lecturer in Biostatistics



Dr Denekew BelayBiostatistician and Postdoc in

NAS



Prof Trevor NyakudyaBiostatistics representative and screener for School of Medicine



Prof Melvin AmbeleBiostatistics representative and screener for School of Dentistry



Prof Daleen CasteleijnBiostatistics representative
and screener for School of
Health Care Sciences

Biostatistics plays a pivotal role in scientific research, yet the details of the biostatistical methods utilised in studies often remain incomplete. Insufficient specification of these details can lead to variable quality in the final outcomes. To address this issue, we offer comprehensive biostatistical support to equip medical scientists with the necessary information for accurate analysis and reporting.

The FHS RH at the UP extends its services to research degree students pursuing their Masters Research or PhD degrees, as well as to staff engaged in research. Furthermore, our services cater to individuals undertaking non-degree research projects. The FHS RH is committed to delivering high-quality, efficient, and reliable biostatistics collaboration and support services to foster excellence in education and research.

Our biostatistical assistance and advice encompass various areas, including the following:



- 1. Research/power and sample size calculations
- 2. Data management/statistical analysis
- 3. Research design
- 4. Interpretation of the statistical results
- 5. Grant development
- 6. School RESCOM membership
- 7. Scientific Contribution/Presentation of Results
- 8. Training

To provide clarity, the biostatistical support offered in each of these functions is outlined in the table below:

Table 2. Faculty Research Support Hub 2023/2024 Biostatistical Support Tasks

FUNCTION 1. Research/power and sample size calculations

TASKS:

Use advanced programming techniques to extract and aggregate raw data, thereby contributing to study design and analytical decisions. Conduct comprehensive statistical analyses, meticulously document programming procedures and results, and offer support in preparing reports, manuscripts, and grant proposals.

Key responsibilities:

- Develop analysis plans and formulate statistical computing requests.
- Execute statistical analyses or review program code to ensure accuracy.
- · Verify and report results to coauthors, facilitating collaborative decision-making.
- Actively participate in manuscript writing, contributing statistical insights and interpretations.

Sample size estimation:

• For sample size estimation, require materials: information regarding the statistical analysis to be applied, acceptable precision levels, decide on study power, specify the confidence level, and determine the magnitude of practical significance differences (effect size).

FUNCTION 2. Research/power and sample size calculations

Key responsibilities:

- Choose statistical software to determine the required sample size. In FHS, all our sample size estimation was done using G*Power (a statistical software package).
- Explain the various statistical terminology involved. Sample size calculation involves several statistical terms, a selection of which is provided as follows:
 - 1. Hypothesis testing: (i) The hypothesis is a statement the researcher formulates related to the population value of interest, (ii) In the process of hypothesis testing, the researcher establishes a null and alternative hypothesis, withdraw a sample to examine the hypotheses, and decide on the statistical test to be used.
 - 2. Two-sided test and one-sided: In one-sided test, the aim of study is to test whether a value of interest (e.g., mean or proportion) is being less than or greater than a prespecified value. In a two-sided test, the test investigates if the value of interest differs in any direction from a predefined value or an estimate.
 - 3. Power: It is an arbitrary probability value for the act of correctly rejecting a false null hypothesis.
 - 4. Level of confidence: Probability that an estimate of a population parameter is within certain specified limits of the true value
 - 5. Type I or false positive: Rejecting the null hypothesis when it is true
 - 6. Type II or false negative: Failing to reject the null hypothesis when it is false. Power calculations provide information on how many participants are required to avoid a type II error.
 - 7. Alpha (α): The probability of making type I error. The significance level was determined at the start of the study. α =0.05 is the common level used in medical, biological research. The size of power depends on α .
 - 8. Beta (β): The probability of making type II error.

Offer support in data extraction, manipulation, management, and analysis for outcomes and policy studies focused on enhancing the safety and effectiveness of medications across diverse patient populations and healthcare settings.

Key responsibilities:

- Aid in developing and interpreting statistical data.
- Formulate and review analytic plans proposed by study researchers.
- · Create data specifications, analysis plans, analytic datasets, and visualizations for manuscripts.
- · Collaborate on selecting appropriate statistical analysis strategies and adapt to new methods as needed.
- Contribute constructively to resolving system-wide issues impacting statistics and data management.

Tailored statistical tool development to address specific research questions and challenges.

FUNCTION 3. Data management/statistical analysis

Key responsibilities:

- Aid in developing and interpreting statistical data.
- Formulate and review analytic plans proposed by study researchers.
- Create data specifications, analysis plans, analytic datasets, and visualizations for manuscripts.
- Collaborate on selecting appropriate statistical analysis strategies and adapt to new methods as needed.
- Contribute constructively to resolving system-wide issues impacting statistics and data management.

Tailored statistical tool development to address specific research questions and challenges.

FUNCTION 4. Research design guidance

Guide researchers on:

- · Research feasibility discussion to establish testable research hypothesis
- Sample size and statistical power determination
- Data-instrument development, such as questionnaires

Study design and statistical analysis plan development for grants

FUNCTION 5. Interpretation of statistical results guidance

Guide researchers on the statistical data analysis output presented by various researchers to enhance accurate reports.

FUNCTION 6. Grant development

Guide researchers on:

- · Refining study questions and measurement methods
- Writing statistical analysis plans
- Computing precision, power, and sample sizes necessary to achieve a given precision of estimation or a given power

FUNCTION 7. School RESCOM membership

Contribute to proposal development by the researcher for ethics approval, including literature reviews and statistical analysis section.

FUNCTION 8. Scientific contribution / Presentation of results

- · Assist in co-authoring study publications.
- · Generate statistical data and create graphical figures.
- Draft articles for presentation at scientific conferences.

Software/Tools

It is also imperative to specify the statistical package or software employed for conducting analyses in your study, along with the version number (e.g., SPSS v. 29.0). The implementation of analyses can vary significantly across software packages, especially for more complex analyses. Consequently, results obtained from one software package may differ slightly from those obtained from another. Including precise software package information is essential for providing a comprehensive record of your biostatistical methods.

FUNCTION 8. Training

- Train and support graduate students, research fellows, and trainees under the supervisor's purview in the extraction, manipulation, management, and analysis of healthcare data.
- Identify and implement best practices across projects, developing training materials to equip staff with these optimal approaches.

Moreover, a robust research design is essential for basic science, clinical, and translational research endeavours. The involvement of a biostatistician in the early stages of project development markedly enhances the quality of investigations. Since the beginning of 2024, we have provided students and staff with an opportunity to engage with a biostatistician during the early stages of their research projects through weekly in-person consultations (Figure 4).

Following the first consultation with a biostatistician, school-level screening, and final consultation, a biostatistical support letter is issued for degree research proposals. Below is a table illustrating the distribution of biostatistical letters issued to the School of Medicine, School of Healthcare Sciences, and School of Dentistry within my jurisdiction for 2023 (Tables 3 and 4).



Figure 4: Invitation for weekly biostatistics support

Table 3. Representation of biostatistics consultation during the 2024–2025 cycle

Month	Booked consultations		Month	Booked consultations
January 2024	26		August 2024	18
February 2024	58		September 2024	32
March 2024	63		October 2024	18
April 2024	44	November 2024		16
May 2024	42		January 2025	4
June 2024	13		February 2025	41
July 2024	28		March 2025	62
	465			

Table 4. Representation of biostatistics letters per Statistician during the 2024–2025 cycle: 340 letters have been issued in total

Biostatistician	SoM	SHSPH	SoHSC	SoD
Prof Alfred Musekiwa	56	56	3	5
Dr Kuhlula Maluleke	119	22	15	12
Dr Victoria Oyekunle	19	0	5	4
Dr Denekew Belay	24	N/A	N/A	N/A
Total	218	78	23	21

Biostatistics training program

To ensure the sustainability of biostatistics support within the FHS, we are now implementing a structured training program following its successful development and pilot phase. This initiative led to the addition of Dr. Kuhlula Maluleke, a Senior Lecturer in Epidemiology and Biostatistics at the School of Health Systems and Public Health, as a biostatistician in the faculty in the past academic year. The program is designed for post-doctoral fellows with the potential and interest to pursue academic careers as biostatisticians, enhancing their understanding and application of statistical methods in health sciences. As of February 2025, two postdoctoral fellows have joined the program and are currently undergoing training.

The overview of the program's structure and execution is presented below. The primary objective is to provide interns with the statistical knowledge and skills necessary to master statistical methods for sample size calculation and analysis of a variety of health-related data and to provide biostatistics services to students and staff as well as teaching under biostatistics-related modules and workshops. The training encompasses biostatistics consultations for honours, Masters, and PhD students, as well as support for research grants and non-degree research endeavours.



Dr Charlise BassonPostdoctoral Fellow: Institute for
Cellular and Molecular Medicine
(ICMM)



Dr Thobeka DlangalalaPostdoctoral Fellow: Nuclear
Medicine Research Infrastructure
(NuMeRI)

Goals and Objectives

Goal: To provide comprehensive training in biostatistical methods applicable to health research

Training Objectives

- To understand the fundamental concepts of statistics and their application in health sciences.
- To learn diverse data analysis techniques used in biostatistics.
- To gain practical experience in using statistical software for data analysis.
- To apply statistical methods to real-world biological and health-related datasets.
- To develop skills in interpreting and communicating statistical results effectively.
- Develop proficiency in statistical software for data analysis (STATA, SPSS, and G-Power).
- Gain practical experience in analysing real-world health sciences datasets.

Basic statistics

- Overview of descriptive and inferential statistics.
- Measures of central tendency and dispersion
- · Probability distributions relevant to biological data (such as binomial distributions).
- · Sampling techniques and study design.

Biostatistical methods

- Hypothesis testing and p values.
- · Confidence intervals and effect size estimation.
- Analysis of variance (ANOVA) and regression analysis
- Nonparametric methods for analysing data that do not meet the assumptions of traditional statistical tests.

Training methodology and sample size determination

The training sessions were conducted through discussions and practical assignments. Trainees are encouraged to engage actively in discussions and ask questions to clarify concepts. Real-world examples and case studies were used to illustrate the application of biostatistics in research and public health.

Statistical Software

- Practical sessions using statistical software such as G-Power, SPSS, or STATA.
- Data manipulation, visualisation, and analysis using software tools.
- Interpretation of statistical outputs generated by software.

Evidence synthesis support

The RH collaborates with library services and <u>TURF (Tuks Undergraduate Research Forum</u>) to provide evidence synthesis research support through the <u>Evidence Synthesis and Translation research group</u> (ESR-T@UP). A dedicated team assists staff and students under TURF in conducting high-quality scoping reviews and systematic reviews, disseminating their findings in high-impact journals as part of degree or non-degree research projects. Involving TURF in offering this service has provided undergraduate students exposure to research as participants and co-authors of publications.

We received 85 evidence synthesis support requests from staff and students in the FHS, during this period. We have noticed more evidence synthesis support requests predominantly from the Nursing department and the School of Health Systems and Public Health (Figure 5).

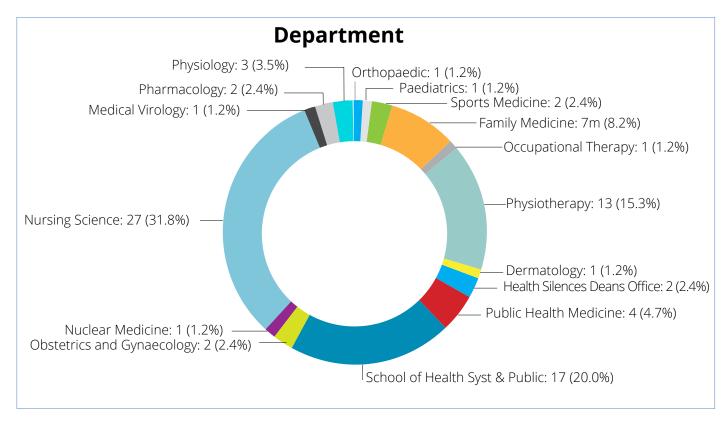


Figure 5: Number of evidence synthesis support requests

Successful dissemination of evidence synthesis research projects to the scientific community is a primary objective. Table 5 presents publications that resulted from the ESR-T@UP support from 2024/2025 along with their corresponding journal impact factors.

Table 5. 2024/2025 FHS evidence synthesis research outputs that were enabled by the FHS evidence synthesis support services.

Year	Publication	Journal impact factor
2024	Jaya, Z. N., Mapanga, W., Dlangalala, T., Thembane, N., Kgarosi, K., Dzinamarira, T., & Mashamba-Thompson, T. P. (2024). Accuracy of self-collected versus healthcare worker collected specimens for diagnosing sexually transmitted infections in females: an updated systematic review and meta-analysis. <i>Scientific Reports, 14(1),</i> 10496	4.6
2024	Ngcobo, S., Bust, L., Couper, I., & Chu, K. (2024). The role of clinical associates in South Africa as a health workforce: A scoping review. <i>African Journal of Primary Health Care & Family Medicine, 16(1),</i> 11.	n/a
2024	Mapulanga, M., Kgarosi, K., Maluleke, K., Hlongwa, M., & Dlungwane, T. (2024). Evidence of community health workers' delivery of physical rehabilitation services in sub-Saharan Africa: a scoping review. <i>BMJ Open, 14(5), e079738.</i>	2.9
2024	Dzobo, M., Dzinamarira, T., Jaya, Z., Kgarosi, K., & Mashamba-Thompson, T. (2024). Experiences and perspectives regarding Human papillomavirus self-sampling in s ub-Saharan Africa: A systematic review of qualitative evidence. Heliyon.	3.4
2024	Motha, S. G., Naidoo, N., Moyo-Chilufya, M., Musekiwa, A., Kgarosi, K., & Mostert, K. (2024). Effectiveness of a physiotherapy self-management programme for adult patients with chronic non-specific low back pain in low-and middle-income countries: protocol for a systematic review and meta-analysis. <i>BMJ open, 14(7), e073916.</i>	2.9
2024	Majeed, R., Bester, J., Kgarosi, K., & Strydom, M. (2024). Mapping evidence on the regulations affecting accessibility, availability and management of snake antivenom globally: a scoping review protocol. <i>BMJ Open, 14(12), e086964</i>	2.9
2024	Nxele, S. R., Moetlhoa, B., Dlangalala, T., Maluleke, K., Kgarosi, K., Theberge, A. B., & Mashamba-Thompson, T. (2024). Mobile-linked point-of-care diagnostics in community-based healthcare: a scoping review of user experiences. <i>Archives of Public Health, 82(1), 139</i>	3.2
2024	Thobane, Khalaeng Frans, Fhumulani Mavis Mulaudzi, Ndivhaleni Robert Lavhelani, and Rodwell Gundo. "Enablers and barriers for task sharing of mental health care from nurses to community health workers: A scoping review." International Journal of Africa Nursing Sciences (2024): 100761	1.3
2024	Motha, S. G., Naidoo, N., Moyo-Chilufya, M., Musekiwa, A., Kgarosi, K., & Mostert, K. (2024). Effectiveness of a physiotherapy self-management programme for adult patients with chronic non-specific low back pain in low-and middle-income countries: protocol for a systematic review and meta-analysis. <i>BMJ open, 14(7), e073916.</i>	2.9
2025	Musie, M. R., Tagutanazvo, O. B., Sepeng, N. V., Mulaudzi, F. M., & Hlongwane, T. (2025). A scoping review on continuing professional development programs for midwives: optimising management of obstetric emergencies and complications. <i>BMC Medical Education</i> , 25(1), 296.	2.7
2025	Lukhele, S., Mulaudzi, F. M., & Gundo, R. (2025). Factors contributing to visual intrapartum cardiotocograph interpretation variation among healthcare professionals: An integrative review. <i>PloS one, 20(1), e0315761</i> .	3.3
2025	Maila, S. M., Castelyn, C., & Adam, S. (2025). Informed consent and ethical issues pertaining to female sterilization—Scoping review. <i>International Journal of Gynecology & Obstetrics.</i>	4.4
2025	Gamede, M., Sosibo, M. A., Gumede, N., & Luvuno, M. (2025). The Impact of Selected Regimens of Chronic HIV-Antiretroviral Treatment on Glycemic Control Markers and Correlates: A Systematic Review and Meta Analysis Protocol. <i>Health Science Reports</i> , 8(1), e70299.	1.5
2025	Nesengani, T. V., Downing, C., & ten Ham-Baloyi, W. (2025). Barriers to effective patient care as experienced by nurses in primary healthcare clinics in African countries: a systematic review of qualitative studies. <i>BMC nursing</i> , 24(1), 232.	3.1
2025	Sean M Patrick, Joyce Shiride, Kabelo Kgarosi, Takalani Makintisa, Rico Euripidou, Victor Munnik. Just energy transition from coal in South Africa. Environmental Science and Policy. 2025	4.9

Research software

To support research, we subscribed to support biostatistics, evidence synthesis, and scientific writing software. We have provided access to Stata, Covidence, and Paperpal software for all staff and students in the FHS.

Stata serves as a statistical software package pivotal in academic research, facilitating data analysis, manipulation, and visualisation. It empowers researchers to navigate complex datasets and perform advanced statistical analyses with ease. After providing Stata software, we provided a comprehensive Stata training sessions for both current and prospective users. To date, FHS Stata users are 878.



Figure 6. Stata training session with Prof Alfred Musekiwa

To enhance the efficiency and quality of scoping reviews and systematic reviews conducted by staff and students in FHS, we have access to Covidence through an annual subscription. As from 2025, The UP Library Services will fund this annual subscription, while the RH provides training. Covidence serves as a screening and data extraction tool specifically designed for these types of reviews, streamlining processes and ensuring ease of tracking. This software has been made available to all FHS students and staff actively engaged in research. The current number of reviews on Covidence is 39.

The following steps outline the evidence synthesis process facilitated by Covidence:

- 1. The search results were uploaded as an RIS file.
- 2. Covidence automatically deduplicates records, reducing redundancy.
- 3. The abstracts were screened for relevancy by two or more reviewers
- 4. The full texts of the articles were screened using predefined inclusion and exclusion criteria.
- Any disagreements among the reviewers were resolved.
- 6. Complete data extraction utilizing customisable templates.
- 7. The risk of bias assessment was conducted as necessary.
- 8 The data were exported into formats such as RevMan or Excel for further analysis.

Paperpal is designed specifically for academic writing and has been shown to be the best Al-assisted writing tool for researchers and students. This has been introduced to FHS to help boost students' and staff members' chances of success with real-time, subject-specific language suggestions that help them write their manuscripts, theses, dissertations and reports better and faster. The current number of active Paperpal users is 144.

Grantsmanship and postgraduate scholarship support

The DRI has a comprehensive suite of workshops on offer to provide research funding support. The FHS aligns and participates in the workshops and invites customised support to the FHS when needed. In 2024, the DRI launched several initiatives to enhance success in securing external research funding.

- A key achievement was a **pilot NIH Support Workshop**, which guided 11 faculty members **through an eight-session series detailing the complete NIH application process.** The workshop was well received, leading to plans for institution-wide sessions in 2025.
- Additionally, in response to Faculty demand, a specialised workshop titled "Show Me the Money" was presented at the ENT Conference on 8 November 2024. This session featured representatives from the DRI, SAMRC, and Discovery Foundation, who provided insights into securing research funding.
- In May 2024, the Research Hub hosted a **PhD Breakfast** and one of the sessions focussed on **doctoral funding support**. The presentation was well received and in addition to funding support it outlined the support available through the **FlyHigher@UP**¹ initiative that provides academic support through Structured Proposal Development Workshops, Writing Skills Consultations, Writing retreats, Hands-on Quantitative Data Analysis Workshops Using Different Software, Hands-on Quantitative Data Analysis Consultations, as well as Hands-on Qualitative Data Analysis Workshops using Atlas.ti.

Other initiatives included workshops, grant-writing retreats, and funding strategy sessions designed to support both early-career and established researchers.

Key programmes included:

- Grant Writing and Management Training: Multiple sessions were held, such as Navigating the UP-Grant Management System (March 4, June 17), Research Grant Budgeting (April 15, June 12, August 21, October 16), and Overview of External Research Grants (April 9, June 3, August 13, October 7).
- Early Career Researcher Support: Workshops like Finding Funding Opportunities (March 18, May 6, July 15, September 16), Writing Your First Article (May 22), and Grant Writing Series (May 27–30) provided targeted support.
- Specialised Training linked to US-based funding: The Collaborative Institutional Training Initiative (CITI) offered sessions on Animal Care and Use (April 29) and Human Subjects Research (September 5).

These efforts reflect the institution's commitment to fostering a research-supportive environment, equipping Faculty with the skills and resources to secure competitive funding and strengthening grantsmanship.

^{1.} The primary aim of the programme is to assist and ensure that postgraduate students (Masters and PhD) complete their studies within the prescribed time, this is done by providing academic support to the postgraduate students. https://www.up.ac.za/postgraduate-support/article/2227681/postgraduate-research-support-flyhigherup

Dedicated funding support includes the following:

- A centralised research support office in the Faculty supports researchers by identifying funding opportunities, disseminating information about relevant grants, and providing guidance on the application process.
- There is a concerted drive to support emerging researchers. They are encouraged to start with smaller grant opportunities to build their track record before pursuing larger, more competitive grants. Where feasible, the experienced grant recipients are paired with junior faculty members or those new to grant writing to support and guide them through the application, similar to a mentoring programme.
- Aligned with the DRI, the research support office provides dedicated administrative support staff to assist researchers throughout the grant application process (pre-award), from budget preparation and compliance with funding agency requirements to post-award contract and financial management as well as reporting requirements.
- The research support office administers processes based on standardised procedures, policies, guidelines and templates to streamline administrative tasks and ensure compliance with funding regulations within the UP.

The grantsmanship support is provided by one UP-appointed employee, the Research Grants Manager, with assistance and support from the DRI staff whenever possible. The office benefited from the provision of government-funded interns to assist with the workload the increased research income base brings with it during the 2023/2024 period, which was not continued into 2025. This support, however, is limited to six months at a time, and at least two of these months are spent on training the interns. The office will benefit from the addition of a post for an Administrative Officer reporting to the Research Grants Manager. With an extra pair of hands to assist with the administrative workload, researchers can focus on their research activities as opposed to the administrative load they need to bear at the moment.

A notable achievement in grantsmanship during this period was facilitating the inaugural engagement (Figure 7) for the DSTI's National Cancer Research and Innovation Strategy, positioning UP as a key partner alongside the Nuclear Medicine Research Infrastructure (NuMeRI), the South African Medical Research Council (SAMRC), and the Department of Science, Technology and Innovation.



Figure 7: Attendance of the first DSTI/UP National Cancer Research and Innovation Strategy workshop.

Enhanced access to research mentorship opportunities

The Faculty currently stands at 40 rated researchers, with at least 17 outcomes still pending from the 2023/2024 NRF Rating submission cohort. For the 2024/2025 year, the Faculty submitted 15 applications. The final number is bound to increase, but we should consider the number of postretirement researchers not submitting renewal applications. At least seven researchers allowed their ratings to lapse. There is a good spread of ratings across the categories (Figure 8).

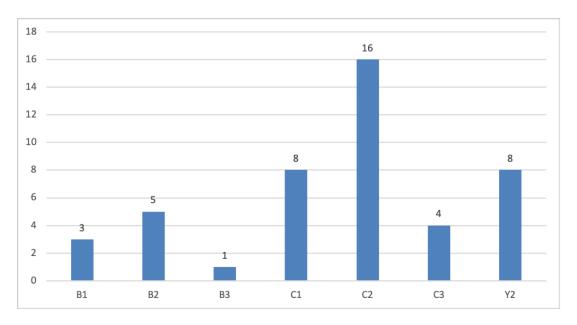


Figure 8: Number of NRF-rated researchers in the FHS

With the help of the NRF application internal evaluation tool with senior NRF-rated researchers within the FHS, we have noticed an improvement in the quality of NRF rating application and outcome. We have received no RU outcomes in the past two NRF rating cycles 2023 and 2024. This internal evaluation tool is also used as a readiness assessment tool to assist researchers with self-assessments of their readiness to apply for NRF ratings. We have collaborated with the DRI in delivering FHS-tailored NRF-rating workshops to help applicants improve the quality of their applications. The FHS RH provides two rounds of faculty-level screening and timely feedback to applicants to help improve the quality of applications before submission to the UP NRF-rating committee. The concerted and often individualised support provided to researchers through the FHS RH has seen an increased number of applications since 2021 (Figure 9).

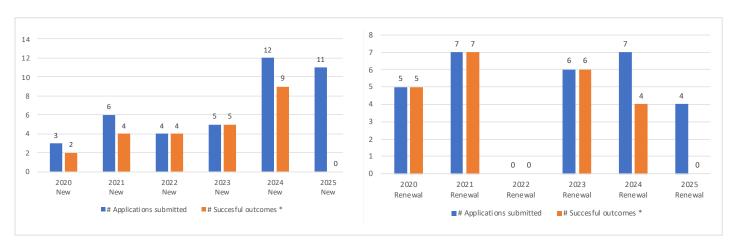


Figure 9 FHS NRF rating records from 2020 to 2025

The support structure also benefits renewal applicants, and we have observed an improvement in the quality of the applications submitted for internal review. Figure 10 shows the submissions and success rates over the period from 2020 to 2023, as results in large for 2024 are still outstanding and 2025 shows the submission status.

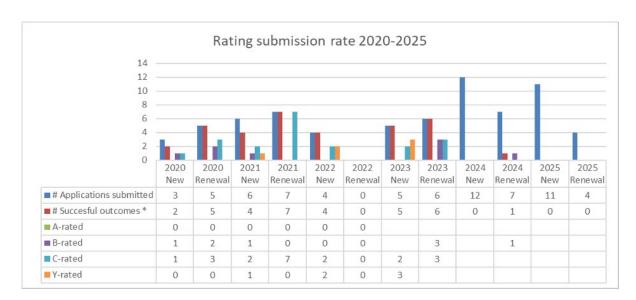


Figure 10: FHS NRF rating applications record from 2020-2025

Promotion of research impact and translation into policy and practice

The FHS RH at UP underscores the faculty's proactive commitment to fostering research initiatives that prioritise social impact. By providing resources, guidance, and expertise, the RH plays a pivotal role in advancing UP's research priorities, particularly focusing on the social implications of research outcomes. However, the recent quinquennial review of the FHS has highlighted a deficiency in initiatives aimed at facilitating the translation of research into tangible policy and practice.

In response to this gap, the FHS organises an annual Faculty Research Day event, serving as a platform for staff, students, research entities, and partner organisations to convene, exchange knowledge, and showcase pioneering research endeavours. The event's effectiveness has been bolstered by enhanced support from DRI in recent years. The 2023 Faculty Research Day, held on August 24th, 2023, saw wide participation, with 728 individuals, including delegates, oral presenters, and exhibitors, marking a substantial increase compared to previous years. This surge signifies heightened engagement of students in research and elevated acknowledgement of the Faculty's research by esteemed partners and sponsors, facilitated by exceptional marketing efforts.

To further amplify research impact and translation endeavours, strategic collaborations with key stakeholders such as the Department of Health and the FHS Marketing and Communications Department have been initiated. These collaborations aim to enhance the social impact of research conducted within the Faculty. A noteworthy initiative is the development of an e-magazine, tentatively titled "Health Impact Insights." Stakeholder engagement has been initiated, with encouraging support received thus far. The magazine, scheduled for launch in August 2024, will serve as a platform for delivering engaging features, insightful profiles, and thought-provoking analyses derived from the latest research findings of our Master's and PhD students, as well as research projects. Emphasis will be placed on highlighting the societal implications of these endeavours, particularly focusing on publications in peer-reviewed journals and recommendations from PhD theses.

The objectives of "Health Impact Insights" are multifold:

- 1. Bridging the gap between academia and society: The e-magazine will translate complex scientific concepts into accessible content, fostering understanding and engagement among diverse audiences.
- 2. Advocating for better health outcomes: By showcasing research findings, the magazine will advocate for evidence-based approaches to improving health outcomes and addressing disparities.
- 3. Promoting dialogue and collaboration: Through interactive features and expert interviews, the magazine will foster collaboration among stakeholders across academia, healthcare, policymaking, and the public.

The introduction of this e-magazine presents an opportunity to leverage Faculty expertise and resources to amplify the social impact of research. It is anticipated that this initiative will enhance the visibility and impact of our research and contribute meaningfully to strengthening South Africa's health systems in alignment with National Health Coverage initiatives in line with SDG3.

Article Processing Charges Top-up

In recognition of the financial barriers to publishing in open science journals for early-career researchers with no existing funds to cover publication costs from their cost centres. This was introduced to complement the existing Library Services APCs support, and we have introduced Faculty-level APC support. Table 6 presents the level of uptake for faculty-level APC support during 2024–2025.

Table 6. APCs support provided to Schools between 2024 and 2025

Year	School	Target journal APC	Faculty contribution
2024	School of Health Systems and Public Health	R27 402,73	R13 701,37
2024	School of Health Systems and Public Health	R50 698,45	R31 251,68
2024	School of Health Care Sciences	R52 978,51	R52 978,51
2024	School of Health Care Sciences	R59 452,65	R46 814,81
2024	School of Health Systems and Public Health	R23 939,19	R8 005,81
2024	School of Health Systems and Public Health	R52 623,19	R36 690,34
2025	School of Health Systems and Public Health	R25 211,68	R12 605,84
2025	School of Health Systems and Public Health	R24 872,87	R12 436,44
Total			R214 484,80

Conference Funding Top-up

The FHS Research Office offers conference attendance support to staff and students who have made significant contributions to research productivity within the Faculty (Table 7). To qualify, applicants must meet the eligibility criteria outlined below:

Eligibility Criteria:

- FHS Affiliation: Full-time employed staff member with UP FHS affiliation.
- **Research Productivity:** Six FHS-affiliated publications in international journals within the past two years, including at least two publications as first or senior/last author.
- **Postgraduate Supervision:** Successful supervision of at least two postgraduate students (Masters and/or PhD) to completion within the past two years.
- **Previous Funding:** No FHS conference attendance support received in the past three years.
- Additional Funding: Evidence of applying for other funding support from alternative platforms.
- **Reporting Requirements:** Willingness to provide a report and photos as evidence within four weeks of attending the conference.
- Funding Depletion: Evidence of depleted funding from developmental and/or publication cost centre.

By meeting these criteria, staff and students can demonstrate their commitment to research excellence and qualify for conference attendance support.

Table 7. Faculty of Health Sciences Conference Oral/Poster Presentation or Workshop Participation Top Up provided to Schools in 2024

Year	Funded candidate	Candidate's School	Top up amount	Conference	Country
2024	Prof Joyce Shirinde	School of Health Systems and Public Health (SHSPH)	R10 000	36th Annual Conference of the International Society for Environmental Epidemiology	Chile
2024	Prof Liz Wolvaard	SHSPH	R10 000	International Association for Health Professions Education (AMEE 2024)	Switzerland
2024	Dr Kuhlula Maluleke	SHSPH	R10 000	10th International Con- ference on Public Health (ICOPH)	Thailand
2024	Dr Sean Mark Patrick	SHSPH	R10 000	International Medical Edu- cation Conference	Malaysia
2024	Dr Martins Nweke	School of Healthcare Sciences (SoHCS)	R10 000	Global Evidence Summit 2024	Czech Republic
2024	Prof Nombulelo V Sepeng	SoHCS	R10 000	Transcultural Nursing Society	USA
Total			R60 000		

Providing impactful scientific writing assistance

The FHS RH provides scientific editing support to postgraduate students and staff who have prepared research articles for publication in DHET-accredited journals. Our support ranges from language editing to consultations aimed at improving the scientific quality of manuscripts. We also present academic writing training sessions to staff and students.

Published articles (2024-2025) edited by the FHS RH

- 1. Aljabery, M., Coetzee-Prinsloo, I., van der Wath, A., & Al-Hmaimat, N. (2024). Characteristics of Moral Distress from Nurses' Perspectives: An Integrative Review. International Journal of Nursing Sciences.
- 2. Aneck-Hahn, N. H., Van Zijl, M. C., Quinn, L., Swiegelaar, C., Nhlapo, N., de Bruin, W., & Korsten, L. (2024). The use of in vitro bioassays and chemical screening to assess the impact of a minimally processed vegetable facility on wastewater quality. Frontiers in Toxicology, 6, 1439126.
- 3. Foale, S., Botma, Y., & Heyns, T. (2024). Mindfulness-based interventions to support wellbeing of adults in low socio-economic settings: a realist review. BMC Complementary Medicine and Therapies, 24(1), 52.
- 4. Hajison, P. L., Dzikiti, L., Chimatiro, C., Tshotetsi, L., Mbale, E., Makhumula, B., ... & Hailegebriel, T. D. (2024). Factors associated with the admission of moderate to late preterm and term neonates within 72 hours of birth at Dedza and Mangochi District Hospitals, Malawi: a matched case-control study. BMC pediatrics, 24(1), 1-13.
- 5. Hajison, P. L., Mpachika-Mfipa, F., Pitso, L., Tshotetsi, L., & Chimatiro, C. S. (2024). Fertility awareness, perceived factors and approaches to improve contraceptive uptake among sexually active adolescent girls in Phalombe, Malawi: a mixed-methods study. Reproductive Health, 21(1), 161.
- 6. Govender, K., Mafuyeka, R. T., Lukhwareni, A., & Meyer, P. (2024). Comparison of SARS-CoV-2 molecular results from the first two COVID-19 waves in Gauteng. Southern African Journal of Infectious Diseases, 39(1), 647.Gundo, R., & Mulaudzi, M. F. (2024). Protocol: Collaborative design of a health research training programme for nurses and midwives in Tshwane district, South Africa: a study protocol. BMJ Open, 14(4).
- 7. Joubert, N., Filmalter, C., White, Z., & Masenge, A. (2024). The effect of forced-air warming blanket position during spinal surgery on patients' intra-operative body temperature. The Surgeon, 22(6), 373-376.
- 8. Kgadima, M. R., Coetzee, I. M., & Heyns, T. (2024). Factors influencing knowledge translation into critical care practice: The reality facing intensive care nurses in Limpopo Province. Southern African Journal of Critical Care, 40(2), 62-66.
- 9. Kwakye, S. K., Mostert, K., Garnett, D., & Masenge, A. (2024). Epidemiology and clinical characteristics of football injuries among academy players in Ghana. BMJ Open Sport & Exercise Medicine, 10(4).
- 10. Lebelo, M. T., Mmekwa, N., Jaratlerdsiri, W., Mutambirwa, S. B., Loda, M., Hayes, V. M., & Bornman, M. R. (2024). Associating serum testosterone levels with African ancestral prostate cancer health disparities.
- 11. Legare, N. A., Quan, V. C., Govender, N. P., & Muchiri, J. W. (2024). Lived experience of people with cryptococcal meningitis: A qualitative study. Southern African Journal of HIV Medicine, 25(1), 1560.
- 12. Middleton, I., Vorster, M., & van der Vyver, P. J. (2024). A Comparison of Preparation Times between Manual, Rotary, and Reciprocating Files in Primary Molar Pulpectomy. Indian Journal of Dental Research, 35(1), 45-48.
- 13. Moetlhoa, B., Nxele, S. R., Maluleke, K., Mathebula, E., Marange, M., Chilufya, M., ... & Mashamba-Thompson, T. (2024). Barriers and enablers for implementation of digital-linked diagnostics models at point-of-care in South Africa: stakeholder engagement. BMC Health Services Research, 24(1), 216.
- 14. Msimango, H., Phalatse, N., Germishuys, R. M., Jamieson, M., Avenant, K. L., & Rameetse, T. (2024). Occupational therapists' perceptions of a school-to-work transition programme for learners at a special educational needs school. South African Journal of Occupational Therapy, 54(2), 46-53.

- 15. Msimango, H., Phalatse, N., Germishuys, R. M., Jamieson, M., Avenant, K. L., & Rameetse, T. (2024). A study of the Effectiveness of a School-to-Work Transition Program for learners at a special educational needs school in Tshwane. South African Journal of Occupational Therapy, 54(2), 46-53.
- 16. Muchiri, J. W., Gericke, G. J., & Rheeder, P. (2024). Adults living with type 2 diabetes experiences of a randomised adapted diabetes nutrition education programme: a qualitative process evaluation. South African Journal of Clinical Nutrition, 37(2), 77-83.
- 17. Musie, M. R., & Mulaudzi, F. M. (2024). Knowledge and attitudes of midwives towards collaboration with traditional birth attendants for maternal and neonatal healthcare services in rural communities in South Africa. Midwifery, 130, 103925.
- 18. Naicker, V. N., Muchiri, J. W., Naidoo, K., & Legodi, M. H. (2025). Application of the workload indicators of staffing need (WISN) to assess dietetic workforce needs in South African central and tertiary public hospitals. Scientific Reports, 15(1), 1707.
- 19. Naicker, V. N., Naidoo, K., Muchiri, J. W., & Legodi, M. H. (2024). A Delphi consensus study to determine the workload components and activity standards of dietitians in South Africa's central and tertiary public hospitals. Human Resources for Health, 22(1), 4.
- 20. Nowbath, N., Abdelatif, N., & Lippi, G. (2024). Comparing the medication costs of treating patients with schizophrenia who use cannabis with those who do not. South African Journal of Psychiatry, 30, 2211.
- 21. Nxele, S. R., Moetlhoa, B., Dlangalala, T., Maluleke, K., Kgarosi, K., Theberge, A. B., & Mashamba-Thompson, T. (2024). Mobile-linked point-of-care diagnostics in community-based healthcare: a scoping review of user experiences. Archives of Public Health, 82(1), 139.
- 22. Nweke, M., & Mshunqane, N. (2024). Efficacy of aerobic exercise for HIV-associated neurocognitive disorders receiving ART: An RCT. The South African Journal of Physiotherapy, 80(1), 2104.
- 23. Piotie, P. N., Webb, E. M., & Rheeder, P. (2024). Suboptimal control and failure to intensify therapy for South Africans with type 2 diabetes: an audit of diabetes management at primary health care facilities. Journal of Endocrinology, Metabolism and Diabetes in South Africa, 29(1), 37-42.
- 24. Saili, K., de Jager, C., Masaninga, F., Sangoro, O. P., Nkya, T. E., Likulunga, L. E., ... & Mutero, C. M. (2024). House screening reduces exposure to indoor host-seeking and biting malaria vectors: Evidence from rural South-East Zambia. Tropical Medicine and Infectious Disease, 9(1), 20.
- 25. Tshotetsi, L., Hajison, P., Jella, C. D., Mpachika-Mfipa, F., & Chimatiro, C. S. (2024). Knowledge, practices and adherence to COVID-19 preventive measures by community members in the Phalombe District Malawi: a cross-sectional qualitative study. Global Health Promotion, 31(3), 12-21.
- 26. Viljoen, A., Leech, R., & Heyns, T. (2024). Consensus on the content of an instrument to measure person-centred teamwork: An e□Delphi study. Journal of Clinical Nursing, 33(5), 1786-1797.
- 27. Viljoen, A., Leech, R., Slater, P., & Heyns, T. (2024). Consensus on the definition and attributes of person-centered teamwork: An e□Delphi study. Worldviews on Evidence-Based Nursing.
- 28. Zola, N., Mtetwa, T. G., & Khamker, N. (2024). The effects of inpatient suicide on nurses at Weskoppies Hospital: A qualitative study. South African journal of psychiatry, 30, 2231.

Since the introduction of the dissertation and thesis by publication guidelines, demand for this service has significantly increased. To meet this growing need, we have implemented the AI editing tool, Paperpal. Training sessions on Paperpal have been provided, and the tool is available to staff and students during the write-up phase.

Strengthening postgraduate support

Academic advising services offered within the FHS RH are dedicated to supporting postgraduate health science students, aiming to empower them to succeed academically, personally, and professionally through early intervention and individualised support (Table 8).

Our mission is multifaceted, with the focus of empowering students to excel by providing accessible services tailored to postgraduates' needs. Our goal is to positively impact students' academic and professional development, ensuring that they complete their degrees efficiently, reach their optimal potential, and transition successfully into their professional lives.

The services provided by postgraduate health science student advisors with a background in counselling psychology include a range of tailored services to meet the diverse needs of our students:

- 1. Individual counselling is provided to students within a safe and confidential space to discuss personal, academic, and professional concerns, fostering holistic well-being and resilience.
- 2. Academic support sessions are personalised and focused on study skills, exam preparation, time management, goal setting, and motivation to enhance academic success.
- 3. Career guidance and mentorship sessions focus on assisting students in exploring career options, setting career goals, and navigating the transition from academia to the professional world through mentorship and guidance.
- 4. Wellness workshops are conducted on various topics, such as stress management, self-care practices, and work-life balance, to promote students' overall wellness and mental health.

Table 8. Support offered to postgraduate students in 2024-2025

Support offered	Honours	Masters	PhD
Academic support – study skills, test preparations, exam preparations, time management, goal setting, motivation, research support	80	12	0
Mental health – depression, suicide, adjustment challenges, grief, anxiety, conflict management, addictive disorders, posttraumatic stress, abuse, family conflict, personal challenges, burnout etc.	64	40	27
Admin-related queries – registration and admission matters, Internal and External applications, module inquiries, changing degrees, transferring, deregistering	195	92	52
Funding - funding support includes Research Fellowships, Departmental Scholarships, Grants and Bursaries, External funding	38	32	28
Food parcel	4	0	0
Supervisor student conflict , mental health challenges related to research	7	42	20

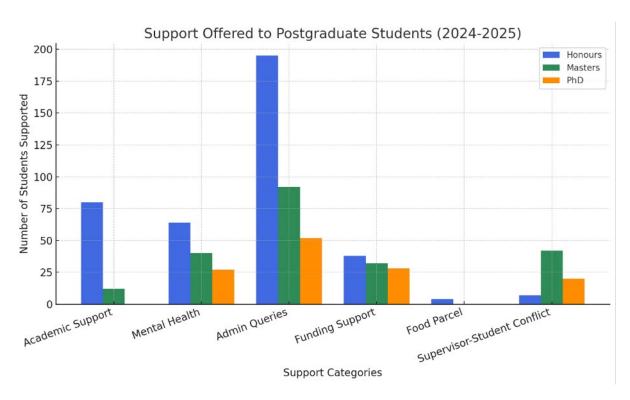


Figure 11: Support offered to postgraduate students

To ensure impactful support, postgraduate students with additional needs, such as severe mental health illnesses, are referred to the student counselling unit, psychiatrists, or doctors within the university. Other needs, such as administrative queries, often fall under FHS student administration. Students are also referred to other support structures, such as the Health Science Health Committee, clinical psychologists, counsellors, clinics and psychiatrists.

To augment the reach of our postgraduate support for the benefit of students' success in 2025, we have introduced a new initiative offering structured monthly group sessions tailored to address the unique challenges faced by Honours, Master's, and PhD students. Running from February to December 2025, these hybrid sessions held both in person at the Library Workshop Rooms and online are designed to provide practical tools and strategies in just one hour per session.



Figure 12: Postgraduate Support workshop

Support for postgraduate supervisors

To enhance the effectiveness of postgraduate supervision to help improve postgraduate students' throughput rates, we engaged the postgraduate supervisor to propose the possible implementation of a group supervision approach to help improve supervision capacity in the Faculty. The first Group Supervision discussion session was conducted on 25 February 2025, and it was attended by 20 postgraduate supervisors from all Schools within the FHS (Figure 13).



Figure 13: Attendance of the group supervision initiative meeting

Group supervision is aimed at the following:

- **Enhancing supervision success:** Through enabling collaboration with fellow supervisors to exchange ideas, share strategies, and refine your supervision approach.
- **Improved student throughput:** Fostering a supportive learning environment that helps postgraduate students stay on track and achieve their goals.
- **Resource sharing:** Gaining access to a wealth of tools, templates, and best practices to streamline the supervision process.
- **Peer learning and networking:** Building connections with colleagues across the Faculty and learning from their experiences.
- Problem-solving support: Tackling common supervision challenges collaboratively for better outcomes.

During the session with supervisors, several challenges were highlighted, underscoring critical concerns regarding postgraduate supervision, resource allocation, and student progression.

A key issue raised was the unrealistic increase in enrolment targets, which many supervisors felt was unfeasible given the current constraints. The lack of adequate funding further exacerbates the situation, limiting the ability to provide necessary resources and support to students. This was particularly evident in the absence of dedicated laboratory space, especially for honours students, which hinders their research productivity.

Capacity issues were another significant concern, with supervisors struggling to meet unclear expectations regarding their roles and responsibilities. Many reported difficulties in effectively supervising students at various academic levels, leading to inconsistencies in guidance and support. These supervisory challenges were further compounded by disruptions in the academic pipeline, causing knock-on effects on student progression and graduation timelines.

The overburdening of junior staff was also noted as a pressing issue. The continuous intake of new students, combined with frequent extensions for existing ones, resulted in an unsustainable workload. A notable discrepancy between student intake and graduation rates was observed, with more students being accepted into programs than successfully completing their degrees. This imbalance contributed to high dropout rates, as students struggled to cope with overwhelming academic demands, lack of adequate attention, and, in some cases, mental health issues such as sleep deprivation.

Concerns were also raised about the alignment of student research topics with supervisors' areas of expertise. Supervisors emphasized the need for students to work within their niche areas to ensure meaningful mentorship and successful research outcomes. Additionally, the complexities of supervising clinical PhD students were acknowledged, given the distinct requirements of clinical research.

The timeline for PhD completion emerged as another critical discussion point. While there is an expectation for students to complete their degrees within three years, various factors, including resource constraints and supervisory challenges as well as full-time employed students, often lead to delays. Supervisors also discussed the model of PhD by publication, highlighting both its advantages and the challenges associated with implementing this approach effectively. They also raise the need for more guidance on accessing APC support and a need for the RH to provide an example of an APC waiver letter that they can adapt and submit to the journal editor while requesting for waiver.

Funding remains a critical factor in postgraduate research. The potential to utilise PhD supervision subsidies as a means of securing additional funding was explored, with recommendations for optimising this support. Additionally, the importance of resource sharing was emphasised, particularly in fostering collaboration among physicians, nurses, biomedical scientists, and other health professionals to enhance research output and efficiency. It was recognised that while these groups largely conduct clinical research using shared platforms and data sources, they possess varying levels of research training, clinical expertise, data access, analytical skills, and time availability for research and clinical work. Leveraging each other's strengths would, therefore, be highly beneficial in improving the Faculty's overall research productivity.

Overall, the engagement session highlighted the critical need for structured support systems, well-defined expectations, and sustainable resource allocation to enhance the effectiveness and balance of the postgraduate supervision process for both students and the Faculty. Key findings from this session was shared with the UP postgraduate targets war room team. In response to the insights gathered during this session, a pre-Master's and PhD preparation course was developed in collaboration with UP Enterprises. This course is designed to improve student preparedness and facilitate more effective alignment and connection with potential supervisors.

Impact on FHS research productivity

In 2024/2025, the RH focused on several key initiatives to enhance research productivity within the FHS. These efforts included enhancing research governance while expanding research capacity-building, providing biostatistics and evidence synthesis support, offering impactful scientific writing assistance, and improving grantsmanship and scholarship support. The RH also strengthened postgraduate support, organised research conferences and symposiums, facilitated access to research software, and enhanced research collaboration and internationalisation. Through these initiatives, the FHS RH has significantly contributed to advancing the Faculty's research productivity, complementing the efforts of individual Schools and other Faculty portfolios i.e. Teaching and Learning as well as Stakeholder Relations.

The impact on research productivity during the period 2024–2025 is evident in various scholarly outputs, including the number of publications, grants and postgraduate scholarships, and master's and PhD enrolment and throughput. Additionally, the period reflects significant achievements in securing scholarships and grants by both students and staff, as well as notable progress in master's and PhD throughput. These outcomes are detailed in Tables 9 and 10 and Figure 14 and 15.

Table 9. 2021–2024 Research output units per school

	2021	2022	2023	2024 (provisional)
School of Medicine	220.4	177.7	167.68	191.13
School of Dentistry	38.7	27	19.31	22.72
School of Health Care Sciences	34.8	27.8	44.46	69,88
School of Health Systems and Public Health	43	34.5	34.57	54.62

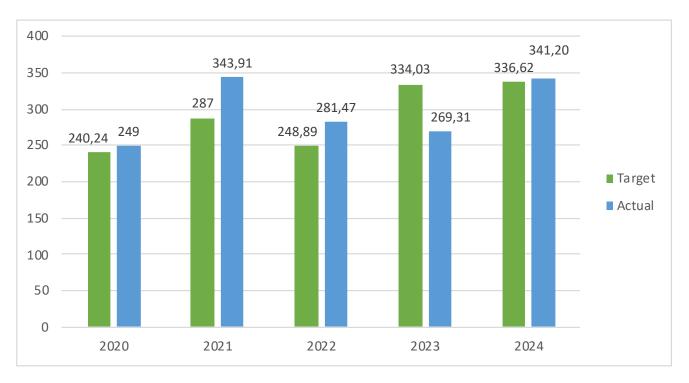


Figure 14: 2020–2024 research output target and actual units achieved for the FHS

	20	22	202	23	20	24
	Doctoral	Masters	Doctoral	Masters	Doctoral	Masters
School of Medicine	21	120	19	127	19	171
School of Dentistry	1	9	0	10	0	10
School of Health Care Sciences	10	44	16	50	21	49
School of Health Systems and Public Health	9	51	9	51	10	62
TOTAL	41	173	44	238	50	292

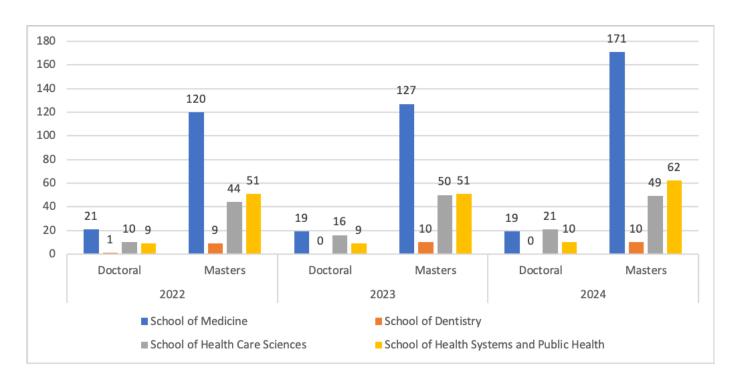


Figure 15. Doctoral and Master's throughput in 2022, 2023 and 2024

The faculty relies on external research contracts and grants to drive and elevate its research endeavours across various health sciences fields. Notably, within the review period from 2017 to 2024, research income demonstrated significant growth, increasing from approximately R127 million in 2017 to approximately R206 million in 2024 (Table 11, Figure 16). This growth was driven by diverse funding sources, along with the strategic support provided through the RH.

Table 11. Faculty of Health Science research income from 2017 to 2024

Funding Source	2017	2018	2019	2020	2021	2022	2023	2024*
Contract Income Total	126 744 552	136 977 589	153 433 027	266 826 975	248 271 217	230 945 322	167 719 320	196 449 703
Dean's Office	1 972 882	17 109 327	44 147 497	49 122 542	41 115 981	17 714 087	8 011 448	9 108 366
School of Medicine	37 554 058	54 281 102	33 059 437	43 822 854	23 010 519	57 274 317	51 168 230	35 928 786
School of Dentistry	245 668	399 960	206 266	14 068	15 363	74 635	419 968	451 670
School of Health Care Sciences	1 127 789	978 657	1 487 069	3 055 350	3 096 411	3 858 661	387 559	3 617 567
School of Health Systems and Public Health	15 143 861	5 687 943	8 419 197	7 850 335	7 929 173	10 045 290	11 126 478	15 578 621
Research Entities	70 700 293	58 520 599	66 113 560	162 961 825	173 103 770	141 978 332	96 605 636	131 764 693
Donations and Sponsorships Total	7 886 555	3 854 298	7 073 687	81 312 758	7 747 487	12 275 875	8 512 955	10 190 548
Dean's Office	926 620	2 619 983	3 533 634	2 722 507	5 251 366	2 730 308	2 732 229	3 266 538
School of Medicine	4 893 662	337 556	3 564 651	1 205 320	2 361 694	5 272 517	5 575 726	5 904 071
School of Dentistry	-31 630	70 569	4 402	-5 377	134 427	0	0	447 480
School of Health Care Sciences	77 372	0	1870	0	0	0	0	2 000
SHSPH	25 300	70 000	-70 000	10 000	0	197 019	0	0
Research Entities	1 995 232	756 189	39 130	77 380 308	0	6 806 339	205 000	570 459
Grand total	134 631 107	140 831 887	160 506 714	348 139 733	256 018 704	243 221 197	176 232 275	206 640 251

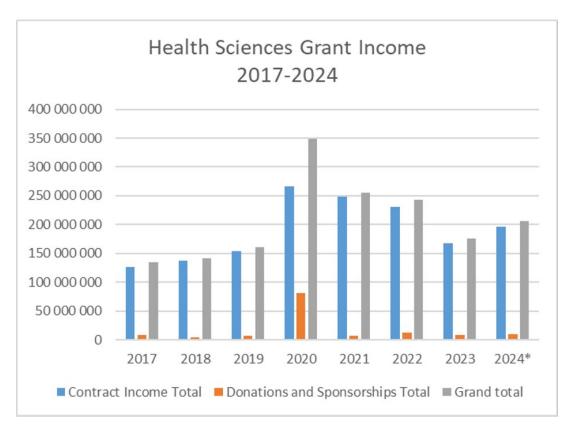


Figure 16. FHS funding from 2017-2024

Enhancing research governance

Developing and effectively implementing research guidelines and policies at both the faculty and university levels is essential for upholding research governance and fostering an inclusive research environment. We remain committed to regularly monitoring, evaluating, and updating Faculty research guidelines in collaboration with Schools to ensure alignment with UP research policies and uphold the highest standards of research governance at the Faculty level. All approved and updated guidelines are accessible via the **Faculty Research webpage**, which is accessible to staff, students, and partners.

Continuous Professional Development for the Research Office

The Continual Professional Development (CPD) - development of knowledge and skills among research support staff has been a key focus area, viewed as essential for fostering a resilient and efficient research environment. Skilled support staff play a vital role in streamlining grant management, ensuring ethical compliance, and optimizing resource use, thereby enabling researchers to concentrate on innovation and achieving impactful outcomes. Within the FHS Research Office, we have prioritised this initiative to enhance research quality and competitiveness, recognising the pivotal role support staff play in cultivating a culture of excellence. Investing in their development strengthens institutional capacity, enhances mentorship and collaboration, and aligns with global best practices. Table 12 provides details of the training programs and courses successfully completed by the Research Office team. Table 13 presents FHS research office staff planned CPD for 2025.

Table 12: Training completed in 2024

Name of team member	Title of the course or training completed	Course or training provider	Duration	Date of completion
Tivani Mashamba-Thompson	Executive Leadership	International Association of Universities	One year	November 2024
Anwani Nekhumbe	PhD in Public Health	University of Pretoria	Three years	Continuing
Mahlatse Mokwena	Bachelor of Commerce Hon- ours in Industrial Psychology	University of South Africa (UNISA)	One year	December 2024
Gertrude Mamabolo	Accounting for Managers, Writing Under a Deadline, Ex- cel VLOOKUP and XLOOKUP for Beginners (2021)	UP: LinkedIn Learning	Various short courses	In progress
Natasha Jeftha	HELM Leadership Training	Department of Higher Education and Training	Short course	Completed

Table 13- CPD courses for 2025

Name of team member	Course or training completed	Course provider	Duration	Planned date of completion
Anwani Nekhumbe	PhD in Public Health	University of Pretoria	Three years	November 2027
Gertrude Mamabolo	Basic Project Management	University of Pretoria Enterprises	One week	April 2025
Gertrude Mamabolo	Advanced Diploma in Management	REGENT Business School	1 year	November 2025
Cheryl Tosh	SAS Essential Training: 1 Descriptive Analysis for Healthcare Research Writing White Papers Running a Design Business: Presentation Skills	LinkedIN Learning	Various short courses	Various dates
Natasha Jeftha	Basics of data visualisation and data analytics	LinkedIN Learning	Various short courses	Various dates

Organising research conferences and symposiums

1. 2024 PhD Breakfast:

Building Connections and Supporting Research Excellence. The PhD Breakfast, held on May 7, 2024, was designed to support first- and second-year PhD candidates by fostering collaboration, encouraging the exchange of ideas, and strengthening the academic community at UP. This event provided a platform for emerging researchers to engage with peers, gain valuable insights into the PhD journey, and explore available research support resources.

A highlight of the programme was the inspiring PhD journey of Dr Kuhlula Maluleke, who graduated with her PhD in 2023 under the supervision of Prof Tivani Mashamba-Thompson and Prof Alfred Musekiwa. Dr Maluleke is now serving as an Epidemiologist and Biostatistician in the School of Health Systems and Public Health at the FHS. She shared her experiences, challenges, and strategies for successfully navigating doctoral research. Her story resonated with attendees, offering motivation and practical guidance for early-stage PhD candidates.

The programme also featured sessions on PhD funding opportunities and a detailed overview of the comprehensive research support available through the Faculty RH and DRI. The discussions held at the breakfast were aimed at equipping students with essential knowledge and resources to enhance their research experience and academic success.



2. 2024 Faculty Research Day:

The Faculty Research Day is a dynamic annual conference hosted by the FHS, designed to inspire collaboration and knowledge-sharing across the research community. This event brings together staff, students, research entities, and partner organisations to exchange insights and highlight ground-breaking research. The theme for the **2024 Faculty Research Day**, 'Navigating Health Disparities in Vulnerable Communities', perfectly aligns with the FHS RH's mission to foster an inclusive, collaborative, and multidisciplinary research environment that transcends traditional disciplinary boundaries.



3. Research Internationalisation Symposium:

We hosted a delegation from the Alliance 4 Universities (A4U) from Spain on 10 October 2024, as part of the ERASMUS collaboration between UP and A4U. The **Spanish A4U and University of Pretoria symposium**, themed 'Global Health at the Crossroads,' explored critical themes such as the One Health Approach, preventative healthcare, research on communicable and non-communicable diseases, and health system strengthening. The symposium included a networking lunch and provided a valuable opportunity for research entities to explore potential collaborations with Spanish universities. The delegation also embarked on a comprehensive tour of the FHS facilities, including the FHS library, Skills Lab, NuMERI, and the Hatfield Campus.



4. Department of Health Provincial Research Day:

We co-hosted the Limpopo Province Annual Research Day on 14 November 2024, themed 'Strengthening Health-care Services Through Research'. This event aimed to highlight the critical role of research in enhancing healthcare services and promoting the application of research findings in policy development and service delivery across the province's healthcare system.

The Limpopo Research Day emphasised the urgent need for collaborative research efforts to tackle the province's pressing health challenges, including high rates of communicable and noncommunicable diseases, mental health issues, and limited access to quality healthcare. Furthermore, it underscored the importance of establishing a centralised, community-based research institute to facilitate research collaboration among the community, academia, healthcare providers, government, and the private sector.



5. 2025 Undergraduate Research Symposium:

The TURF symposium is an initiative aimed at involving undergraduate students in research and providing a platform for them to connect with research mentors. **The 2025 TURF Symposium was scheduled for 28 March 2025, with the theme, Innovating Tomorrow: Empowering Undergraduate Research to Shape the Future.**



The symposium included a panel discussion covering the topic "Identifying and overcoming barriers to undergraduate research". The panel discussion included undergraduate students: Mr Gareth Lubbe, Ms Penelope Modipane, Ms Charayne Moore, Mr Jason Visser, Mr Rorisang Mokotjo and Mr Nkosi Nkantsu. It also included presentations from undergraduate students who completed their TURF undergraduate research methods course as well as handing out their certificates. The following students successfully completed the course and were handed certificates; Ms Thando Tshabalala, Ms Tshegofatso Molefi and Ms Ilana Jacobs under the mentorship of Mr Keith Ncube and Ms Sanele Mathibela.



Report Summary

The Faculty of Health Sciences (FHS) Research Hub (RH) has continued to champion impactful research support initiatives aimed at enhancing the research capabilities of staff and students. Rooted in the principles of **Responsible Research and Innovation (RRI)**, our initiatives have been intentionally designed to foster a research culture that is **inclusive**, **reflexive**, **anticipatory**, **responsive**, **caring**, **and sustainable**. This report highlights key activities undertaken during the 2024/2025 period, focusing on capacity-building, financial assistance, specialised research and postgraduate support services, and other efforts that stimulate research excellence across the Faculty.

Capacity-building initiatives: Our capacity-building strategy is anchored in inclusivity and responsiveness to the evolving needs of researchers. A total of **18 hybrid sessions** were delivered, ensuring accessibility across all departments and career stages. Topics addressed key knowledge gaps, fostered interdisciplinary engagement, and encouraged reflection on ethical and societal implications of health research.

Financial support for researchers: In alignment with our anticipatory and caring approach, financial support was provided to reduce barriers to research dissemination and international collaboration:

- **APC Top-Up initiative:** Eight publications received top-up funding totaling **R214,484.80**, helping researchers from underfunded projects to publish in high-impact, DHET-accredited journals.
- **Conference funding support:** Six researchers received top-up support to present their work at international conferences across six countries, with **R60,000 allocated**—fostering global research visibility and collaboration.

Grantsmanship and scholarship support: To promote sustainability and long-term research capacity, targeted support was offered in grantsmanship and scholarship development. These services empowered researchers to anticipate funder expectations and respond strategically to calls for proposals. The impact was significant: **R206,640,251** in external funding was secured during this period.

Research output monitoring: We continued to implement a reflexive and responsive tracking system for monitoring research outputs—journal publications, patents, and conference presentations. This ensures accountability and helps guide future strategic support initiatives.

NRF rating application support: In our commitment to recognising excellence and nurturing academic progression, **19 faculty members** were supported in preparing NRF rating applications through structured mentorship and internal peer review processes. This inclusive and anticipatory effort contributes to long-term academic sustainability.

Biostatistical support services: Our biostatistical services expanded significantly in response to increased demand:

- Pre-screening at school level improved submission quality.
- **One in-house biostatistician** was appointed and later absorbed into SHSPH, and a second academic biostatistician was recruited—growing the team to **three experts**.
- Sample size calculations were provided with 340 formal letters issued.

This expansion demonstrates a caring and responsive commitment to enhancing research quality across disciplines.

Evidence synthesis support: In collaboration with Library Services, the RH responded to increased demand for **evidence synthesis**, particularly from the School of Health Systems and Public Health and the Department of Nursing. This service supported **85 requests** and contributed to **16 published articles**. This anticipatory and reflexive service aligns closely with RRI by promoting research that is evidence-based and policy-relevant.

Scientific editing and AI tool integration: To ensure inclusivity and excellence in scholarly communication, the RH assisted in producing **28 high-quality publications** through its scientific editing services. Following the rollout of the Faculty's **thesis-by-publication** guideline, the AI-assisted tool **Paperpa**l was introduced to support students and staff during the write-up phase. Training on its use promotes reflexivity in research writing and broadens access to editing support.

Strengthening postgraduate support: Postgraduate student wellbeing and academic success remain at the heart of our caring and inclusive research ecosystem. In 2024–2025, individual support services were complemented by monthly hybrid group sessions addressing critical **challenges like stress, impostor syndrome, and time management.** These initiatives promote resilience, self-reflection, and peer support—hallmarks of RRI.

Support for postgraduate supervisors: On **25 February 2025**, a **Group Supervision initiative** discussion convened 20 supervisors to collaboratively address pressing issues such as enrolment targets, supervision capacity, and clinical PhD oversight. In response to the insights gathered during this session, a pre-Master's and PhD preparation course was developed in collaboration with UP Enterprises. This course is designed to improve student preparedness and facilitate more effective alignment and connection with potential supervisors. The session supported reflexivity and responsiveness by identifying gaps and generating shared solutions for **sustainable postgraduate supervision**.

Governance and research policy development: Our commitment to **inclusive and anticipatory governance** is reflected in continuous updates to Faculty research guidelines. Developed in collaboration with Schools, these policies are made openly available to promote transparency and adherence to high standards across the research community.

Notable research productivity: We observed significant growth in research capacity and recognition:

- The number of NRF B-rated researchers rose from 4 in 2021 to 9 in 2024, including 3 scholars achieving a B1 rating.
- Faculty research output units rose from 249(2020) to 314,18 (provisional) in 2024.
- **PhD graduates** from the School of Healthcare Sciences increased significantly from 10 in 2022 to 21 in 2024, reflecting the growing utilization of research support services.
- **Master's graduates** from the School of Medicine remained relatively stable, with a slight decline from 120 in 2022 to 117 in 2024.
- **Research funding** in the School of Dentistry saw substantial growth, rising from R74,635 in 2022 to R451,670 in 2024.
- **The efficiency of biostatistical support** improved notably, with the School of Health Systems and Public Health expanding its team of full-time biostatisticians from one in 2023 to four in 2025.

These outcomes reflect sustainable growth and the maturation of the Faculty's research ecosystem.

Unmet targets: As outlined in the 2023 Faculty review and further discussed with the UP Institutional Research and Analytics team in 2024, as well as during the 2025 UP Postgraduate War Room, a critical need has emerged for the institution to set more realistic postgraduate enrolment targets that take into account current economic constraints, which continue to hinder access to sustainable research funding. The Faculty of Health Sciences' dependence on Master of Medical Science students funded by the local Department of Health adds complexity to enrolment planning. Additionally, the identification of unaccredited postgraduate programmes in FHS has delayed graduations and halted new admissions into these programmes, further impacting postgraduate throughput. Compounding these challenges are immigration restrictions in recent years, which have affected international student enrolment, along with the ongoing effects of the COVID-19 pandemic. In response, the Research Hub remains committed to creating an inclusive and supportive research environment, equipping all faculty members to actively contribute to research productivity and postgraduate success.

Other key activities: The RH hosted a variety of events designed to anticipate emerging health challenges, foster collaboration, and empower researchers:

- PhD Breakfast: Guided early-stage doctoral candidates.
- Faculty Research Day: Focused on health disparities.
- Research Internationalisation Symposium: Co-hosted with Spanish universities to address global health.
- Limpopo Provincial Research Day: Celebrated research-driven healthcare innovations.
- TURF Undergraduate Research Symposium: Empowered students through mentorship and knowledge exchange.

Professional development for RH staff remained a priority, ensuring our services are **reflexive**, **up-to-date**, **and researcher-focused**.

In conclusion, the 2024/2025 period marked a phase of significant progress and strategic growth for the Faculty of Health Sciences Research Hub. Anchored in the values of Responsible Research and Innovation, the Hub's multifaceted initiatives have contributed to strengthening the research ecosystem by building capacity, enhancing support services, and promoting a culture of inclusivity, care, and excellence. From increased research productivity and postgraduate output to improved access to specialised services and financial support, the evidence presented in this report demonstrates a tangible return on our collective efforts.

While persistent structural and systemic challenges—such as economic constraints and shifts in postgraduate enrolment dynamics—continue to shape the research landscape, the Hub remains steadfast in its commitment to providing responsive, anticipatory, and sustainable support. By continuously aligning our strategies with the evolving needs of our researchers and students, we are not only enabling success in the present but also laying the groundwork for a more resilient, equitable, and impactful future in health sciences research.

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- UP Library Services for partnering with us in providing evidence synthesis support
- FHS staff and students who contributed to developing the undergraduate research methods course.
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- FHS Schools' Exco for encouraging your students and staff to use services provided by the FHS RH and for your ongoing support.
- The contributions of internal and external stakeholders to the initiatives of the FHS RH are highly appreciated.
- The high uptake of RH initiatives by staff and students in the FHS is also highly appreciated.
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- Department of Health for the ongoing collaboration.

Notes:



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