CELEBRATES SCIENCE

SEPTEMBER 2016

THE SOUTH AFRICAN MEDICAL RESEARCH COUNCIL INFORMATION SERVICES DIVISION

TOP 5 ARTICLES

Director: Prof Paul van Helden

Article:

Malherbe ST, Shenai S, **Ronacher K**, **Loxton AG**, Dolganov G, **Kriel M**, Van T, Chen RY, Warwick J, Via LE, Song T, Lee M, Schoolnik G, **Tromp G**, Alland D, **Barry CE**, Winter J, **Walzl G**; Catalysis TB–Biomarker Consortium., Lucas L, Spuy GV, Stanley K, Theart L, Smith B, Burger N, Beltran CG, Maasdorp E, Ellmann A, Choi H, Joh J, Dodd LE, Allwood B, Kogelenberg C, Vorster M, Griffith-Richards S. Persisting positron emission tomography lesion activity and Mycobacterium tuberculosis mRNA after tuberculosis cure. Nature Medicine. 2016 Sep 5. [Original]
DOI: 10.1038/nm.4177
Impact Factor: 30.357

Summary:

The absence of a gold standard to determine when antibiotics induce a sterilizing cure has confounded the development of new approaches to treat Pulmonary Tuberculosis (PTB). We detected Positron Emission Tomography and Computerized Tomography (PET-CT) imaging response patterns consistent with active disease, along with the presence of Mycobacterium tuberculosis (MTB) mRNA in sputum and bronchoalveolar lavage samples, in a substantial proportion of adult, HIV-negative patients with PTB after a standard 6-month treatment plus 1-year follow-up, including patients with a durable cure and others who later developed recurrent disease. The presence of MTB mRNA in the context of nonresolving and intensifying lesions on PET-CT images might indicate ongoing transcription, suggesting that even apparently curative treatment for PTB may not eradicate all of the MTB bacteria in most patients. This suggests an important complementary role for the immune response in maintaining a disease-free state. Sterilizing drugs or host-directed therapies, and better treatment response markers, are probably needed for the successful development of improved and shortened PTB-treatment strategies.

Director: Prof Debbie Bradshaw

Article:

Pillay-van Wyk V, **Msemburi W**, Laubscher R, Dorrington RE, **Groenewald P**, **Glass T**, **Nojilana B**, **Joubert JD**, **Matzopoulos R**, **Prinsloo M**, **Nannan N**, Gwebushe N, Vos T, **Somdyala N**, **Sithole N**, **Neethling I**, **Nicol E**, **Rossouw A**, **Bradshaw D**. Mortality trends and differentials in South Africa from 1997 to 2012: Second National Burden of Disease Study. Lancet Global Health. 2016 Sep; 4(9): e642-53. [Original]
DOI: 10.1016/S2214-109X (16)30113-9.
Impact Factor: 14.722

Summary:

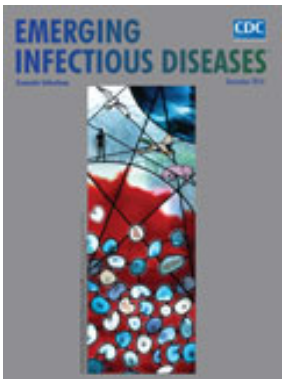
Background: The poor health of South Africans is known to be associated with a quadruple disease burden. In the second National Burden of Disease (NBD) study, we aimed to analyse cause of death data for 1997-2012 and develop national, population group, and provincial estimates of the levels and causes of mortality.

Method: We used underlying cause of death data from death notifications for 1997-2012 obtained from Statistics South Africa. These data were adjusted for completeness using indirect demographic techniques for adults and comparison with survey and census estimates for child mortality. A regression approach was used to estimate misclassified HIV/AIDS deaths and so-called garbage codes were proportionally redistributed by age, sex, and population group population group (black African, Indian or Asian descent, white [European descent], and coloured [of mixed ancestry according to the preceding categories]). Injury deaths were estimated from additional data sources. Age-standardised death rates were calculated with mid-year population estimates and the WHO age standard. Institute of Health Metrics and Evaluation Global Burden of Disease (IHME GBD) estimates for South Africa were obtained from the IHME GHDx website for comparison.

Findings: All-cause age-standardised death rates increased rapidly since 1997, peaked in 2006 and then declined, driven by changes in HIV/AIDS. Mortality from tuberculosis, non-communicable diseases, and injuries decreased slightly. In 2012, HIV/AIDS caused the most deaths (29·1%) followed by cerebrovascular disease (7·5%) and lower respiratory infections (4·9%). All-cause age-standardised death rates were 1·7 times higher in the province with the highest death rate compared to the province with the lowest death rate, 2·2 times higher in black Africans compared to whites, and 1·4 times higher in males compared with females. Comparison with the IHME GBD estimates for South Africa revealed substantial differences for estimated deaths from all causes, particularly HIV/AIDS and interpersonal violence.

Interpretation: This study shows the reversal of HIV/AIDS, non-communicable disease, and injury mortality trends in South Africa during the study period. Mortality differentials show the importance of social determinants, raise concerns about the quality of health services, and provide relevant information to policy makers for addressing inequalities. Differences between GBD estimates for South Africa and this study emphasise the need for more careful calibration of global models with local data.

Director: Prof Martie van der Walt



Article:

Kvasnovsky CL, Cegielski JP, **van der Walt ML**. Treatment outcomes for patients with extensively drug-resistant tuberculosis, KwaZulu-Natal and Eastern Cape Provinces, South Africa. Emerging Infectious Diseases. 2016 Sep; 22(9). [Original]
DOI: 10.3201/EID2209.160084
Impact Factor: 6.994

Summary:

We analyzed data for a retrospective cohort of patients treated for extensively drug-resistant tuberculosis in 2 provinces in South Africa and compared predictors of treatment outcome in HIV-positive patients who received or had not received antiretroviral drugs with those for HIV-negative patients. Overall, 220 (62.0%) of 355 patients were HIV positive. After 2 years, 34 (10.3%) of 330 patients with a known HIV status and known outcome had a favorable outcome. Multivariate analysis showed that predictors of favorable outcome were negative results for acid-fast bacilli by sputum microscopy at start of treatment and weight >50 kg. HIV-positive patients were more likely to have an unfavorable outcome. The strongest predictor of unfavorable outcome was weight <50 kg. Overall outcomes were poor. HIV status was not a predictor of favorable outcome, but HIV-positive patients were more likely to have an unfavorable outcome. These results underscore the need for timely and adequate treatment for tuberculosis and HIV infection.

Director: Prof Paul van Helden

Article:

Theron G, Peter J, Richardson M, **Warren R**, Dheda K, Steingart KR. GenoType® MTBDRsl assay for resistance to second-line anti-tuberculosis drugs. Cochrane Database of Systematic Reviews. 2016 Sep 8; 9: CD010705. [Review]
Impact Factor: 6.103

Summary

Background:
Genotype® MTBDRsl (MTBDRsl) is a rapid DNA-based test for detecting specific mutations associated with resistance to fluoroquinolones and second-line injectable drugs (SLIDs) in Mycobacterium tuberculosis complex. MTBDRsl version 2.0 (released in 2015) identifies the mutations detected by version 1.0, as well as additional mutations. The test may be performed on a culture isolate or a patient specimen, which eliminates delays associated with culture. Version 1.0 requires a smear-positive specimen, while version 2.0 may use a smear-positive or -negative specimen. We performed this updated review as part of a World Health Organization process to develop updated guidelines for using MTBDRsl.

Objectives:
To assess and compare the diagnostic accuracy of MTBDRsl for: 1. fluoroquinolone resistance, 2. SLID resistance, and 3. extensively drug-resistant tuberculosis, indirectly on a M. tuberculosis isolate grown from culture or directly on a patient specimen. Participants were people with rifampicin-resistant or multidrug-resistant tuberculosis. The role of MTBDRsl would be as the initial test, replacing culture-based drug susceptibility testing (DST), for detecting second-line drug resistance.

Main Results: We included 27 studies. Twenty-six studies evaluated version 1.0, and one study version 2.0. Of 26 studies stating specimen country origin, 15 studies (58%) evaluated patients from low- or middle-income countries. Overall, we considered the studies to be of high methodological quality. However, only three studies (11%) had low risk of bias for the reference standard; these studies used World Health Organization (WHO)-recommended critical concentrations for all drugs in the culture-based DST reference standard. MTBDRsl version 1.0 Fluoroquinolone resistance: indirect testing, MTBDRsl pooled sensitivity and specificity (95% confidence interval (CI)) were 85.6% (79.2% to 90.4%) and 98.5% (95.7% to 99.5%), (19 studies, 2223 participants); direct testing (smear-positive specimen), pooled sensitivity and specificity were 86.2% (74.6% to 93.0%) and 98.6% (96.9% to 99.4%), (nine studies, 1771 participants, moderate quality evidence). SLID resistance: indirect testing, MTBDRsl pooled sensitivity and specificity were 76.5% (63.3% to 86.0%) and 99.1% (97.3% to 99.7%), (16 studies, 1921 participants); direct testing (smear-positive specimen), pooled sensitivity and specificity were 87.0% (38.1% to 98.6%) and 99.5% (93.6% to 100.0%), (eight studies, 1639 participants, low quality evidence). Extensively drug-resistant tuberculosis: indirect testing, MTBDRsl pooled sensitivity

and specificity were 70.9% (42.9% to 88.8%) and 98.8% (96.1% to 99.6%), (eight studies, 880 participants); direct testing (smear-positive specimen), pooled sensitivity and specificity were 69.4% (38.8% to 89.0%) and 99.4% (95.0% to 99.3%), (six studies, 1420 participants, low quality evidence).Similar to the original Cochrane review, we found no evidence of a significant difference in MTBDRsl version 1.0 accuracy between indirect and direct testing for fluoroquinolone resistance, SLID resistance, and extensively drug-resistant tuberculosis. MTBDRsl version 2.0 Fluoroquinolone resistance: direct testing, MTBDRsl sensitivity and specificity were 97% (83% to 100%) and 98% (93% to 100%), smear-positive specimen; 80% (28% to 99%) and 100% (40% to 100%), smear-negative specimen. SLID resistance: direct testing, MTBDRsl sensitivity and specificity were 89% (72% to 98%) and 90% (84% to 95%), smear-positive specimen; 80% (28% to 99%) and 100% (40% to 100%), smear-negative specimen. Extensively drug-resistant tuberculosis: direct testing, MTBDRsl sensitivity and specificity were 79% (49% to 95%) and 97% (93% to 99%), smear-positive specimen; 50% (1% to 99%) and 100% (59% to 100%), smear-negative specimen. We had insufficient data to estimate summary sensitivity and specificity of version 2.0 (smear-positive and -negative specimens) or to compare accuracy of the two versions. A limitation was that most included studies did not consistently use the World Health Organization (WHO)-recommended concentrations for drugs in the culture-based DST reference standard.

Authors' Conclusions: In people with rifampicin-resistant or multidrug-resistant tuberculosis, MTBDRsl performed on a culture isolate or smear-positive specimen may be useful in detecting second-line drug resistance. MTBDRsl (smear-positive specimen) correctly classified around six in seven people as having fluoroquinolone or SLID resistance, although the sensitivity estimates for SLID resistance varied. The test rarely gave a positive result for people without drug resistance. However, when second-line drug resistance is not detected (MTBDRsl result is negative), conventional DST can still be used to evaluate patients for resistance to the fluoroquinolones or SLIDs. We recommend that future work evaluate MTBDRsl version 2.0, in particular on smear-negative specimens and in different settings to account for different resistance-causing mutations that may vary by strain. Researchers should also consider incorporating WHO-recommended critical concentrations into their culture-based reference standards.

Director: Prof Valerie Mizrahi

Article:

Singh V, **Mizrahi V**. Identification and validation of novel drug targets in Mycobacterium tuberculosis. Drug Discovery Today. 2016 Sep 17. [Review]
DOI: 10.1016/j.drudis.2016.09.010
Impact Factor: 5.625

Summary

Tuberculosis (TB) is a global epidemic associated increasingly with resistance to first- and second-line antitubercular drugs. The magnitude of this global health threat underscores the urgent need to discover new antimycobacterial agents that have novel mechanisms of action (MOA). In this review, we highlight some of the key advances that have enabled the strengths of target-led and phenotypic approaches to TB drug discovery to be harnessed both independently and in combination. Critically, these promise to fuel the front-end of the TB drug pipeline with new, pharmacologically validated drug targets together with lead compounds that act on these targets.

1. INTRAMURAL RESEARCH UNITS

Alcohol, Tobacco and Other Drug

1. **Harker Burnhams N**, Laubscher R, Howell S, Shaw M, **Erasmus J**, Townsend L. Using Respondent-Driven Sampling (RDS) to recruit illegal poly-substance users in Cape Town, South Africa: Implications and future directions. Substance abuse treatment, prevention, and policy. 2016 Sep 1; 11(1): 31. [Original]
   DOI: 10.1186/s13011-016-0074-1
   Impact Factor: 1.713

2. **Williams Petersen P**, **Carney T**, **Parry CDH**. Reducing substance use and sexual risk behaviour among men who have sex with men in South Africa. South African Journal of Science. 2016 Sept/Oct; 112(9-10): 5. [Original]
   DOI: 10.17159/sajs.2016/20150425
   Impact Factor: 0.902

Biomedical Research and Innovation Platform

1. **Jack BU**, Malherbe CJ, **Huisamen B**, Gabuza K, **Mazibuko-Mbeje S**, Schulze AE, Joubert E, **Muller CJF**, **Louw J**, **Pheiffer C**. A polyphenol-enriched fraction of cyclopia intermedia decreases lipid content in 3T3-L1 adipocytes and reduces body weight gain of obese db/db mice. South African Journal of Botany. 2016 Sep 10. [Original]
   DOI: 10.1016/j.sajb.2016.08.007
   Impact Factor: 1.244

2. Magcwebeba TU, **Riedel S**, Swanevelder S, Swart P, de Beer D, Joubert E, Gelderblom WCA. The potential role of polyphenols in the modulation of skin cell viability by aspalathus linearis and cyclopia spp. herbal tea extracts in vitro. Journal of Pharmacy and Pharmacology. 2016 Sep 27. [Original]
   DOI: 10.1111/jphp.12629
   Impact Factor: 2.363

Biostatistics

1. Senekal M, Lasker GL, van Velden L, **Laubscher R**, Temple NJ. Weight-loss strategies of South African female university students and comparison of weight management-related characteristics between dieters and non-dieters. BMC Public Health. 2016 Sep 1; 16: 918. [Original]
   DOI: 10.1186/s12889-016-3576-x
   Impact Factor: 2.209

2. **Reddy T**, Molenberghs G, Njagi EN, Aerts M. A novel approach to estimation of the time to biomarker threshold: Applications to HIV. Pharmaceutical Statistics. 2016 Sep 1. [Original]
   DOI: 10.1002/PST.1774
   Impact Factor: 1.235

Burden of Disease

1. **Pillay-van Wyk V**, **Msemburi W**, Laubscher R, Dorrington RE, **Groenewald P**, **Glass T**, **Nojilana B**, **Joubert JD**, **Matzopoulos R**, **Prinsloo M**, **Nannan N**, Gwebushe N, Vos T, **Somdyala N**, **Sithole N**, **Neethling I**, **Nicol E**, **Rossouw A**, **Bradshaw D**. Mortality trends and differentials in South Africa from 1997 to 2012: Second National Burden of Disease Study. Lancet Global Health. 2016 Sep; 4(9): e642-53. [Original]
   DOI: 10.1016/S2214-109X (16)30113-9
   Impact Factor: 14.722

2. **Nicol E**, Dudley L, **Bradshaw D**. Assessing the quality of routine data for the prevention of mother-to-child transmission of HIV: An analytical observational study in two health districts with high HIV prevalence in South Africa. International Journal of Medical Informatics. 2016 Sep 12. [Original]
DOI: 10.1016/j.ijmedinf.2016.09.006
Impact Factor: 2.363

3. **Roomaney RA**, **Pillay-van Wyk V**, **Awotiwon OF**, **Dhansay A**, **Groenewald P**, **Joubert JD**, **Nglazi MD**, **Nicol E**, **Bradshaw D**. Epidemiology of lower respiratory infection and pneumonia in South Africa (1997-2015): A systematic review protocol. BMJ Open. 2016 Sep 15; 6(9): e012154. [Original]
DOI: 10.1136/bmjopen-2016-012154
Impact Factor: 2.562

Centre for Tuberculosis

1. Farhat MR, Sultana R, Iartchouk O, Bozeman S, Galagan J, Sisk P, Stolte C, Nebenzahl-Guimaraes H, **Jacobson K**, Sloutsky A, Kaur D, Posey J, Kreiswirth BN, Kurepina N, Rigouts L, **Streicher EM**, **Victor TC**, **Warren RM**, van Soolingen D, Murray M. Genetic determinants of drug resistance in mycobacterium tuberculosis and their diagnostic value. American Journal of Respiratory and Critical Care Medicine. 2016 Sep 1; 194(5): 621-30. [Original]
DOI: 10.1164/rccm.201510-2091OC
Impact Factor: 13.118

2. **Malherbe ST**, Shenai S, **Ronacher K**, **Loxton AG**, Dolganov G, **Kriel M**, Van T, Chen RY, Warwick J, Via LE, Song T, Lee M, Schoolnik G, **Tromp G**, Alland D, **Barry CE**, Winter J, **Walzl G**; Catalysis TB–Biomarker Consortium, Lucas L, Spuy GV, Stanley K, Theart L, Smith B, Burger N, Beltran CG, Maasdorp E, Ellmann A, Choi H, Joh J, Dodd LE, Allwood B, Kogelenberg C, Vorster M, Griffith-Richards S. Persisting positron emission tomography lesion activity and Mycobacterium tuberculosis mRNA after tuberculosis cure. Nature Medicine. 2016 Sep 5. [Original]
DOI: 10.1038/NM.4177
Impact Factor: 30.357

3. **Theron G**, Peter J, Richardson M, **Warren R**, Dheda K, Steingart KR. GenoType® MTBDRsl assay for resistance to second-line anti-tuberculosis drugs. Cochrane Database of Systematic Reviews. 2016 Sep 8; 9: CD010705. [Review]
Impact Factor: 6.103

4. **Kayigire XA**, **Friedrich SO**, Karinja MN, van der Merwe L, **Martinson NA**, **Diacon AH**. Propidium monoazide and Xpert MTB/RIF to quantify Mycobacterium Q8 tuberculosis cells. Tuberculosis. 2016 Sept 3. [Original]
Impact Factor: 2.952

5. **Zass LJ**, **Hart SA**, Seedat S, Hemmings SM, Malan-Müller S. Neuroinflammatory genes associated with post-traumatic stress disorder: Implications for comorbidity. Psychiatric Genetics. 2016 Sep 15. [Review]
Impact Factor: 1.736

6. Esmail H, Lai RP, Lesosky M, Wilkinson KA, Graham CM, Coussens AK, Oni T, Warwick JM, Said-Hartley Q, Koegelenberg CF, **Walzl G**, Flynn JL, Young DB, Barry Iii CE, O'Garra A, Wilkinson RJ. Characterization of progressive HIV-associated tuberculosis using 2-deoxy-2-[^{18}F] fluoro-D-glucose positron emission and computed tomography. Nature Medicine. 2016 Sep 5. [Letter]
DOI: 10.1038/nm.4161
Impact Factor: 30.357

7. Pandie S, Peter JG, Kerbelker ZS, Meldau R, **Theron G**, Govender U, Ntsekhe M, **Dheda K**, Mayosi BM. The diagnostic accuracy of pericardial and urinary lipoarabinomannan (LAM) assays in patients with suspected tuberculous pericarditis. Scientific Reports. 2016 Sep 16; 6: 32924. [Original]
DOI: 10.1038/srep32924
Impact Factor: 5.228

Health Systems

1. **Goga AE**, Dinh TH, Jackson DJ, Lombard CJ, Puren A, Sherman G, **Ramokolo V**, **Woldesenbet S**, **Doherty T**, **Noveve N**, **Magasana V**, **Singh Y**, **Ramraj T**, **Bhardwaj S**, **Pillay Y**; South Africa PMTCT Evaluation (SAPMCTE) Team. Population-level effectiveness of PMTCT Option A on early Mother-To-Child (MTCT) transmission of HIV in South Africa: Implications for eliminating MTCT. Journal of Global Health. 2016 Sep 16. [Original]
DOI: 10.7189/jogh.6.020405
Impact Factor: 3.559

MRC Office of Tuberculosis

1. **Kvasnovsky CL**, Cegielski JP, **van der Walt ML**. Treatment outcomes for patients with extensively drug-resistant tuberculosis, KwaZulu-Natal and Eastern Cape Provinces, South Africa. Emerging Infectious Diseases. 2016 Sep; 22(9): 1529-1536. [Original]
DOI: 10.3201/eid2209.160084
Impact Factor: 6.994

Non-Communicable Disease

1. GBD 2015 SDG Collaborators [**Kengne AP**, Matzopoulos R, Parry CD, Schutte AE, Stein DJ, Wiysonge CS]. Measuring the health-related Sustainable Development Goals in 188 countries: A baseline analysis from the Global Burden of Disease Study 2015. Lancet. 2016 Sep 19. [Original]
DOI: 10.1016/S0140-6736(16)31467-2
Impact Factor: 44.002

2. Kotzé-Hörstmann LM, Keswell D, Adams K, Dlamini T, **Goedecke JH**. Hypoxia and extra-cellular matrix gene expression in adipose tissue associates with reduced insulin sensitivity in black South African women. Endocrine. 2016 Sep 14. [Original]
DOI: 10.1007/s12020-016-1089-0
Impact Factor: 3.279

3. Zemlin AE, Matsha TE, **Kengne AP**, Hon G, Erasmus RT. High molecular weight adiponectin levels are neither influenced by adiponectin polymorphisms nor associated with insulin resistance in mixed-ancestry hyperglycemic subjects from South Africa. Journal of Medical Biochemistry. 2016 Sep 20; 35: 1–12. [Original]
DOI: 10.1515/jomb-2016-0024
Impact Factor: 0.742

4. Mazidi M, Heidari-Bakavoli A, Khayyatzadeh SS, Azarpazhooh MR, Nematy M, Safarian M, Esmaeili H, Parizadeh SMR, Ghayour-Mobarhan M, **Kengne AP**, Ferns GA. Serum hs-CRP varies with dietary cholesterol, but not dietary fatty acid intake in individuals free of any history of cardiovascular disease. European Journal of Clinical Nutrition. 2016 Sep 28. [Letter]
DOI: 10.1038/ejcn.2016.92
Impact Factor: 2.935

5. **Kengne A**, Nguyen KA, **Peer N**, Mills EJ. [PP.29.07] Worldwide prevalence of metabolic syndrome in people living with human immunodeficiency virus infection: A systematic review and meta-analysis. Journal of Hypertension. 2016 Sep; 34 (Supp 2): e300-e1. [Other]
DOI: 10.1097/01.hjh.0000492216.11354.25
Impact Factor: 5.062

6. **Mutemwa M**, **de Villiers A**, **Peer N**, Matsha TE, Mukasa B, Mills EJ, **Kengne AP**. ISH NIA PS 03-07 An assessment of the prevalence, detection, treatment and control of hypertension in HIV infected patients receiving care across public HIV care facilities in the Western Cape Province of South Africa. Journal of Hypertension. 2016 Sep; 34 (Supp 2): e282-e3. [Other]
DOI: 10.1097/01.HJH.0000500663.32557.2B
Impact Factor: 5.062

7. **George C**, **Goedecke J**, Crowther N, Jaff N, **Kengne A**, Norris S, Micklesfield L. ISH NIA PS 03-08 THE role of body fat and fat distribution in hypertension risk in urban black South African women. Journal of Hypertension. 2016 Sep; 34 (Supp 2): e283. [Other]
DOI: 10.1097/01.HJH.0000500664.40180.7B
Impact Factor: 5.062

8. **George C**, **Goedecke JH**, Crowther NJ, Jaff NG, **Kengne AP**, Norris SA, Micklesfield LK. [PP.03.08] The role of body fat and fat distribution in hypertension risk in urban black South African women. Journal of Hypertension. 2016 Sep; 34: e128. [Other]
DOI: 10.1097/01.hjh.0000491675.56984.01
Impact Factor: 5.062

9. Aminde L, Dzudie A, Mapoh S, Takah N, Ngu B, Sliwa K, **Kengne AP**. PS 14-18 Influence of gender in clinical profiles and mortality in a cohort of patients with pulmonary hypertension in sub-Saharan Africa. Journal of Hypertension. 2016 Sep; 34 (Supp 2): e439. [Other]
DOI: 10.1097/01.hjh.0000501141.12067.32
Impact Factor: 5.062

10. Aminde L, Dzudie A, Mapoh S, Luma H, Ngu B, **Kengne AP**. PS 14-16 Predominance of hypertension in contemporary aetiologies, trends and mortality of patients with acute heart failure as seen from two cardiac referral centres in Douala, Cameroon. Journal of Hypertension. 2016 Sep; 34 (Supp 2): e439. [Other]
DOI: 10.1097/01.hjh.0000501139.27314.27
Impact Factor: 5.062

South African Cochrane Centre

1. Dizon JM, **Machingaidze S**, Grimmer K. To adopt, to adapt, or to contextualise? The big question in clinical practice guideline development. BMC Research Notes. 2016 Sep 13; 9(1): 442. [Original]
DOI: 10.1186/s13104-016-2244-7
Impact Factor: None

2. Lawrence M, Wingrove K, **Naude C**, **Durao S**. Evidence synthesis and translation for nutrition interventions to combat micronutrient deficiencies with particular focus on food fortification. Nutrients. 2016 Sep 8; 8(9). [Original]
DOI: 10.3390/nu8090555
Impact Factor: 3.759

Violence, Injury and Peace

1. **Malherbe N**, **Suffla S**, **Seedat M**, Bawa U. Visually negotiating hegemonic discourse through photovoice: Understanding youth representations of safety. Discourse & Society. 2016 Sep 09. [Original]
DOI: 10.1177/0957926516664255
Impact Factor: 1.137

2. EXTRAMURAL RESEARCH UNITS

Antiviral Gene

1. Mbatha L, Chakravorty S, de Koning CB, van Otterlo WA, **Arbuthnot P**, Ariatti M, Singh M. Spacer length: A determining factor in the design of galactosyl ligands for hepatoma cell-specific liposomal gene delivery. Current Drug Delivery. 2016 Sep; 13(6): 935-45. [Original]
   DOI: 10.2174/1567201813666160224123450
   Impact Factor: 1.446

Anxiety and Stress Disorders

1. Boedhoe PS, Schmaal L, Abe Y, Ameis SH, Arnold PD, Batistuzzo MC, Benedetti F, Beucke JC, Bollettini I, Bose A, Brem S, Calvo A, Cheng Y, Cho KI, Dallaspezia S, Denys D, Fitzgerald KD, Fouche JP, Giménez M, Gruner P, Hanna GL, Hibar DP, Hoexter MQ, Hu H, Huyser C, Ikari K, Jahanshad N, Kathmann N, Kaufmann C, Koch K, Kwon JS, Lazaro L, Liu Y, Lochner C, Marsh R, Martínez-Zalacaín I, Mataix-Cols D, Menchón JM, Minuzzi L, Nakamae T, Nakao T, Narayanaswamy JC, Piras F, Piras F, Pittenger C, Reddy YC, Sato JR, Simpson HB, Soreni N, Soriano-Mas C, Spalletta G, Stevens MC, Szeszko PR, Tolin DF, Venkatasubramanian G, Walitza S, Wang Z, van Wingen GA, Xu J, Xu X, Yun JY, Zhao Q; ENIGMA OCD Working Group, Thompson PM, **Stein DJ**, van den Heuvel OA. Distinct subcortical volume alterations in pediatric and adult OCD: A worldwide meta- and mega-analysis. American Journal of Psychiatry. 2016 Sep 9. [Original]
   DOI: 10.1176/appi.ajp.2016.16020201
   Impact Factor: 13.505

2. du Plooy CP, Malcolm-Smith S, Adnams CM, **Stein DJ**, Donald KA. The effects of prenatal alcohol exposure on episodic memory functioning: A systematic review.
   Archives of Clinical Neuropsychology. 2016 Sep 6. [Review].
   DOI: 10.1093/arclin/acw067
   Impact Factor: 2.014

3. Parker R, Jelsma J, **Stein DJ**. Managing pain in women living with HIV/AIDS: A randomized controlled trial testing the effect of a six-week peer-led exercise and education intervention. Journal of Nervous and Mental Disease. 2016 Sep 1; 204(9): 665-72. [Original]
   DOI: 10.1097/NMD.0000000000000506
   Impact Factor: 1.836

4. Ahmed-Leitao F, Spies G, van den Heuvel L, **Seedat S**. Hippocampal and amygdala volumes in adults with posttraumatic stress disorder secondary to childhood abuse or maltreatment: A systematic review. Psychiatry Research. 2016 Sep 19. [Review]
   DOI: 10.1016/j.pscychresns.2016.09.008
   Impact Factor: 2.466

HIV/TB Pathogenesis and Treatment

1. **Padayatchi N**, **Naidu N**, **Yende-Zuma N**, **O'Donnell MR**, **Naidoo K**, **Augustine S**, Zumla A, Loveday M. Implementation and operational research: Clinical impact of the Xpert MTB/RIF assay in patients with multidrug-resistant tuberculosis. Journal of Acquired Immune Deficiency Syndromes. 2016 Sep 1;73(1): e1-7. [Original]
   DOI: 10.1097/QAI.0000000000001110
   Impact Factor: 3.086

Hypertension and Cardiovascular Disease

1. Burger A, Pretorius R, Fourie CMT, **Schutte AE**. The relationship between cardiovascular risk factors and knowledge of cardiovascular disease in African men in the North-West Province. Health SA Gesondheid. 2016 Sept 13. [Original]
   DOI: 10.1016/j.hsag.2016.07.003
   Impact Factor: None

Immunology of Infectious Disease

1. **Parihar SP**, Hartley MA, **Hurdayal R**, **Guler R**, **Brombacher F**. Topical simvastatin as host-directed therapy against severity of cutaneous leishmaniasis in mice. Scientific Reports. 2016 Sep 16; 6: 33458. [Original]
   DOI: 10.1038/srep33458
   Impact Factor: 5.228

Molecular Mycobacteriology

1. **Singh V**, **Mizrahi V**. Identification and validation of novel drug targets in mycobacterium tuberculosis. Drug Discovery Today. 2016 Sep 17. [Review]
   DOI: 10.1016/j.drudis.2016.09.010
   Impact Factor: 5.625

Rural Public Health and Health Transition

1. Graham W, Woodd S, **Byass P**, Filippi V, Gon G, Virgo S, Chou D, Hounton S, Lozano R, Pattinson R, Singh S. Diversity and divergence: The dynamic burden of poor maternal health. Lancet. 2016 Sep 14. [Review]
   DOI: 10.1016/S0140-6736(16)31533-1
   Impact Factor: 44.002

Stem Cell Research and Therapy

1. **Alessandrini M**, **Chaudhry M**, **Dodgen TM**, **Pepper MS**. Pharmacogenomics and global precision medicine in the context of adverse drug reactions: Top 10 opportunities and challenges for the next decade. OMICS: A Journal of Integrative Biology. 2016 Sep 19. [Original]
   DOI: 10.1089/OMI.2016.0122
   Impact Factor: 2.896

3. GRANT FUNDED RESEARCH

1. Muenchhoff M, Adland E, Karimanzira O, Crowther C, Pace M, Csala A, Leitman E, Moonsamy A, McGregor C, Hurst J, Groll A, Mori M, Sinmyee S, Thobakgale C, Tudor-Williams G, Prendergast AJ, Kloverpris H, Roider J, Leslie A, Shingadia D, Brits T, Daniels S, Frater J, Willberg CB, Walker BD, Ndung'u T, Jooste P, **Moore PL**, **Morris L**, Goulder P. Nonprogressing HIV-infected children share fundamental immunological features of nonpathogenic SIV infection. Science Translational Medicine. 2016 Sep 28; 8(358): 358ra125. [Original]
DOI: 10.1126/scitranslmed. aag1048
Impact Factor: 16.264

2. **Aderibigbe BA**, Ray SS. Preparation, characterization and in vitro release kinetics of polyaspartamide-based conjugates containing antimalarial and anticancer agents for combination therapy. Journal of Drug Delivery Science and Technology. 2016 Sep 26. [Original]
DOI: 10.1016/j.jddst.2016.09.006
Impact Factor: 0.620

3. Masimirembwa C, **Dandara C**, Leutscher PD. Rolling out efavirenz for HIV precision medicine in Africa: Are we ready for pharmacovigilance and tackling neuropsychiatric adverse effects? OMICS: A Journal of Integrative Biology. 2016 Sep 14. [Review]
DOI: 10.1089/omi.2016.0120
Impact Factor: 2.896

4. **Vania L**, **Chetty CJ**, **Ferreira E**, **Weiss SF**. Anti-LRP/LR specific antibody IgG1-iS18 significantly impedes adhesion and invasion in early and late stage colorectal carcinoma cells. Molecular Medicine (Cambridge, Mass). 2016 Sep; 22. [Original]
DOI: 10.2119/molmed.2016.00169
Impact Factor: 3.530

5. RESEARCH UNITS WITH NO QUALIFYING PUBLICATIONS

Intramural

- Environment and Health
- Gender and Health
- HIV Prevention
- MRC Office of AIDS
- MRC Office of Cancer
- MRC Office of Malaria
- Primate

Extramural

- Bioinformatics Capacity Development
- Child and Adolescent Lung Health
- Common Epithelial Cancer
- Developmental Pathways for Health
- Diarrhoeal Pathogens
- Drug Discovery and Development
- Gynaecological Cancer
- Health Services to Systems
- Herbal Drugs
- Human Genetics
- Maternal and Infant Health Care Strategies
- Medical Imaging
- Microbial Water Quality Monitoring
- Prospective Gastrointestinal Cancer
- Receptor Biology
- Respiratory and Meningeal Pathogens

6. GRANTS AWARDED

SAMRC LIST OF NEW CONTRACTS FOR SEPTEMBER 2016				
SAMRC Unit	**Funder**	**Project Title/Description**	**Contract Value**	
			Rand	**Foreign Currency**
Health Systems	World Health Organisation (WHO)	To develop a Health System Research Synthesis Reader to address the challenges and advances related to producing reviews and using HSR synthesis findings in decision making cycles	132 000	$10 000
		To build on two years of work by the South African Initiative for Systems Reviews on Health Policies and Systems, which has successfully managed reviews and developed capacity for undertaking reviews in South Africa.	2 392 200	$180 000
			2 524 200	-

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