



Extended Curriculum Vitae



**Associate Professor
Aneesa Vanker**

June 2022

Table of Contents

1	Personal Details.....	2
2	Qualifications, and Where and When Obtained	2
3	Positions Held and Details of Current Position	3
4	Teaching and Learning	5
5	Research.....	12
6	University Leadership and Management.....	30
7	Social Responsiveness	34
8	Honours, Awards, Prizes.....	37
9	Appendices.....	Error! Bookmark not defined.

1 Personal Details

Title	Associate professor
Name and Surname	Aneesa Vanker
Gender	Female
Race	South African India
Disabilities	None
Residential Address	5 Oakley Road Rondebosch, Cape Town, 7700
Contact Numbers	0834464838 (mobile) 021655503 (office) 0216858525(home)
Department	Paediatrics and Child Health
Division	Pulmonology
Current position	Associate Professor and Senior specialist
Period in current appointment	11 years
Period of appointment at UCT	11 years

2 Qualifications, and Where and When Obtained

Degree	Date Obtained	Institution and Location	Years of study	Field
MBChB	December 2002	University of Natal	1997-2002	Medicine
FCPaed (SA)	May 2008	Colleges of Medicine South Africa	2005 - 2008	Paediatrics
MMed	March 2010	Stellenbosch University	2006 - 2009	Paediatrics
Cert Pulm (Paed)	October 2010	Colleges of Medicine South Africa	2009-2010	Paediatric Pulmonology
PhD	December 2018	University of Cape Town	2013-2018	Paediatric Pulmonology

3 Positions Held and Details of Current Position

Position	Institution	Dates	Job Description
Associate Professor	University of Cape Town	October 2019	
Senior Specialist	Red Cross War Memorial Children's Hospital, University of Cape Town	March 2011 – present	Senior specialist in the division of paediatric pulmonology. Job share post in the same position since February 2016.
Paediatric Pulmonology Fellow	Tygerberg Children's Hospital Stellenbosch University	January 2009- December 2010	Fellow in training (Awarded Nycomed/South African Thoracic Society Paediatric Pulmonology Training Scholarship)
Paediatric Registrar	Tygerberg Children's Hospital Stellenbosch University	September 2006 – December 2008	Paediatric registrar (post number S21126)
Paediatric Registrar	Department of Health – Durban Academic Complex, University of KwaZulu Natal	January – August 2006	Paediatric registrar (post number N23135)
Paediatric Registrar	Department of Health – Pietermaritzburg Metropolitan Complex Edendale & Greys Hospital, University of KwaZulu Natal	January – December 2005	Paediatric Registrar (post number N23135)
Community Service Officer	Estcourt Provincial Hospital	January – December 2004	Rural post community service officer
Medical Intern	Groote Schuur Hospital	January – December 2003	Internship training with rotation through paediatrics, surgery, paediatric surgery and orthopaedics

3.1 Details of Current Position

Senior specialist, Division of Paediatric Pulmonology, Department of Paediatrics and Child Health, Red Cross War Memorial Children's Hospital, University of Cape Town.

My current position is a clinical-academic position on joint appointment from the University of Cape Town and the Western Cape Department of Health. I have been in this post since March 2011, however, since February 2016 this has been structured to 50% clinical job-share post and 50% research (funded through grants and scholarships). This position includes:

Clinical Service:

The paediatric pulmonology division provides a clinical service for children with a wide range of respiratory conditions. As one of three subspecialists, I am involved in both in and outpatient services, including clinical oversight of a 10 bed airway ward (Ward E1) and on average 6-8 medical beds throughout the hospital. Our service also includes consultant oversight of general paediatrics in ward B2 for 4 months of the year. Other services provided includes management of a tracheostomy and/or ventilation programme, a sleep study service and a bronchoscopy service. Further we provide a number of ambulatory services including specialist respiratory clinic, a multidisciplinary cystic fibrosis clinic and a difficult asthma clinic. We also co-manage patients with other specialities including neurology, ENT, infectious diseases and rheumatology.

Referrals to paediatric pulmonology come from both within the hospital and from other primary, secondary and tertiary level healthcare facilities both within and outside the Cape Metropole, including George Hospital and a number of hospitals in the Eastern Cape.

Teaching:

This position includes teaching responsibilities on a number of platforms including both undergraduate and postgraduate medical, nursing and allied health professional students. Teaching includes formal lectures, ward rounds and bed-side tutorials. Our training responsibilities also extend to post-graduate sub-specialist training of fellows from South Africa and part of the African Paediatric Fellowship Programme (APFP). I am further involved in mentoring, supervising MMed and MPhil projects and assessments of undergraduate and postgraduate students.

Research:

I am the lead investigator of the environmental aspects of the Drakenstein Child Health Study which involves detailed assessment of the home environment and tobacco smoke exposure in young children using personal measurements of exposure. This study is now in the second phase with ongoing follow-up of the cohort and expansion of the study to include other environmental exposures. I provide expertise and technical oversight including developing research capacity on the environmental determinants of child health. This involves protocol development, sourcing appropriate equipment, training, data collection and management, dissemination of results through publication and presentations both in academic and non-academic forums including the media. Further I am involved in collaboration with other investigators both from within the University and from other local and international centres. I have continued this role since completion of my PhD but am seeking to now formalise this role as a post-doctoral fellow.

Management, Administration and Leadership:

Management and administrative responsibilities of my current position include planning and oversight related to clinical service and teaching responsibilities: rostering, correspondence and feedback regarding patient care, updating division protocols, multidisciplinary planning and meetings, assessments and reports of trainees and students, oversight of bronchoscopy equipment including ordering of consumables, oversight of the various outpatient clinics that fall under our division and recruiting and subsequent management of junior staff members in terms of work allocation to ensure the efficient running of the division.

My management and leaderships roles are local, national and international. I manage the Drakenstein Child Health Study environmental team based in Paarl. Further, I am a member of the Department of Paediatrics and Child Health Departmental Research Committee, chairperson of the Transformation Advisory Group, paediatric pulmonology representative of the South African Thoracic Society (national body) and a member of the Environmental Committee of the Forum of International Respiratory Societies (FIRS).

4 Teaching and Learning

My teaching commitments span a number of levels both within the Department of Paediatrics and beyond. As a clinician and clinical researcher I teach on both the undergraduate and post-graduate platforms. However, my major focus lies in training and capacity building in the field of paediatric pulmonology both to paediatricians in training and paediatric pulmonology fellows, While the tabulations below aim to objectively count hours of teaching contact, I believe that teaching is on-going and occurs with each interaction with students and although lecture and tutorial hours can be counted much of the teaching that takes place is difficult to quantify but better demonstrated by successful training of candidates and outputs produced.

4.1 Undergraduate Teaching Contact Time (including formal clinical teaching)

My undergraduate teaching commitments over the past 5 years includes formal lectures delivered to each 4th year student block. This was initially as part of the “Health in Context” block that has in the last year been revised to “Introduction to Child Health”. The content of my lecture is “Acute Lower Respiratory Tract Infections (ALRTI)” . ALRTI’s remain the leading cause of childhood morbidity, making this subject core knowledge, As this is the students first introduction to both paediatrics and a clinical approach to the examining the respiratory system in a child, I understand the need to teach so that the message is clear. I structure my lecture around a clinical case (for relevance) and annually revise and update the material to ensure that it is current and accurate. Key messages and learning points include understanding the patient’s illness within their living as well a social context as well working with the patient and care-givers beliefs even if they do not align with one’s own.

Clinical teaching involves formal tutorials and bedside teaching during ward rounds and during outpatient clinics. My general paediatric ward rounds are teaching rounds during which I aim to teach on multiple-levels for both undergraduate and post-graduate students as well as nursing and allied health professionals. Further, I offer additional support to students who request it as well as assistance in preparing for OSCEs and exams.

Year	Course Code	Lectures (contact hours)	Tutorials (contact hours)	Practicals (contact hours)	Formal Clinical Teaching (contact hours)	Curriculum development & Design (new courses only)	Project supervision	Total
2014	PED4049W PED5001W PED6000W	6	12	2	72			92

2015	PED4049W PED5001W PED6000W	6	12	2	72			92
2016	PED4049W PED5001W PED6000W	6	12		48			66
2017	PED4049W PED5001W PED6000W	6	12		48			66
2018	PED4049W PED5001W PED6000W	5	12		48			66
2019	PED4049W PED5001W PED6000W	6	12		48			66
2020	PED4049W PED5001W PED6000W	Online lectures -COVID	Reduced direct student time					

4.2 Postgraduate Teaching Contact Time (including formal clinical teaching)

My post-graduate teaching commitments are predominantly in paediatric and paediatric pulmonology clinical training as well as research supervision and capacity building in paediatric pulmonology. The tabulations below reflect contact hours, however, teaching is on-going both within working hours and often after-hours in the form of practical supervision and training in invasive procedures including thoracentesis and bronchoscopy.

Further, we are currently *revising* the Colleges of Medicine of South Africa (CMSA) *paediatric pulmonology curriculum*, logbook and examination process. As the South African Thoracic Society Paediatric Pulmonology representative, I have been integral in setting up the national committee to review this process. We held a successful half-day workshop in October 2018 with representatives from the various paediatric pulmonology training units to critically assess and revise the current curriculum. This was followed by members of the committee then being tasked to work on specific areas. In the following 8 months the updated curriculum has been revised and will be reviewed at a follow-up workshop in July 2019 with the plan to submit to the CMSA thereafter for approval. This is currently awaiting CMSA approval (2021)

Year	Course Code	Lectures (contact hours)	Tutorials (contact hours)	Practicals (contact hours)	Formal Clinical Teaching (contact hours)	Curriculum development & Design (new courses only)	Project supervision	Total
2014	PED 7035W PED 7006W	8	50	50	320		40	468

2015	PED 7035W PED 7006W	8	50	50	320		40	468
2016	PED 7035W PED 7006W	8	50	50	320		60	488
2017	PED 7035W PED 7006W	8	50	50	320		100	508
2018	PED 7035W PED 7006W	8	50	50	320	20	100	528
2019	PED 7035W PED 7006W	8	50	50	320	10	100	
2020	PED 7035W PED 7006W	Adapted to online teaching					100	

4.3 Personal Supervision of Post-graduate and Honours Projects, Masters Dissertations and Mini-dissertations and PhD Theses

My supervision of post-graduate fellows and the *successful training* of candidates dates back to 2011 with **9** candidates (2011-2021) successfully *graduating as paediatric pulmonologists*. Our training programme includes both South African trainees as well as fellows as part of the African Paediatric Fellowship Programme (APFP) with the majority of our trainees returning “home” to their local institutions in order to further develop paediatric pulmonology. Our training programme and supervision serves not only South Africa but also has an African and global footprint.

Although, a fellowship in paediatric pulmonology is a 2 year fulltime programme, our unit has accommodated international students for shorter periods of time in order to gain experience in paediatric pulmonology. Our unit is an accredited and well-regarded training unit with expertise in a number of areas (eg bronchoscopy, polysomnography and home ventilation programme) not readily available at other training units. Students often undertake research projects that require supervision and although not for degree purposes, there are research outputs obtained. While the majority of students have returned to their home institutions and countries, we have developed *continued support*, (clinical discussions enabled through technology – skype calls and whats app groups), *capacity building* and *ongoing collaborations*.

The following documents both successful trainees who completed the full training programme and those involved in shorter programmes (last 5 years):

1. Dr N. Abuosetta (Libyan post-graduate student, female) – completed her paediatric registrar training in 2014 and subsequently requested further training in paediatric pulmonology. Registered for MMED in 2015 but owing to personal reasons was unable to complete the MMED degree. However, successful research output in peer-reviewed journal. Zampoli M, Abousetta N, Vanker A. Overnight oximetry as a screening tool for moderate to severe obstructive sleep apnoea in South African children. S Afr Med J. 2018;109(1):23-6.

2. Dr N. Affendi – (Malaysian post-graduate student, female) – completed 2 years of paediatric pulmonology training, Kuala Lumpur, Malaysia. Applied for 1 year elective training at our unit – September 2017 – August 2018.
Current research project: Affendi NA, Zampoli M, Pillay K, Gray D, Vanker A.
The role of lung biopsy in investigating Diffuse Lung Disease (DLD) in children in a low middle income setting.
Accepted abstract International Congress Paediatric Pulmonology, Tokyo Japan June 2019.
3. Dr Gabaza Tiva (2014-2015, South African, Black African, Female): Paediatric pulmonology sub-specialist training: clinical training (included clinical bedside and outpatient clinic training, tutorials, lectures, assessment). Successful completion of college exams. Now employed as Head of Division Paediatric Pulmonology in Limpopo and collaborator on multisite project on bronchiectasis in African children. Research outputs:
G Tiva, M Zampoli, A Vanker - Pleural effusion in children associated with adenovirus infection, African Journal of Thoracic and Critical Care Medicine, 2015 S Afr Resp J 2015;21(3):78-79. DOI: 10.7196/10.2015.v21i3.78
4. Dr Shaakira Chaya (2016-2017, South African, Indian, Female): Paediatric pulmonology sub-specialist training: 12hrs a week clinical training (included clinical bedside and clinic training, tutorials, lectures, assessment). Successful completion of college exams. Research outputs supervised:
S Chaya, HJ Zar, A Vanker, D Gray, M Zampoli, K Pillay An unusual case of an anterior mediastinal mass in a child with cystic lung disease African Journal of Respiratory Medicine 2016; 11(2) South African Thoracic Society Congress, Johannesburg, August 2016:
Chaya S, Zar HJ, Vanker A, Gray D, Zampoli M, Pillay K An unusual case of an anterior mediastinal mass in a child with cystic lung disease * Winner of best oral presentation
Dr Chaya is currently undertaking PHD research in preschool lung function in African children.
5. Dr Ada Ayuk (2012- 2013 and 2017-2018, Nigerian, black African, Female): Supervisor and mentor for paediatric pulmonology sub-specialist training: 12hr a week clinical training (includes clinical bedside and clinic training, tutorials, lectures, assessment), 1 hr tutorials, 0.5hr supervision/support. Began training in 2012 and completed 1 year, returned 2017-2018 to complete fellowship programme) Successful completion of MPhil thesis. Successfully graduated as paediatric pulmonologist (Colleges of Medicine South Africa October 2018). Supervised projects leading to presentation and publication:
Pan African and South African Thoracic Societies Congress, Durban, April 2018: Adaeze C Ayuk, Diane Gray, Marco Zampoli, Sandra Owusu, Diana Marangu, Komala Pillay, Ebrahim Bandekker, Aneesa Vanker: Pulmonary Capillary Haeangiomatosis presenting without hypertension.
Adaeze Chikaodinaka Ayuk, Diane Gray, Aneesa Vanker, Marco Zampoli, Tuberculosis in children presenting with chylothorax - Report of two cases and review of the literature, Respiratory Medicine Case Reports, Volume 27, 2019, 100848, ISSN 2213-0071, <https://doi.org/10.1016/j.rmcr.2019.100848>.
Has returned to Nigeria and established a paediatric pulmonology unit in Enugu.
6. Dr Diana Marangu (2016-2018, Kenyan, black African, Female): Supervisor for paediatric pulmonology sub-specialist training: 12hr a week clinical training (includes clinical bedside and clinic training, tutorials, lectures, assessment), 1 hr tutorials, 0.5hr supervision/support. Supervisor for masters thesis. Mphil thesis titled: Exogenous lipoid pneumonia: an important cause of interstitial lung disease in African infants. Graduated December 2018

Successfully graduated as paediatric pulmonologist (Colleges of Medicine South Africa October 2018).

Supervised projects leading to presentations and publications:

South African Thoracic Society Congress, Cape Town, 2017: Marangu D, Pillay K, Banderker E, Gray D, Vanker A, Zampoli M Clinical, radiological and histological characteristics of children with exogenous lipoid pneumonia: a case series from South Africa. Marangu, D, Pillay, K, Banderker, E, Gray, D, Vanker, A, Zampoli, M. Exogenous lipoid pneumonia: an important cause of interstitial lung disease in infants. *Respirology Case Reports*. 2018;e00356. <https://doi.org/10.1002/rcr2.356>

Diana Marangu, Diane Gray, Aneesa Vanker, Marco Zampoli, Exogenous lipoid pneumonia in children: A systematic review, *Paediatric Respiratory Reviews*, 2019, ISSN 1526-0542, <https://doi.org/10.1016/j.prrv.2019.01.001>.

(<http://www.sciencedirect.com/science/article/pii/S1526054218301325>)

Has returned to University of Nairobi, Kenya to establish paediatric pulmonology unit.

7. Dr Sandra Owusu (2016-2018, Ghanaian, black African, Female): Supervisor and mentor for paediatric pulmonology sub- specialist training: 12hr a week clinical training (includes clinical bedside and clinic training, tutorials, lectures, assessment), 1 hr tutorials, 0.5hr supervision/support. Successfully graduated as paediatric pulmonologist (Colleges of Medicine South Africa October 2018). Currently registered for MPhil: Cystic Fibrosis in Black African children in South Africa: a case Control Study
Sandra Kwarteng Owusu, Brenda M. Morrow, Debbie White, Susan Klugman, Aneesa Vanker, Diane Gray, Marco Zampoli
Supervised projects leading to presentations and publication:
WS04-4 Cystic fibrosis in black African children in South Africa: a case control study
S. Kwarteng Owusu, B. Marrow, D. White, S. Klugman, A. Vanker, D. Gray, M Zampoli
DOI: [https://doi.org/10.1016/S1569-1993\(19\)30139-0](https://doi.org/10.1016/S1569-1993(19)30139-0) June 2019 Volume 18, Supplement 1, Pages S7–S8
8. Dr Aamir Yassin (Sudanese, Arab African, Male) Supervisor and mentor for paediatric pulmonology sub- specialist training: 12hr a week clinical training (includes clinical bedside and clinic training, tutorials, lectures, assessment), 1 hr tutorials, 0.5hr supervision/support. Registered MPhil which I co-supervise: The Clinical Spectrum, Aetiology and Disease Progression of Children with Chronic Obstructive Airway Diseases at Tertiary Paediatric Pulmonology Service in Cape Town, South Africa - completed
9. Dr Muntanga Mapani (Zambian, black African, Female) Supervisor for paediatric pulmonology sub- specialist training: 12hr a week clinical training (includes clinical bedside and clinic training, tutorials, lectures, assessment), 1 hr tutorials, 0.5hr supervision/support.
10. Dr Norbertta Washaya (Zimbabwean, black African, Female) Supervisor for paediatric pulmonology sub- specialist training: 12hr a week clinical training (includes clinical bedside and clinic training, tutorials, lectures, assessment), 1 hr tutorials, 0.5hr supervision/support.
11. Dr Zandiswa Nowalaza (South African, black African, Female) Supervisor for paediatric pulmonology sub- specialist training: 12hr a week clinical training (includes clinical bedside and clinic training, tutorials, lectures, assessment), 1 hr tutorials, 0.5hr supervision/support.

Current Fellows in Training – Clinical and Research Supervision: 2021-2022

- Dr Joy Eze (Nigerian, black African, Female)
- Dr Seyram Wordui (Ghanaian, black African, Female)

- Dr Sindiswa Makate (South African, black African, Female)

PG Dip / Honours / 4th year / CMSA Projects Supervised (graduated or current):

Name	Race	Gender	Co/Supervisor(s): (<i>applicants role to be clearly stated</i>)	Year/date of first registration	Year of graduation or Current	Comments
Dr Nesrin Abuosetta	African Libeyan	Female	Dr M. Zampoli (50/50 co-supervision)	2015		Part of APFP programme. MMed not a pre-requisite. Although, she did not graduate with MMed – outcome of research published in South African Medical Journal and presented at a national congress.
Dr Noor-Ain Affendi	Malaysian	Female	Dr M.Zampoli A/prof D. Gray (Equal co-supervision)	2018	Current	As part of her South African training in paediatric pulmonology, she undertook a research project. Finding to be presented at international congress in Paediatric Pulmonology.

Masters Students Graduated or Currently Registered:

Name	Race	Gender	Co/Supervisor(s): (<i>applicants role to be clearly stated</i>)	Year / date of first registration	Year of grad or current	Comments
Dr Diana Marangu	Black African	Female	Dr M. Zampoli A/Prof D. Gray	2016	2018	
Dr Sandra Owusu	Black African	Female	Dr M. Zampoli A/Prof D. Gray	2016	current	
Dr Aamir Yassin	African Sudanese	Male	A/Prof D. Gray	2019	2021	Completed
Dr Aruna Lakhani	Indian	Female	a/Prof D. Gray	2019		Protocol development
Dr Zandiswa Nowalaza	Black African	Female		2020		Protocol development

Clinical Training (Please attach copies of Registrar supervision feedback forms):

Training / Specialty	Numbers Trained	Total Hours
Paediatric Pulmonology prior to last 5 years (2011-2013)	4 candidates trained and successfully completed CMSA paediatric pulmonology sub-speciality exam.	Shared daily supervision between 2 consultants for a period of 2 years/trainee, including after-hours.
Paediatric Pulmonology (2014 – 2021)	7 candidates trained and successfully completed CMSA paediatric pulmonology sub-speciality exam.	Shared daily supervision between 3 consultants for a period of 2 years/trainee, including after-hours.
Paediatric Pulmonology current trainees	2 trainees currently	Shared daily supervision between 3 consultants for a period of 2 years/trainee, including after-hours.

4.4 External Supervisor

4th year paediatric elective student from Stellenbosch University (October 2018)– Ms Shastra Naidoo

4.5 External Examining of Dissertations / Theses or Post-graduate Examinations

I have examined MMed and MPhil theses for Stellenbosch University (2015, 2017 and 2018, 2020) and University of KwaZulu Natal (2018, 2020, 2021).

Further, I am a Colleges of Medicine of South Africa, Paediatric pulmonology examiner and moderator(2018 and 2019 semesters 1 and 2).

4.6 Other Courses and Workshops

1. MSF advanced HIV/TB Training Course (2011, 2012, 2013)
2. Lecturer – Common respiratory conditions
3. Clinical Sciences teaching for Post Graduate Diploma in Critical Care Child and Child Nursing – Lecturer – Approach to paediatric respiratory system. (2013-2019)
4. Paediatric lung function course SATS 2017: Co-arranged, convened and lectured in a course in lung function in children, including state of the art lung function testing in children.
5. Bronchoscopy Workshop - Here Be Lungs Paediatric Pulmonology Conference, Stellenbosch University 2018 – Managed and taught – “Flexible Bronchoscopy Station”
6. Alternative Information and Development Center (AIDC), “One Million Climate Jobs Meeting” - Platform where people from different sectors ranging from academics, civil society, activists and community members come together share and discuss issues related to climate change and what can be done in order to avert the issue.
7. Presented on “Air pollution and Child Health” – January 2019.

8. Western Cape Government, Department of Health, World No-Tobacco Day Workshop for Early Childhood Development (ECD) staff. Presentation on Environmental determinants of Child Health – April 2019.

5 Research

My work on the environmental determinants on child health and lung disease in a low and middle income setting is novel and gaining recognition not only nationally but also internationally. I have **18** publications in the last five years, **9** publications directly linked to this work (*5 as first author*) and a number of other collaborative publication arising. These publications are in well-recognised journals (including Lancet Planetary Health), with good impact factors and a global focus. Further, I have published paediatric data in journals that tend to focus on adult medicine, highlighting the relevance of this work. As a clinician scientist, this work formed the basis of my **PhD** which I undertook while working in a *clinical post* as a paediatric pulmonologist at Red Cross War Memorial Children's Hospital. I recently (in December 2018) graduated with a PhD on "Indoor air pollution and tobacco smoke exposure in a South African birth cohort," a key area for child health in South Africa and low middle income countries. I undertook this prospective longitudinal study, measuring indoor air pollution and tobacco smoke exposure during the antenatal and postnatal period in approximately 1000 households of participants in the Drakenstein Child Health Study (DCHS), a unique South African birth cohort study and produced innovative work as a result.

I have been the recipient of a number of *competitive grants* that have enabled me to undertake this work and subsequently received *awards* for my work. Further, I have been *invited* on two occasions to give lectures on air pollution and child lung health at the largest, dedicated international congress on paediatric pulmonology, bringing together global experts on child health, a rare opportunity for an early career academic.

I participate in both national and international congresses and am regularly invited to give lectures on a wide range of paediatric pulmonology topics. I have also been involved in organising local and international congresses and chairing sessions.

Further, as an MMed supervisor of students, both from South Africa and other African countries I am part of research capacity development throughout the continent.

My contribution to collaborative research within the DCHS involved providing input on environmental aspects with other groups (microbiology, psychosocial, lung function, nutrition) and I have also developed collaborations with other researchers from South Africa (University of Cape Town, Stellenbosch University, the Medical Research Council (SA)) and internationally (Emory University, IS Global Barcelona) that allows continued development and research in this field.

The early-life impact of environmental exposures on child health is a niche area with findings that will inform potential interventions as evidenced by an invitation to participate in a parliamentary colloquium on environmental pollution and health.

- Further, I am currently a collaborator on a multi-site *GCRF Networking Grants scheme* “Clean the Air Better Indoors for Newborns (CABIN): Reducing Exposure to Household Air Pollution During Pregnancy in Sub-Saharan Africa” project with collaborators in the sub-Saharan Africa and the UK including:
 - Dr Diana Marangu, University of Nairobi, Kenya
 - Dr Patrick De Marie Katoto, Bukavu Catholic University, DRC
 - Prof Hellen Meme, Kenya Medical Research Institute, Kenya
 - Prof Ellis Owusu-Dabo, Kwame Nkrumah University of Science and Technology, Ghana
 - Dr Limbani Kalumbi, The Malawi Polytechnic, Malawi
 - Prof. Graham Devereux, Liverpool School of Tropical Medicine, UK
 - Dr Ruairaidh Dobson, University of Stirling, UK
 - Dr Sean Semple, University of Stirling, UK
 - Dr Isa Uny, University of Stirling, UK

While I do not currently have an NRF rating, I plan to apply in the next cycle.

5.1 Summary of Achievements

NRF rating:	Unrated
Web of Science or Scopus <i>h</i>-index:	13
Citation index:	
Google Scholar profile: h-index citations	16 832
Other Notable Research Achievements / Awards:	2021: South African Medical Council Post-Doctoral Clinician Researcher Award. 2019: Congress of Paediatric Pulmonology: Max Klein Award for best poster presentation from a low and middle income country - 2017: European Respiratory Society (ERS) Grant for Best Abstract in Paediatric Respiratory Epidemiology 2017: South African Thoracic Society Congress: Best Paediatric Oral Abstract Presentation. 2014: MRC Clinician Researcher Programme Scholarship 2013: CIDRI (Wellcome Trust) Clinical Fellowship 2012: AstraZeneca Respiratory Research Fellowship 2011: Discovery Foundation Academic Excellence Fellowship Award 2009: Stellenbosch University Annual Academic Year Day – Best Poster Award Dept of Paediatrics and Child Health 2009/2010: South African Thoracic Society Nycomed Paediatric Respiratory Training Fellowship.

5.2 Publications (while recent publications carry more weight, lifetime scholarly activities will also be taken into account):

5.2.1 Publications summary over the last five years

Full details to be included below the table in Section 5.2.2

Publications				
	No. first author	No. senior author	No. other author	Total
Articles in refereed/ peer-reviewed journals				
• International	8	2	14	34
• Local	1	1	1	3
Books (authored or edited)				
Chapters in books				
Refereed/peer-reviewed conference outputs	7	1	4	11
Patents				
Articles in non-refereed/ non-peer-reviewed journals	2	1	1	4
Technical Reports				
Other contributions/ reports (e.g. Policy reports)			1	

Publications Summary Over Your Lifetime (Full details to be included below the table):

Lifetime Publications				
	No. first author	No. senior author	No. other author	Total
Articles in refereed/ peer-reviewed journals				
• International	10	2	17	44
• Local	2	2	2	6
Books (authored or edited)				
Chapters in books				
Refereed/ peer-reviewed conference outputs	7	1	9	17
Patents				
Articles in non-refereed/ non-peer-reviewed journals	2	1	3	5
Technical Reports				
Other contributions/ reports (e.g. Policy reports)			1	1

5.2.2 Articles in Refereed / Peer-reviewed Journals (provide full list)

5.2.2.1 International

2021

1. Le Roux DM, Nicol MP, Vanker A, Nduru PM, Zar HJ. Factors associated with serious outcomes of pneumonia among children in a birth cohort in South Africa. PLOS ONE. 2021;16(8):e0255790.
2. Gray DM, Davies MA, Githinji L, Levin M, Mapani M, Nowalaza Z, Washaya N, Yassin A, Zampoli M, Zar HJ, Vanker A. COVID-19 and Pediatric Lung Disease: A South African Tertiary Center Experience. Front Pediatr. 2021 Jan 20;8:614076. doi: 10.3389/fped.2020.614076. PMID: 33553073; PMCID: PMC7855972.

2020

- 1 Hüls A, Vanker A, Gray D, Koen N, MacIsaac JL, Lin DTS, et al. Genetic susceptibility to asthma increases the vulnerability to indoor air pollution. *European Respiratory Journal*. 2020;55(3):1901831.
- 2 Kariuki SM, Gray DM, Newton CRJC, Vanker A, MacGinty RP, Koen N, et al. Association between maternal psychological adversity and lung function in South African infants: A birth cohort study. *Pediatric Pulmonology*. 2020;55(1):236-44.
- 3 Masekela R, Vanker A. Lung Health in Children in Sub-Saharan Africa: Addressing the Need for Cleaner Air. *Int J Environ Res Public Health*. 2020 Aug 26;17(17):6178. doi: 10.3390/ijerph17176178. PMID: 32858786; PMCID: PMC7504680.

2019:

1. Vanker A, Nduru PM, Barnett W, Dube FS, Sly PD, Gie RP, Nicol MP, Zar HJ. Indoor air pollution and tobacco smoke exposure: impact on nasopharyngeal bacterial carriage in mothers and infants in an African birth cohort study. *ERJ Open Res* 2019;5(1).
2. le Roux DM, Nicol MP, Myer L, Vanker A, Stadler JAM, von Delft E, et al. Lower Respiratory Tract Infections in Children in a Well-vaccinated South African Birth Cohort: Spectrum of Disease and Risk Factors. *Clin Infect Dis*. 2019.
3. Gray DM, Czovek D, McMillan L, Turkovic L, Stadler JAM, Vanker A, Radics BL, Gingl Z, Hall GL, Sly PD, Zar HJ, Hantos Z. Intra-breath measures of respiratory mechanics in healthy African infants detect risk of respiratory illness in early life. *Eur Respir J* 2019;53(2).
4. Schraufnagel DE, Balmes JR, Cowl CT, De Matteis S, Jung SH, Mortimer K, Perez-Padilla R, Rice MB, Riojas-Rodriguez H, Sood A, Thurston GD, To T, Vanker A, Wuebbles DJ. Air Pollution and Noncommunicable Diseases: A Review by the Forum of International Respiratory Societies' Environmental Committee, Part 1: The Damaging Effects of Air Pollution. *Chest* 2019;155(2):409-416.
5. Schraufnagel DE, Balmes JR, Cowl CT, De Matteis S, Jung SH, Mortimer K, Perez-Padilla R, Rice MB, Riojas-Rodriguez H, Sood A, Thurston GD, To T, Vanker A, Wuebbles DJ. Air Pollution and Noncommunicable Diseases: A Review by the Forum of International Respiratory Societies' Environmental Committee, Part 2: Air Pollution and Organ Systems. *Chest* 2019;155(2):417-426.
6. le Roux DM, Nicol MP, Myer L, Vanker A, Stadler JAM, von Delft E, et al. Lower Respiratory Tract Infections in Children in a Well-vaccinated South African Birth Cohort: Spectrum of Disease and Risk Factors. *Clin Infect Dis*. 2019.
7. Ayuk AC, Gray D, Vanker A, Zampoli M. Tuberculosis in children presenting with chylothorax - Report of two cases and review of the literature. *Respiratory medicine case reports*. 2019;27:100848.
8. Marangu D, Gray D, Vanker A, Zampoli M. Exogenous lipid pneumonia in children: A systematic review. *Paediatr Respir Rev*. 2019.
9. Zar HJ, Pellowski JA, Cohen S, Barnett W, Vanker A, Koen N, Stein DJ. Maternal health and birth outcomes in a South African birth cohort study. *PLoS One*. 2019 Nov

21;14(11):e0222399. doi: 10.1371/journal.pone.0222399. PMID: 31751344; PMCID: PMC6874071.

10. Goga A, Feucht U, Zar HJ, Vanker A, Wiysonge CS, McKerrow N, Wright CY, Loveday M, Odendaal W, Ramokolo V, Ramraj T, Bamford L, Green RJ, Pillay Y, Nannan N. Neonatal, infant and child health in South Africa: Reflecting on the past towards a better future. *S Afr Med J*. 2019 Dec 5;109(11b):83-88. doi: 10.7196/SAMJ.2019.v109i11b.14301. PMID: 32252874.

2018:

1. Ferkol TW, Farber HJ, La Grutta S, Leone FT, Marshall HM, Neptune E, Pisinger C, Vanker A, Wisotzky M, Zabert GE, Schraufnagel DE. Electronic cigarette use in youths: a position statement of the Forum of International Respiratory Societies. *Eur Respir J* 2018;51(5).
2. Marangu D, Pillay K, Banderker E, Gray D, Vanker A, Zampoli M. Exogenous lipid pneumonia: an important cause of interstitial lung disease in infants. *Respirology case reports* 2018;6(7):e00356.
3. Vanker A. Environmental exposures to tobacco smoke and air pollution : their impact on preschool wheezing. *Current Allergy & Clinical Immunology*. 2018;31(2):54-6.
4. Masekela R, Jeevanathrum A, Kling S, Gray TC, Morrison J, Vanker A, et al. Asthma treatment in children: A pragmatic approach 2018.

2017:

1. Vanker A, Barnett W, Workman L, Nduru PM, Sly PD, Gie RP, et al. Early-life exposure to indoor air pollution or tobacco smoke and lower respiratory tract illness and wheezing in African infants: a longitudinal birth cohort study. *The Lancet Planetary Health*.1(8):e328-e36.
2. Vanker A, Gie RP, Zar HJ. The association between environmental tobacco smoke exposure and childhood respiratory disease: a review. *Expert Rev Respir Med*. 2017;11(8):661-73.
3. Zar HJ, Vanker A, Gray D, Zampoli M. The
4. African Pediatric Fellowship Training Program in Pediatric Pulmonology: A Model for Growing African Capacity in Child Lung Health. *Ann Am Thorac Soc* 2017;14(4):500-504.
5. Gray DM, Turkovic L, Willemse L, Visagie A, Vanker A, Stein DJ, Sly PD, Hall GL, Zar HJ. Lung Function in African Infants in the Drakenstein Child Health Study. Impact of Lower Respiratory Tract Illness. *Am J Respir Crit Care Med* 2017;195(2):212-220
6. Gray D, Willemse L, Visagie A, Czovek D, Nduru P, Vanker A, Stein DJ, Koen N, Sly PD, Hantos Z, Hall GL, Zar HJ. Determinants of early-life lung function in African infants. *Thorax* 2017;72(5):445-450.

2016:

- Vanker A, Barnett W, Brittain K, Gie RP, Koen N, Myers B, et al. Antenatal and early life tobacco smoke exposure in an African birth cohort study. *Int J Tuberc Lung Dis*. 2016;20(6):729-37.

2015:

- Vanker A, Barnett W, Nduru PM, Gie RP, Sly PD, Zar HJ. Home environment and indoor air pollution exposure in an African birth cohort study. *Science of the Total Environment*. 2015;536:362-7

Prior to 2015:

1. Vanker A, Kling S, Booysen JR, Rhode D, Goussard P, Heyns L, Gie RP. Tracheostomy home care: in a resource-limited setting. *Archives of Diseases in Childhood* 2012 Feb;97(2):121-3. doi: 10.1136/adc.2010.187153. Epub 2010 Sep 23.
2. Goussard P, Gie RP, Kling S, Nel ED, Louw M, Schubert PT, Rhode D, Vanker A, Androniku S. The diagnostic value and safety of transbronchial needle aspiration biopsy in children with mediastinal lymphadenopathy. *Pediatr Pulminol*. 2010 Dec;45(12):1173-9. doi:10.1002/ppul.21303.

5.2.2.2 Local

1. Vanker A, Gie RP, Zar HJ. Early-life exposures to environmental tobacco smoke and indoor air pollution in the Drakenstein Child Health Study: Impact on child health. *S Afr Med J* 2018;108(2):71-72.
2. Zampoli M, Abousetta N, Vanker A. Overnight oximetry as a screening tool for moderate to severe obstructive sleep apnoea in South African children. *S Afr Med J* 2018;109(1):23-26.
3. Richard N van Zyl-Smit, Brian Allwood, David Stickells, Gregory Symons, Sabs Abdool-Gaffar, Kathy Murphy, Umesh Laloo, Aneesa Vanker, Keertan Dheda, Guy Richards. South African tobacco smoking cessation clinical practice guideline. *South African Medical Journal* 2013;103(11):869-876.
4. Vanker A. Respiratory Viruses – More than just the common cold. *South African Paediatric Review*, Vol 7, No3 2010
5. Vanker A, Rhode D, Human Immunodeficiency Virus and Allergic Disease. *Current Allergy and Immunology*, November 2009 Vol 22, No.4
6. Vanker A. The Many Faces of Adenovirus Infection. *South African Paediatric Review*. Vol 6 No. 1 2008

5.3 Books (authored or edited)
Nil.

5.4 Chapters in Books
Nil.

5.5 Refereed / Peer-reviewed Conference Outputs

1. Vanker A, Nduru PM, Gie RP, Zar HJ. Antenatal tobacco smoke exposure: impact on infant birth outcomes and lower respiratory tract infection in a South African birth cohort. In TOBACCO INDUCED DISEASES 2018 Jan 1 (Vol. 16, pp. 188-188). SCIENCE & TECHNOLOGY PARK CRETE,(STEP-C), N PLASTIRA 100, VASSILIKA VOUTWN, HERAKLION, CRETE 00000, GREECE: EUROPEAN PUBLISHING.
2. Vanker A. Adverse Environmental Exposure and Childhood Lung Health: Household Air Pollution and Lung Health. In PEDIATRIC PULMONOLOGY 2018 Jun 1 (Vol. 53, pp. S53-S55). 111 RIVER ST, HOBOKEN 07030-5774, NJ USA: WILEY.
3. Carvern Jacobs, Aneesa Vanker, Lauren Willemse, Rae McGinty, Lidija Turkovic, Graham Hall, Heather Zar, Diane Gray Exhaled Nitric Oxide in the first 2 years of life in African infants: impact of maternal smoking and indoor air pollution. AJTCCM 2018; 24(1), 38-70
4. Pan African and South African Thoracic Societies Congress, Durban, April 2018: Aneesa Vanker, Whitney Barnett, Lesley Workman, Polite M. Nduru, Peter D. Sly, Robert P. Gie, Heather J. Zar: Early-Life Exposure to Indoor Air Pollution or Tobacco Smoke and Lower Respiratory Tract Illness and Wheezing in African Infants.
5. Provincial Health Research Day: 27 October 2017; Tygerberg Campus, Stellenbosch University
Vanker, W. Barnett, P. Nduru, F. Dube, R. Gie, M. Nicol, H. Zar. Impact of tobacco smoke exposure or indoor air pollution on nasopharyngeal bacteria in African infants in a birth cohort study. European Respiratory Society Congress, Milan, Italy 9-13 September 2017. European Respiratory Journal Sep 2017, 50 (suppl 61) PA1857; DOI: 10.1183/1393003.congress-2017.PA1857
ERS Grant for Best Abstract in Paediatric Respiratory Epidemiology REF
6. European Respiratory Society Congress, Milan, September 2017: Czovek D, Gray DM, Willemse L, Turkovic L, Stadler J, Vanker A, Radics B, Gingl Z, Sly PD, Hall GH, Hantos Z, Zar HJ. Low lung function at six weeks of age in healthy South African infants predicts lower respiratory tract illness during the first year of life. European Respiratory Journal 50 (suppl 61), PA3333
7. Vanker A. The effect of environmental factors on bacterial nasopharyngeal colonization in an African birth cohort study. SARJ VOL. 23 NO. 3 2017
South African Thoracic Society Meeting. Cape Town, South Africa. 23 – 25 August, 2017.
Awarded best oral presentation award.

8. South African Thoracic Society Congress, Cape Town, 2017: Owusu S, Gray D, Vanker A, Zampoli M Cystic Fibrosis in children with African ethnicity: a retrospective descriptive study. AJTCCM 2017; 23(3), 73-91
9. South African Thoracic Society Congress, Cape Town, 2017: Marangu D, Pillay K, Banderker E, Gray D, Vanker A, Zampoli M Clinical, radiological and histological characteristics of children with exogenous lipoid pneumonia: a case series from South Africa. AJTCCM 2017; 23(3), 73-91
10. Vanker A, Barnett W, Nduru PM, Brittain K, Gie RP, Zar HJ. Indoor air pollution and tobacco smoke exposure in an African birth cohort study. European Respiratory Journal. 2015;46(suppl 59).
11. Vanker A, Barnett W, Brittain K, Gie RP, Zar HJ. Tobacco smoke exposure and birth outcomes in a South African birth cohort. SARJ Vol. 21 No. 2 2015
12. South African Thoracic Society Congress, Cape Town, August 2015: Lung function in the first year of life in African infants: effect of pneumonia. D Gray, L Turkovic, L Willemse, A Alberts, A Vanker, D Stein, PS Sly, GL Hall, HJ Zar
13. Vanker A, Barnett W, Gie RP, Zar HJ. Indoor air pollution and tobacco smoke exposure in an African Birth Cohort Study. International Pediatric Pulmonology congress (CIPP XIII); Ped Pulm 2014;49:S1; S76

5.6 Patents

Nil.

5.7 Articles in Non-refereed / Non-peer-reviewed Journals

- S Chaya, HJ Zar, A Vanker, D Gray, M Zampoli, K Pillay An unusual case of an anterior mediastinal mass in a child with cystic lung disease African Journal of Respiratory Medicine 2016; 11(2)
- G Tiva, M Zampoli, A Vanker Pleural effusion in children associated with adenovirus infection. *African Journal of Thoracic and Critical Care Medicine* 2015;21(3):78-79.
DOI:[10.7196/SARJ.2015.v21i3.32](https://doi.org/10.7196/SARJ.2015.v21i3.32)

5.8 Technical Reports

Nil.

5.9 Other Contributions / Reports (e.g. Policy reports)

The South African Cystic Fibrosis Consensus Document Fourth Edition 2012 – contributing author.

List 5 to 10 of your best peer-reviewed publications, and describe their impact.

For each publication, describe your own contribution, and provide a motivation for selecting the publication. You should also provide the number of citations, other article metrics for each publication (e.g., views/downloads, if available), as well as the impact factor for the journal and its ranking within the scientific discipline/ field. This information can be obtained from the ISI Web of Science at <http://isiknowledge.com>; Research Gate at <https://www.researchgate.net/>; Google Scholar at <http://scholar.google.com/citations> and certain journal websites. Alternatively, you can visit the Medical School Library and the staff there will assist you. Note that publication and citation practices vary significantly across fields. It is therefore imperative that you place your own research outputs in the appropriate context.

The articles chosen represent my research interest, environmental determinants of child health particularly in low and middle-income settings and formed the basis of my **PhD**. The impact of the environment and in particular air pollution on health is increasingly recognised as a global crisis. A number of the World Health Organisation (WHO), sustainable developmental goals (SDG) focus on improving the human environment and in particular SDG 7 focuses on reducing air pollution. The goal of clinical research is to identify, quantify and document a problem with the aim of then finding solutions. These publications describe the impact of air pollution on both maternal and child health from the antenatal period therefore highlighting a very crucial period in human development during which life-long health trajectories are potentially set. These publications arise from studies performed as part of the Drakenstein Child Health Study (DCHS), a unique South African birth cohort study aimed at investigating the early-life determinants of child health. As part of the DCHS there have been a number of collaborations between nested sub-studies. I therefore include key outputs and publications from other studies which I have been part of and further represent the impact of environmental factors on different aspects of child health. Further, I have also included collaborative publications from co-authors globally as part of the Forum of International Respiratory Societies (FIRS) Environmental Group. These reviews represent international and collaborative advocacy for a problem affecting populations worldwide. Lastly, I have included a publication that arose from my MMED as a registrar, which sparked my interest not just in clinical research but also paediatric pulmonology.

These publications showcase a few of my publications that have been published in journals with varying impact factors. However, the majority of publications are in well-established specialist respiratory journals whose audience includes both adult and paediatric physicians. Publishing paediatric specific data in journals that generally tend to focus on adult physicians is challenging and these publications bear testament to the importance of the subject.

3. Vanker A, Barnett W, Workman L, Nduru PM, Sly PD, Gie RP, et al. Early-life exposure to indoor air pollution or tobacco smoke and lower respiratory tract illness and wheezing in African infants: a longitudinal birth cohort study. *The Lancet Planetary Health*.1(8):e328-e36

I developed the study methodology with my supervisors Heather Zar (HJZ) and Robert Gie (RPG), together with expert input from Peter Sly (PDS). I supervised data collection together with support from Whitney Barnett (WB). Together with Lesley Workman (LW) and Polite Nduru (PMN) we devised a data analysis plan and LW and PMN executed data analysis. The full draft of the paper was completed by myself. The co-authors, reviewed the manuscript and added conceptual and intellectual comment. All authors read the manuscript prior to submission and commented/contributed within their area of expertise.

This study provides important data on the impact of early-life exposure to indoor air pollution and tobacco smoke exposure on respiratory tract infections in a low and middle income country (LMIC)

birth cohort study. It describes how antenatal (compared to postnatal) exposures where the predominant risk factor associated with lower respiratory tract infections (LRTI) in infancy. Further, toluene was a novel pollutant found to be associated with severe LRTI. The is limited data from LMIC settings on environmental risk factors and LRTI despite LRTI remaining the leading cause of under 5 mortality. Published in a Lancet stable journal, although a new one, demonstrates the importance of this research. There was also an *accompanying editorial* highlighting the importance of this study. (Protecting children's lungs by providing clean air during pregnancy? Nemery, Benoit et al. The Lancet Planetary Health, Volume 1, Issue 8, e309 - e310
[https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196\(17\)30139-0/fulltext](https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196(17)30139-0/fulltext))

Journal Impact Factor: New journal part of Lancet stable – no IF yet.

H index 10

Citations: 28

4. Vanker A, Barnett W, Nduru PM, Gie RP, Sly PD, Zar HJ. Home environment and indoor air pollution exposure in an African birth cohort study. Published: Science of the Total Environment. 2015;536:362-7.

I developed the study methodology together with my supervisors RPG and HJZ. Technical advice and expertise was provided by PDS. Together with WB we developed home visit protocols and sourced and implemented the equipment required to measure indoor air pollution (IAP). Fieldworker training and oversight was provided by me, with the assistance of WB. Field workers collected IAP measures and other data that was then supervised by WB and myself. SGS® environmental services performed IAP measure analysis. Data analysis plan was conceptualised by myself with the statistical support of PMN. I completed the initial draft of the manuscript. All authors provided intellectual review and read the final manuscript prior to submission.

This study is published in a *multidisciplinary journal* therefore reaching a wide audience.

It describes the methodology involved in measuring indoor air pollution in a substantial number of homes and there are few studies that directly measure household pollution on a large scale especially in LMIC settings, making this a unique study.

Journal Impact Factor 2017/2018: 4.61

H index: 205

Citations: 42

5. Vanker A, Barnett W, Brittain K, Gie RP, Koen N, Myers B, Stein DJ, Zar HJ. Antenatal and early life tobacco smoke exposure in an African birth cohort study. Int J Tuberc Lung Dis. 2016;20(6):729-37.

I together with WB and HJZ conceptualised the study. Dan Stein (DJS) developed the psychosocial methodology. KB was responsible for data analysis. RPG, DJS, NK contributed to the study design. AV, WB, NK recruited patients and collected data. AV, BM, RPG and HJZ interpreted data. AV, KB, BM, HJZ drafted the manuscript All authors contributed to the writing of the manuscript and approved the submitted manuscript.

This study quantifies shockingly high smoking prevalence in South African pregnant women as well as tobacco smoke exposure in infants. It provides important prevalence data in an area that is often under-reported. Further, it describes the impact of this exposure on birth outcomes.

This article also had an accompanying editorial that highlighted the importance of this study and complemented the methodological rigour in assessing tobacco smoking and exposure. Lewis, K.

(2016). ("Tobacco smoke exposure in early life: the first African cohort studies." *Int J Tuberc Lung Dis* 20(6): 711.

<https://www.ingentaconnect.com/content/iuatld/ijtld/2016/00000020/00000006/art00001>) The International Journal of Tuberculosis and Lung Diseases, is a well- respected journal particularly in LMIC settings.

Journal Impact Factor: 2017 2.392

H index: 10

Citation: 23

6. Vanker A, Nduru PM, Barnett W, Dube FS, Sly PD, Gie RP, et al. Indoor air pollution and tobacco smoke exposure: impact on nasopharyngeal bacterial carriage in mothers and infants in an African birth cohort study. *ERJ Open Res.* 2019;5(1).

I developed the study methodology with my supervisors RPG and HJZ, together with expert input from PDS. MPN developed the microbiology methodology with FSD. FSD supervised the microbiology data collection and laboratory analysis. WB supervised the project and data collection. Together with PMN we devised a data analysis plan and PMN executed data analysis. RPG, PN and HJZ reviewed the manuscript and added conceptual and intellectual comment. All authors read the manuscript prior to submission and commented/contributed within their area of expertise.

Air pollution is increasingly recognised as a major health risk globally, however, there is limited data on the impact of air pollution on maternal and child health, especially in LMIC settings. This is the first study to explore the impact of air pollution on nasopharyngeal bacterial carriage in infants and provides novel data on the impact of environmental exposures, in particular indoor air pollution and environmental tobacco smoke exposure, on the maternal and infant nasopharyngeal microbiomes, a subject that has not been well described in an African context and is potentially an important influencing factor of both maternal and child health globally.

IF: New journal – unavailable, however open access original research journal, published online by the European Respiratory Society. The journal aims to publish high-quality work in all fields of respiratory science and medicine, covering basic science, clinical translational science and clinical medicine. The journal was created to help fulfil the ERS objective to disseminate scientific and educational material to its members and to the medical community, but also to provide researchers with an affordable open access specialty journal in which to publish their work.

H index: 11

Citations: recently published

7. Gray D, Turkovic L, Willemse L, Visagie A, Vanker A, Stein DJ, Sly PD, Hall GL, Zar HJ Lung function in African infants in the Drakenstein Child Health Study: impact of lower respiratory tract infection *Am J Respir Crit Care Med* 2017;195(2):212-20.doi: 10.1164/rccm.201601-0188OC

I provided the technical input and contributed to the methodology and data collection relating to the environmental aspects of this publication. Further, I also contributed to drafting the manuscript and read the final manuscript prior to submission. This study is a collaboration from the DCHS.

This study is the first to show that lower respiratory tract illness in infancy impacts early life lung function, independent of the baseline lung function. It further assess and corrects for environmental factors, in particular tobacco smoke exposure and the effect of this on lung function in infancy. This study is a collaboration from the DCHS.

does the tree incline: lung function after lower respiratory tract illness in infancy AJRCCM 2017; 195 (2), 154

Journal Impact Factor: 16.494

Citations: 21

8. Schraufnagel DE, Balmes JR, Cowl CT, De Matteis S, Jung SH, Mortimer K, et al. Air Pollution and Noncommunicable Diseases: A Review by the Forum of International Respiratory Societies' Environmental Committee, Part 1: The Damaging Effects of Air Pollution. Chest. 2019;155(2):409-16.
9. Schraufnagel DE, Balmes JR, Cowl CT, De Matteis S, Jung SH, Mortimer K, et al. Air Pollution and Noncommunicable Diseases: A Review by the Forum of International Respiratory Societies' Environmental Committee, Part 2: Air Pollution and Organ Systems. Chest. 2019;155(2):417-26.

Publications 6 and 7 represent an international collaboration between members of the Forum of International Respiratory Societies (FIRS) Environmental Committee.

I am part of the committee and contributed to the concept development for these publications, conducted literature reviews and wrote various sections, contributed to the development of illustrations included, contributed to writing and editing.

These publications have had a global impact, particularly through the media and have served as important advocacy documents on the impact of air pollution and health. The media link to a story published in The Guardian newspaper highlighting the effects of air pollution as described in these publication is below:

<https://www.theguardian.com/environment/ng-interactive/2019/may/17/air-pollution-may-be-damaging-every-organ-and-cell-in-the-body-finds-global-review>

Journal Impact Factor 2017/2018: 7.652

Citations: 13 (Part 1) 12 (Part 2)

10. Vanker A, Kling S, Booysen JR, Rhode D, Goussard P, Heyns L, et al. Tracheostomy home care: in a resource-limited setting. Arch Dis Child. 2012;97(2):121-3.

I developed the methodology with my supervisor Sharon Kling and collected all the data and completed the data analysis with SK. I compiled the manuscript which was then reviewed by all the co-authors. This publication arose from my MMed Thesis. It highlights that children with tracheostomies can safely be managed at home, even in a LMIC setting, with the appropriate training and empowerment of the caregiver.

Journal Impact Factor 2017/2018: 3.258

Citation: 12

5.11 Research: Scholarly Presentations at Congresses

Name, Place and Date of Conferences and Titles of Keynote / Invited Talks Presented in the Last Two Years:

Name	Place	Date	Title
British Thoracic Society Winter Meeting	Online	17 th to 19 th February 2021	Africa's Respiratory "Big Five" Ambient air pollution and respiratory disease

Congress of International Paediatric Pulmonology CIPPXVIII	Tokyo, Japan	29 June 2019	Indoor Air Pollution and Lung Health in Low and Middle- Income Countries.
AstraZeneca Respiratory Masterclass	Johannesburg, South Africa	16 March 2019	Environmental determinants of wheezing in children.
National Institute of Environmental Health (NIEHS, USA) sponsored speaker: International Congress of Paediatric Pulmonology, Environmental Health Symposium.	Toledo, Spain	24 June 2018	Household air pollution and lung health
Pan African Thoracic Society/South African Thoracic Society Congress	Durban, South Africa	17 April 2018	Intrauterine and postnatal tobacco smoke: Impact on lung health.
Here Be Lungs – Paediatric Pulmonology Congress	Stellenbosch, Cape Town	March 2018	Pulmonary Bleeding in Children.
Here Be Lungs – Paediatric Pulmonology Congress	Stellenbosch, Cape Town	March 2017	Does the Environment make my child wheeze?

	As Keynote / Invited Speaker	Other e.g. Chairing session or poster presentation
Number of local conferences attended in last five years:	9	9
Number of international conferences attended in last five years:	3	3

5.11.1 International (provide full list)

1. British Thoracic Society Winter Meeting – postponed and held online 17-19 February 2021
Invited speaker – Africa's Big 5 Respiratory Symposium, Ambient air pollution and respiratory disease
2. Congress of International Paediatric Pulmonology (CIPPXVIII), Tokyo, Japan 2019 – **Invited speaker**: Indoor Air Pollution and Lung Health in Low and Middle- Income Countries. (2019). "Topic Sessions." Pediatric pulmonology **54**(S1): S22-S74.

3. National Institute of Environmental Health (NIEHS, USA) **sponsored speaker:** International Congress of Paediatric Pulmonology, Environmental Health Symposium, Toledo, Spain June 2018: Household air pollution and lung health. Topic Sessions - Part 1. Pediatric Pulmonology 2018;53(S1):S22-S78.
4. European Respiratory Society Congress, Milan Italy, September 2017: A. Vanker, W. Barnett, P. Nduru, F. Dube, R. Gie, M. Nicol, H. Zar. Impact of tobacco smoke exposure or indoor air pollution on nasopharyngeal bacteria in African infants in a birth cohort study. European Respiratory Society Congress, Milan, Italy 9-13 September 2017. *ERS Grant for Best Abstract in Paediatric Respiratory Epidemiology*
5. European Respiratory Society Congress, Amsterdam, Holland, September 2015: Vanker A, Barnett W, Nduru PM, Brittain K, Gie RP, Zar HJ. Indoor air pollution and tobacco smoke exposure in an African birth cohort study. European Respiratory Journal. 2015;46(suppl 59).(Poster presentation).

5.11.2 Local

1. AstraZeneca Respiratory Masterclass, Cape Town South Africa, March 2021
2. AstraZeneca Respiratory Masterclass, Johannesburg South Africa, March 2019: Environmental determinants of wheezing in children.
3. *Invited speaker* Here Be Lungs – Paediatric Pulmonology Congress 2012 -2018:
 - 2012: Indications for lung biopsy in neonates and infants
 - 2013: CMV lung disease: An emerging problem?
 - 2014: Inhaled Therapy : which works best?
 - 2015: The environment and lung health
 - 2016: Right middle lobe syndrome: Should we remove it?
 - 2017: Does the Environment make my child wheeze?
 - 2018: Pulmonary Bleeding in Children
4. *Invited Speaker* Pan African Thoracic Society/South African Thoracic Society Congress – Durban April 2018
Intrauterine and postnatal tobacco smoke: Impact on lung health.
5. Department of Paediatrics and Child Health Research Day October 2017: Early-life exposure to indoor air pollution or tobacco smoke and lower respiratory tract illness and wheezing in African infants
6. MRC Early Career Scientists Annual Convention (ECSC)2015, 2016
7. 2016: Impact of tobacco smoke exposure or indoor air pollution on nasopharyngeal bacteria in African infants in a birth cohort study. A Vanker, W Barnett, PM Nduru, F Dube, RP Gie, MP Nicol, HJ Zar
8. 2015: Early life exposure to indoor air pollution and tobacco smoke and the effects on respiratory disease in infancy.
Aneesa Vanker, Whitney Barnett, Lesley Workman, Peter D Sly, Robert P Gie, Heather J Zar
9. Invited speaker South African Thoracic Society Annual Congress, Cape Town August 2015; The Smoking Baby: What has the Drakenstein Child Health Study taught us?
10. Invited speaker South African Thoracic Society Annual Congress, Durban, South Africa,

June 2014:

Environmental factors related to allergy – “The Drakenstein cohort”

An approach to congenital lung diseases.

11. Department of Paediatrics and Child Health Research Day October 2014: Home environmental exposures to indoor air pollution and tobacco smoke in an African birth cohort.
12. Invited speaker South African Paediatric Association SAPA and SAAPS Congress September 2014: Children and their Environment: impact on lung health
13. Invited Speaker Ithemba Le Afrika Congress (Combined South African Thoracic Society, ALLSA, Immunology Conference) – June 2013
“The Snoring Child – Tips on Who and When to Investigate”
“The Wheezing Infant – to treat or not to treat?”
14. Invited Speaker SPOI/SATS Conference, Zimbabwe November 2012 – “Environmental Determinants of Asthma”
15. Invited Speaker Critical for Africa (Combined South African Thoracic Society and Critical Care Society of South Africa) Congress, Sun City August 2012 – “Management of Pulmonary Hypertension in Children”
16. Invited Speaker Copicon (Combined South African Thoracic Society and Critical Care Society of South Africa) Congress, Durban July 2011 – “Management of pleural disease in Children” and “Anti-viral therapy for respiratory disease”
17. Case Presentation – Echinococcal Lung Disease – International Congress of Paediatric Pulmonology – Dubrovnik, Croatia April 2010
18. Tracheostomy Home Programme at Tygerberg Childrens Hospital – Poster Presentation 10th Annual AstraZeneca Health Sciences Research Day
19. Calcified Tuberculosis Gland in Infant – Poster presentation Copicon Conference (Combined South African Thoracic and Critical Care Societies) August 2009
Tracheostomy Home Programme at Tygerberg Children’s Hospital – Poster Presentation
20. Case presentation at Critical Care Society Western Cape Branch, academic meeting on 03 November 2008

5.11.3 Refresher / Educational Courses Attended

Member of *inVIVO* Planetary Health, Group of the Worldwide Universities Network (WUN) – a collaborative network for Planetary Health aimed at transforming personal and planetary health through awareness, attitudes and actions, and a deeper understanding of how all systems are interconnected and interdependent. Attended ‘*From Parasites To Poisons*’ 3rd Annual WUN *in-FLAME* workshop, 30-31st March 2014, Cape Town, South Africa, focused on early life, and early environmental effects on the developing immune system and the impact on the subsequent development of non-communicable diseases.

Awarded a place and attended inaugural UCT-Imperial College Global Health Fellows Programme: a summer school designed to prepare students for succeeding in top-flight, international collaborative research, 25-31 January 2015.

H3Africa Environmental Consortium Working Group.

5.11.4 Other – e.g. chairing or organising of conferences.

**Provide full list and indicate invited contributions.*

Conference Organisation:

- South African Thoracic Society/AstraZeneca Respiratory Masterclass. Paediatric Steering Committee Member: Paediatric Programme Academic Content.
- South African Thoracic Society Congress – August 2017. Organised Paediatric Academic Programme Scientific Committee.
- UCT Paediatric Refresher Course Organiser – February 2016
- Organising committee Critical for Africa Congress – Sun City August 2012 (Paediatric Pulmonology Programme)

5.12 Other Research

5.12.1 Research Projects in Progress

Please Indicate Role i.e. principal investigator or co-investigator (as recorded):

Title of Project / Award	Grant source	Amount of Funding	Own Role	Collaborators
Bronchiectasis in African Children: Prevalence, Aetiology and Course (BACPAC)	Pending		Collaborator	A/Prof Diane Gray (UCT) and Lead of working group Dr Charl Verwey (Johannesburg); Prof Refiloe Masekela (Durban); Prof Ameena Gogo (Pretoria); Dr Gibaza Tiva (Polokwane); Dr Peirre Goussard

CABIN Network	GCRF UK networking grant		Collaborator	Dr Diana Marangu, University of Nairobi, Kenya Dr Patrick De Marie Katoto, Bukavu Catholic University, DRC Prof Hellen Meme, Kenya Medical Research Institute, Kenya Prof Ellis Owusu-Dabo, Kwame Nkrumah University of Science and Technology, Ghana Dr Limbani Kalumbi, The Malawi Polytechnic, Malawi Prof. Graham Devereux, Liverpool School of Tropical Medicine, UK Dr Ruairaidh Dobson, University of Stirling, UK Dr Sean Semple, University of Stirling, UK Dr Isa Uny, University of Stirling, UK
---------------	--------------------------	--	--------------	---

Please also provide comment of the details of

- *activities such as refereeing for international journals;*
- *where appropriate, output of creative work; and independent reviews, awards and other critical comment*

I am acknowledged annually as a *regular reviewer* for the South African Medical Journal (SAMJ) and strongly believe in supporting and developing high quality African research. I have also been asked to write an editorial for the SAMJ highlighting the environmental impact findings from the Drakenstein Child Health Study.

Further, I regularly review for a number *international journals* including: PLoS One IF 2.7, Pediatric Pulmonology 3.157, BMC Health Services Research IF 1.87

5.13 Where possible, candidates should clearly indicate how they have contributed to transformation, for example but not limited to, publications by previously disadvantaged students, support of previously disadvantaged students to attend conferences and workshops etc.

Contribution to Transformation:

As a woman of colour, I have overcome multiple challenges both in my clinical and academic journey. This has shaped my ethos of striving to work towards transformation in all areas of my clinical and research work and I am the current **Chair** of the Department of Paediatrics **Transformation Advisory Group (TAG)**.

I have actively worked towards recruiting trainees in paediatric pulmonology that include women and people from previously disadvantaged groups. This is reflected in the demographics of our recent trainees. I have also assisted in supporting and empowering trainees to partake in research activities and assisted with funding applications to facilitate research, conference attendance and presentation.

I oversee the environmental research team of the Drakenstein Child Health Study and have recruited and trained members of staff that represent the two predominant communities (mixed ancestry and black African) in which we work so that South African research is being conducted by South Africans. The environmental sub-study uses novel technology to measure air pollution. Our team of fieldworkers were trained in this through a corporate partnership (SGS environmental services) and are now certified in the use of and maintenance of this equipment. This has equipped them with a unique skill set and expertise.

The Department of Paediatrics also has a PhD support group founded by recent PhD graduates with the aim to support PhD candidates through facilitating protocol presentation, providing lectures and seminars in key areas including statistical support, grant application and writing. I am an integral member of this group and have compiled a transformative document that summarises the PhD process from initial registration till final submission based on UCT processes and documents. This document has been approved by the Faculty degree board and will assist candidates in the process. Further, I am often approached for informal support by other PhD students which I provide.

The following represents transformative students that I have supervised and mentored in various research related endeavours and continue to collaborate with, building capacity :

- **S Chaya**, HJ Zar, A Vanker, D Gray, M Zampoli, K Pillay An unusual case of an anterior mediastinal mass in a child with cystic lung disease *African Journal of Respiratory Medicine* 2016; 11(2)
- **G Tiva**, M Zampoli, A Vanker Pleural effusion in children associated with adenovirus infection. *African Journal of Thoracic and Critical Care Medicine* 2015;21(3):78-79. DOI:[10.7196/SARJ.2015.v21i3.32](https://doi.org/10.7196/SARJ.2015.v21i3.32)
- South African Thoracic Society Congress, Cape Town, 2017: **Owusu S**, Gray D, Vanker A, Zampoli M Cystic Fibrosis in children with African ethnicity: a retrospective descriptive study.
- South African Thoracic Society Congress, Cape Town, 2017: **Marangu D**, Pillay K, Banderker E, Gray D, Vanker A, Zampoli M Clinical, radiological and histological characteristics of children with exogenous lipid pneumonia: a case series from South Africa.

- Pan African and South African Thoracic Societies Congress, Durban, April 2018: **Carvern Jacobs**, Aneesa Vanker, Lauren Willemse, Rae McGinty, Lidija Turkovic, Graham Hall, Heather Zar, Diane Gray Exhaled Nitric Oxide in the first 2 years of life in African infants: impact of maternal smoking and indoor air pollution.
- **Ayuk AC**, Gray D, Vanker A, Zampoli M. Tuberculosis in children presenting with chylothorax - Report of two cases and review of the literature. Respiratory medicine case reports. 2019;27:100848.
- **Marangu D**, Gray D, Vanker A, Zampoli M. Exogenous lipid pneumonia in children: A systematic review. Paediatr Respir Rev. 2019.
- Dr Shaakira Chaya – 2017 Odwa Mbongwana Grant recipient (an initiative of the Transformation Advisory Group, has been established in the Department of Paediatrics and Child Health. This grant aims to support the educational efforts and research outputs of senior registrars employed on the paediatric platform). Supervision and mentorship of the application.

6 University Leadership and Management

6.2 In addition to the reflective statement, include your contribution to divisional, departmental, faculty and university committees. Note especially committees you have chaired and give examples of projects you have headed. Describe the nature of the leadership you have provided. Complete the tables below with one row per activity.

6.2.1 Programme / Course Convenorship, Including Co- or Deputy (last three years and current)

Year	Programme	Number of students	Your specific contributions
2016-2021	Paediatric pulmonology training programme MPhil Paediatric Pulmonology, PED7035W	2016- 3 2017 – 5 2018 – 5 2019 – 3 2020 – 4 2021 - 2	Co-convenor division of paediatric pulmonology training programme. Management and planning formal lectures and teaching sessions. Ensuring that core syllabus subjects are covered during the trainees fellowship period (2 years). Examination preparation, including mock examinations. Mentoring and assessments.

6.2.2 Departmental Duties / Initiatives (last three years)

Committee / Initiative / Working Group	Role	Brief description of your activities and specific contributions/ initiatives / outcomes / impact
--	------	--

Department of Paediatrics and Child Health EXCO	Transformation representative	Represent department transformation issues. Work on policies to enhance transformation within the department. Active involvement in trying to ensure equitable and transformative recruitment processes.
Departmental Research Committee (DRC)	Committee Member and member of Department of Paediatrics Annual Research Day Organising Committee.	DRC oversees all research related matters within the Department of Paediatrics including reviewing new protocols, administering research grants and awards. One of three members of Department of Paediatrics Research Day organising committee. Sub-committee of DRC involved in planning, organising and overseeing all aspects of the annual research day, including abstract review and selection, programme planning, key note speakers and adjudicators.
Transformation Advisory Group (TAG)	Chairperson	Chairperson of the committee aimed at guiding transformation within the Department of Paediatrics

6.2.3 Faculty Committees / Initiatives (last three years):

Committee/ Initiative/ Working Group	Role	Brief description of your activities and specific contributions/ initiatives/ outcomes/ impact
Transformation Executive Committee	Department of paediatrics representative from June 2019	Liaison between department of paediatrics and faculty on transformation.

6.2.4 University Committees / Initiatives (last three years):

Committee/ Initiative/ Working Group	Role	Brief description of your activities and specific contributions/ initiatives / outcomes/ impact

6.2.5 Any Strategic Partnerships (Provincial / National / International) (at any level) :

Partnership	Role	Brief description of your activities and specific contributions/ initiatives/ outcomes/ impact
South African Thoracic Society (SATS)	Paediatric pulmonology representative. Elected council member since 2013.	Represent paediatrics at the national thoracic society. Lead the paediatric pulmonology sub-committee of SATS. Over last 6 years involved in managing all paediatric related issues, including guideline development, providing expert opinions and consensus statements on paediatric respiratory related issues. Campaigning for transformation within the society to include more women and

		women of colour. Advocating for improved child health. The impact of this includes recognition of paediatric pulmonology as an established sub-speciality with important contributions to improving lung health in South Africa summarised in a publication in the societies journal:
Pan African Thoracic Society (PATS)	Member and environmental representative to the Forum of International Respiratory Societies (FIRS).	Representing Africa on the Environmental Committee of FIRS.
Forum of International Respiratory Societies (FIRS)	Environmental Committee Member	<p>The Forum of International Respiratory Societies is an international collaboration of the major respiratory societies globally. Member societies are: American College of Chest Physicians (CHEST), American Thoracic Society (ATS), Asian Pacific Society of Respirology (APSR, which also includes Australia), Asociación Latinoamericana del Tórax (ALAT), European Respiratory Society (ERS), International Union Against Tuberculosis and Lung Disease (The Union), Pan African Thoracic Society (PATS), Global Initiative for Asthma (GINA), and Global Initiative for Chronic Obstructive Lung Disease (GOLD).</p> <p>The Environmental sub-committee has over the last 3 years been actively addressing the impact of the environment on lung health with a particular focus on air pollution and electronic cigarettes. I have co-authored 3 papers in high-impact journals which have generated media statements.</p>

6.2.6 Contribution to Transformation

Initiative / Process	Role	Contribution
Transformation Advisory Group (TAG) Initiatives: <ol style="list-style-type: none"> 1. Formalising TAG terms of references (TOR) 2. Departmental Transformation Survey 3. Foyer Rememorisation Project – an exhibiton of remembrance and transformation at Red Cross Children’s Hospital 4. Supported Development Plan (SDP) – support and 	Member of TAG since 2015. Vice-chair 2018 Chair 2019 As a member of TAG I have been actively involved in a number of transformation initiatives over the years.	<ol style="list-style-type: none"> 1. Active member of TAG – contributed to final TOR document. 2. Contributed to the conception, drafting, reviewing and implementation of the survey and subsequent dissemination of results This has garnered much interest, in particular from Red Cross Children’s Hospital Management with the

mentorship programme aimed at Dept of Paediatrics consultant staff.		<p>view to act on survey outcomes in order to facilitate change.</p> <p>3. The foyer remomorisation project – was championed by Dr Marc Hendricks. However, I have contributed to its planning, reviewed the design plans and interview questions and recruitment of people across all categories of staff to partake in the interviews.</p> <p>4. Assisted with successful grant application to UCT for funding to execute this initiative.</p>
---	--	--

6.3 Innovative Leadership and Management Initiatives

Year	Initiative and Purpose	Achievements so Far	Your Role and Specific Contributions
2015, 2016	Clinical Job-Share – a novel and innovative process to support flexible working hours within the clinical service thus allowing for additional research-related time and capacity building within a busy clinical service.	<p>Successfully implemented since March 2016 – a fulltime (with afterhours cover) consultant job share post between 2 consultants.</p> <p>Improved consultant cover and teaching and research support.</p> <p>Solution to facilitate clinical-research within a busy clinical service without compromising either.</p> <p>Precedent for future job share posts.</p>	<p>Investigated the concept of job sharing.</p> <p>Provided my fulltime post to facilitate this.</p> <p>Presented concept to senior management and developed proposal and financial feasibility options.</p> <p>Developed job description for job-share post.</p> <p>Advertisement of post and recruitment of candidates.</p>

			<p>Part of interview panel to successfully fill post.</p> <p>Ongoing advocacy for job-sharing, fair conditions and support of others.</p>
--	--	--	---

7 Social Responsiveness

My career as a clinician-researcher affords me the opportunity to contribute on a number of levels to **engaged scholarship** with the purpose of social responsiveness in both the professional and public sector services with the overall goal of improving child health.

7.1 Professional Services

As a paediatric pulmonologist in a highly specialised unit, my clinical work impacts not just locally but provincially, nationally and occasionally to neighbouring African states. As one of three clinical consultants we provide a multidisciplinary service that caters to children with a wide range of respiratory conditions including congenital, acquired, infective and non-communicable diseases. We offer a number of diagnostic and management services that are not widely available in the public sector including paediatric bronchoscopy, specialised lung function testing, specialised paediatric respiratory radiology, polysomnography and a tracheostomy and home ventilation programme. This provides access to state of the art services for all children requiring it, regardless of socio-economic constraints. Further, I am involved in a number of multi-disciplinary services that contributes holistically to child health. This includes initiating a combined pulmonology-rheumatology clinic, being a consistent part of a cystic fibrosis service, working closely in the respiratory management of children with neurological conditions and using a team approach with ENT services to manage children with airways problems. Further, I am passionate about empowering patients and their care-givers to be active in managing their health by providing the necessary tools and skills that can be used at home, an example being initiating the inclusion of a physiotherapist at our respiratory clinics. Further, our tracheostomy and home ventilation programme is unique and well-recognised for being able to send technologically dependent children home despite resource constraints. While, this is a nurse-run, multidisciplinary programme it requires careful medical oversight which we provide.

Our pulmonology service is large and busy and though my clinical post is a job-share, I am still involved in 10-20 hours per week direct patient contact through in and outpatient services and administration that details a clear medical plan. I prioritise communication with patients and their caregivers, using translation where necessary to ensure a partnership in their health-care and hopefully improve access to health care from a community level.

Having recognised expertise in the environmental determinants of child health and having overseen a research unit that measured on a large scale air pollution in homes, I am often consulted by colleagues and other South African research units on implementation and possible interventions for other communities beyond the Drakenstein Child Health Study where this was conducted.

My leadership role on the South African Thoracic Society as the paediatric representative allows me to continually advocate to improve child lung health and ensure the same access for children to healthcare as for adults.

As the Pan African Thoracic Society (PATS) representative on the Forum of International Respiratory Societies (FIRS) Environmental Committee, I am able to represent Africa on global environmental lung health issues that affect both adults and children as evidenced by research articles and policy statements that I have been part of.

7.2 Community Outreach

Both my clinical and research work has allowed me to interact with the broader community and health sector through a number of means.

I am closely involved with the Cystic Fibrosis (CF) Service at Red Cross War Memorial Children's Hospital which is the only paediatric CF centre in the Western Cape serving children with CF from both the public and private sectors as providing outreach to neighbouring areas, including the Northern and Eastern Cape. I have partaken in a number of radio interviews and media statements to highlight cystic fibrosis as a genetic condition affecting all population groups (not just Caucasian as once believed) and advocate for screening and access to CF services for all children who may be potentially affected. Radio interviews included: Voice of the Cape (31 July 2014) and Bush Radio (11 August 2014) and newspaper article: *"Teamwork – the key to managing Cystic Fibrosis in South Africa (Dr Aneesa Vanker)"* The Cape Times Health Times supplement 28 May 2019 and The Cape Argus Health Matters supplement 29 May 2019.

My research into the early-life impact of air pollution and environmental tobacco smoke exposure has been highlighted through a number of *media agencies* for its detrimental effects, providing a powerful tool to disseminate the finding to the community at large:

<https://www.health-e.org.za/2018/03/09/secondhand-smoking-kills-more-women-than-men/>
<https://www.health-e.org.za/2018/03/13/shockingly-nicotine-levels-found-in-sas-babies/>
<https://www.dailymaverick.co.za/article/2018-03-13-health-e-news-shockingly-high-nicotine-levels-found-in-sas-babies/#.WqjFmZNuYyk>
<https://www.afp.com/en/news/15/coal-dust-and-smog-plague-lives-safricas-highveld-doc-1hp9oq1>

In the Drakenstein area, we have instituted education programme around the harms of smoking during pregnancy and tobacco smoke exposure implemented access to smoking cessation programmes.

Following tobacco smoking, the use of electronic cigarettes is emerging as a new threat to health, particularly targeting the youth that requires urgent awareness and better control policies. I have commented on the Provincial Government of the Western Cape "The Draft Control of Tobacco Products and Electronic Delivery Systems Bill 2018" and co-authored an editorial on "Tobacco, nicotine and e-cigarettes: Protecting children in South Africa" (*South African Journal of Child Health* 2019;13(1):4-5. DOI:[10.7196/SAJCH.2019.v13i1.1639](https://doi.org/10.7196/SAJCH.2019.v13i1.1639))

7.3 Policy Input and Advocacy for Policy Reform

“Life after Coal” a collaborative campaign by three NGOs ([CER](#), [Earthlife Africa](#), and [groundWork](#)) work together on a number of environmental issues including devastating health impacts of air and water pollution caused by coal and other air pollutant. As a child health advisor for this group, I have provided input to health related issues on a few campaigns including a submission and presentation at the “Parliamentary Colloquium on Climate, Air Pollution, Energy and Health” – 14 November 2018.

7.4 Public information and Discourse

Air pollution is now recognised as a leading cause of mortality and morbidity, with a global call by the World Health Organisation for urgent intervention.

From the publications I have co-authored through the Forum of International Societies Environmental Committee, there has been *media interest and increased public awareness* on these issues:

<https://www.theguardian.com/environment/ng-interactive/2019/may/17/air-pollution-may-be-damaging-every-organ-and-cell-in-the-body-finds-global-review>

Further, through a consensus statement on the harms of e-cigarettes to youth, Ferkol TW, Farber HJ, La Grutta S, *et al.* Electronic cigarette use in youths: a position statement of the Forum of International Respiratory Societies. *Eur Respir J* 2018; 51: 1800278 also generated media awareness and public discourse, particularly highlighting the risks and challenges surrounding electronic cigarettes in low and middle- income regions, including Africa in which I was quoted:

<https://www.ersnet.org/the-society/news/ban-e-cigarette-flavourings-and-misleading-adverts-to-protect-youth>

Participation in *global forums* is an important transformative step to *promoting Africanism* and including the African voice to global health issues. However, local dissemination and public information is equally important and key to implementing change. My recent participation at the Western Cape Government, Department of Health World No-Tobacco Day Workshop presented to the principals of Early Childhood Development Centres (ECDs) in the Northern Sub-District on 29 May 2019, highlights targeting educators as a means to execute changes within communities at a grass roots level.

7.5 Professional / National/ International Committees (last three years)

- South African Thoracic Society (SATS) - Paediatric pulmonology representative. Elected council member since 2013.
- Pan African Thoracic Society (PATs) - Member and environmental representative to the Forum of International Respiratory Societies (FIRS).
- Forum of International Respiratory Societies (FIRS) - Environmental Committee Member

8 Honours, Awards, Prizes

- 2021: South African Medical Research Council Post-Doctoral Clinician Researcher Award
- 2019: Congress of Paediatric Pulmonology: Max Klein Award for best poster presentation from a low and middle income country
- 2017: European Respiratory Society (ERS) Grant for Best Abstract in Paediatric Respiratory Epidemiology
- 2017: South African Thoracic Society Congress: Best Paediatric Oral Abstract Presentation.
- 2014: MRC Clinician Researcher Programme Scholarship
- 2013: CIDRI (Wellcome Trust) Clinical Fellowship
- 2012: AstraZeneca Respiratory Research Fellowship
- 2011: Discovery Foundation Academic Excellence Fellowship Award
- 2009: Stellenbosch University Annual Academic Year Day – Best Poster Award Dept of Paediatrics and Child Health
- 2009/2010: South African Thoracic Society Nycomed Paediatric Respiratory Training Fellowship