CELEBRATES SCIENCE

SEPTEMBER 2017
TOP 5 ARTICLES

Director: Prof Lynette Denny

Article:

Denny L. Nine-valent human papillomavirus vaccine: Great science, but will it save lives? Lancet. 2017 Sep 05.
DOI: 10.1016/s0140-6736(17)32144-x
Impact Factor: 47.831

Summary:
In The Lancet, Warner K Huh and colleagues1 report their final analysis of a randomised, double-blind trial of 14 215 women, aged 16–26 years, testing the quadrivalent human papillomavirus (qHPV; HPV types 6, 11, 16, and 18) vaccine compared with the nine-valent HPV (9vHPV; HPV types 6, 11, 16, 18, 31, 33, 45, 52, and 58) vaccine. The women were recruited from 105 study sites located in 18 countries and received vaccination on day 1 and months 2 and 6. The 9vHPV vaccine consists of virus-like particles of HPV 6, 11, 16, and 18 (as found in the qHPV vaccine) and an additional five types, HPV 31, 33, 45, 52, and 58, combined with the adjuvant amorphous aluminium hydroxyphosphate sulphate.
Article:
DOI: 10.1073/pnas.1708125114
Impact Factor: 9.661

Summary:
Interleukin-4 (IL-4)-induced T helper (Th) 2 cells promote susceptibility to the protozoan parasite Leishmania major, while conferring immunity to the intestinal trematode Schistosoma mansoni. Here, we report that abrogation of IL-4 receptor alpha (IL-4Rα) signaling on B cells in BALB/c mice (mb1 creIL-4Rα-/lox) transformed nonhealer BALB/c to a healer phenotype with an early type 1 and dramatically reduced type 2 immune response and an absence of ulceration and necrosis during cutaneous leishmaniasis. From adoptive reconstitution and mixed bone-marrow chimera studies in B cell-deficient (µMT) mice, we reveal a central role for B cell-derived IL-4 and IL-4Rα in the optimal induction of the susceptible type 2 phenotype to L. major infection. We further demonstrate that the absence of IL-4Rα signaling on B cells exacerbated S. mansoni-induced mortality and pathology in BALB/c mice, due to a diminished type 2 immune response. In both disease models, IL-4Rα-responsive B cells displayed increased IL-4 production as early as day 1 after infection. Together, these results demonstrate that IL-4-producing and IL-4Rα-responsive B cells are critical in regulating and assisting early T helper dichotomy toward Th2 responses, which are detrimental in cutaneous leishmaniasis but beneficial in acute schistosomiasis.
Article:
DOI: 10.1371/journal.pmed.1002381
Impact Factor: 8.389

Summary:
Background: Understanding the past-year prevalence of male-perpetrated Intimate Partner Violence (IPV) and risk factors is essential for building evidence-based prevention and monitoring progress to Sustainable Development Goal (SDG) 5.2, but so far, population-based research on this remains very limited. The objective of this study is to compare the population prevalence rates of past-year male-perpetrated IPV and non-partner rape from women's and men's reports across 4 countries in Asia and the Pacific. A further objective is to describe the risk factors associated with women's experience of past-year physical or sexual IPV from women's reports and factors driving women's past-year experience of partner violence.

Methods and Findings: This paper presents findings from the United Nations Multi-country Study on Men and Violence in Asia and the Pacific. In the course of this study, in population-based cross-sectional surveys, 5,206 men and 3,106 women aged 18-49 years were interviewed from 4 countries: Cambodia, China, Papua New Guinea (PNG), and Sri Lanka. To measure risk factors, we use logistic regression and structural equation modelling to show pathways and mediators. The analysis was not based on a written plan, and following a reviewer's comments, some material was moved to supplementary files and the regression was performed without variable elimination. Men reported more lifetime perpetration of IPV (physical or sexual IPV range 32.5%-80%) than women did experience (physical or sexual IPV range 27.5%-67.4%), but women's reports of past-year experience (physical or sexual IPV range 8.2%-32.1%) were not very clearly different from men's (physical or sexual IPV range 10.1%-34.0%). Women reported much more emotional/economic abuse (past-year ranges 1.4%-5.7% for men and 4.1%-27.7% for women). Reports of non-partner rape were similar for men (range 0.8%-1.9% in the past year) and women (range 0.4%-2.3% in past year), except in Bougainville, where they were higher for men (11.7% versus 5.7%). The risk factor modelling shows 4 groups of variables to be important in experience of past-year sexual and/or physical IPV: (1) poverty, (2) all childhood trauma, (3) quarrelling and women's limited control in relationships, and (4) partner factors (substance abuse, unemployment, and infidelity). The population attributable fraction (PAF) was largest for quarrelling often, but the second greatest PAF
was for the group related to exposure to violence in childhood. The relationship control variable group had the third highest PAF, followed by other partner factors. Currently married women were also more at risk. In the structural model, a resilience pathway showed less poverty, higher education, and more gender-equitable ideas were connected and conveyed protection from IPV. These are all amenable risk factors. This research was cross-sectional, so we cannot be sure of the temporal sequence of exposure, but the outcome being a past-year measure to some extent mitigates this problem.

**Conclusions:** Past-year IPV indicators based on women's reported experience that were developed to track SDG 5 are probably reasonably reliable but will not always give the same prevalence as may be reported by men. Report validity requires further research. Interviews with men to track past-year non-partner rape perpetration are feasible and important. The findings suggest a range of factors are associated with past-year physical and/or sexual IPV exposure; of particular interest is the resilience pathway suggested by the structural model, which is highly amenable to intervention and explains why combining economic empowerment of women and gender empowerment/relationship skills training has been successful. This study provides additional rationale for scaling up violence prevention interventions that combine economic and gender empowerment/relationship skills building of women, as well as the value of investing in girls' education with a view to long-term violence reduction.
Summary
Epidemiological studies have shown the adverse neuro-behavioral health effects of lead exposure among children, in particular. However, there is lack evidence in this regard from developing countries. The main aim of this study was to assess the association between Blood Lead Levels (BLLs) during early adolescence and violent behavior in late adolescence. Our study sample from the Birth to Twenty Plus cohort in Soweto-Johannesburg, South Africa included 1332 study participants (684 females). BLLs were measured using blood samples collected at age 13years. Violent behavior was evaluated using data collected at ages 15 to 16years using the Youth Self Report questionnaire. First, bivariate analysis was used to examine data for an association between lead exposure in early adolescence and violent behavior items during late adolescence. Principal Component Analysis (PCA) was used for dimensionality reduction and six violent behavior components were derived. Data were further analyzed for an association between BLLs at age 13years and violent behavior using PCA derived components; to determine the specific type(s) of violent behavior associated with lead exposure. Median whole BLLs were 5.6μg/dL (p<0.001). Seventy five percent of males and 50% of females had BLLs≥5μg/dL. BLLs ranging from 5 to 9.99μg/dL were associated with physical violence (p=0.03) and BLLs≥10μg/dL were associated physical violence and fighting (p=0.02 and p=0.01, respectively). When data were analyzed using continuous BLLs physical violence was associated with lead exposure (p<0.0001). Furthermore, males were more likely to be involved in violence using a weapon (p=0.01), physical violence (p<0.0001), and robbing others (p<0.05) compared to females. The results from this study show the severe nature of violent behavior in late adolescence associated with childhood lead exposure. They highlight the urgent need for preventive measures against lead exposure among children in low or middle-income countries such as South Africa.
Summary

Background: One target of the Sustainable Development Goals is to achieve "universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all". A fundamental concern of governments in striving for this goal is how to finance such a health system. This concern is very relevant for low-income countries.

Objectives: To provide an overview of the evidence from up-to-date systematic reviews about the effects of financial arrangements for health systems in low-income countries. Secondary objectives include identifying needs and priorities for future evaluations and systematic reviews on financial arrangements, and informing refinements in the framework for financial arrangements presented in the overview.

Methods: We searched Health Systems Evidence in November 2010 and PDQ-Evidence up to 17 December 2016 for systematic reviews. We did not apply any date, language, or publication status limitations in the searches. We included well-conducted systematic reviews of studies that assessed the effects of financial arrangements on patient outcomes (health and health behaviours), the quality or utilisation of healthcare services, resource use, healthcare provider outcomes (such as sick leave), or social outcomes (such as poverty, employment, or financial burden of patients, e.g. out-of-pocket payment, catastrophic disease expenditure) and that were published after April 2005. We excluded reviews with limitations important enough to compromise the reliability of the findings. Two overview authors independently screened reviews, extracted data, and assessed the certainty of evidence using GRADE. We prepared SUPPORT Summaries for eligible reviews, including key messages, 'Summary of findings' tables (using GRADE to assess the certainty of the evidence), and assessments of the relevance of findings to low-income countries.

Main Results: We identified 7272 reviews and included 15 in this overview, on: collection of funds (2 reviews), insurance schemes (1 review), purchasing of services (1 review), recipient incentives (6 reviews), and provider incentives (5 reviews). The reviews were published between 2008 and 2015; focused on 13 subcategories; and reported results from 276 studies: 115 (42%) randomised trials, 11 (4%) non-randomised trials, 23 (8%) controlled before-after studies, 51 (19%) interrupted time series, 9 (3%) repeated measures, and 67 (24%) other non-randomised studies. Forty-three per
cent (119/276) of the studies included in the reviews took place in low- and middle-income countries. Collection of funds: the effects of changes in user fees on utilisation and equity are uncertain (very low-certainty evidence). It is also uncertain whether aid delivered under the Paris Principles (ownership, alignment, harmonisation, managing for results, and mutual accountability) improves health outcomes compared to aid delivered without conforming to those principles (very low-certainty evidence). Insurance schemes: community-based health insurance may increase service utilisation (low-certainty evidence), but the effects on health outcomes are uncertain (very low-certainty evidence). It is uncertain whether social health insurance improves utilisation of health services or health outcomes (very low-certainty evidence). Purchasing of services: it is uncertain whether increasing salaries of public sector healthcare workers improves the quantity or quality of their work (very low-certainty evidence). Recipient incentives: recipient incentives may improve adherence to long-term treatments (low-certainty evidence), but it is uncertain whether they improve patient outcomes. One-time recipient incentives probably improve patient return for start or continuation of treatment (moderate-certainty evidence) and may improve return for tuberculosis test readings (low-certainty evidence). However, incentives may not improve completion of tuberculosis prophylaxis, and it is uncertain whether they improve completion of treatment for active tuberculosis. Conditional cash transfer programmes probably lead to an increase in service utilisation (moderate-certainty evidence), but their effects on health outcomes are uncertain. Vouchers may improve health service utilisation (low-certainty evidence), but the effects on health outcomes are uncertain (very low-certainty evidence). Introducing a restrictive cap may decrease use of medicines for symptomatic conditions and overall use of medicines, may decrease insurers' expenditures on medicines (low-certainty evidence), and has uncertain effects on emergency department use, hospitalisations, and use of outpatient care (very low-certainty evidence). Reference pricing, maximum pricing, and index pricing for drugs have mixed effects on drug expenditures by patients and insurers as well as the use of brand and generic drugs. Provider incentives: the effects of provider incentives are uncertain (very low-certainty evidence), including: the effects of provider incentives on the quality of care provided by primary care physicians or outpatient referrals from primary to secondary care, incentives for recruiting and retaining health professionals to serve in remote areas, and the effects of pay-for-performance on provider performance, the utilisation of services, patient outcomes, or resource use in low-income countries.

Authors’ Conclusions: Research based on sound systematic review methods has evaluated numerous financial arrangements relevant to low-income countries, targeting different levels of the health systems and assessing diverse outcomes. However, included reviews rarely reported social outcomes, resource use, equity impacts, or undesirable effects. We also identified gaps in primary research because of uncertainty about applicability of the evidence to low-income countries. Financial arrangements for which the effects are uncertain include external funding (aid), caps and co-payments, pay-for-performance, and provider incentives. Further studies evaluating the effects of these arrangements are needed in low-income countries. Systematic reviews should include all outcomes that are relevant to decision-makers and to people affected by changes in financial arrangements.
Summary

**Background:** Tuberculous pericarditis can impair the heart's function and cause death; long term, it can cause the membrane to fibrose and constrict causing heart failure. In addition to antituberculous chemotherapy, treatments include corticosteroids, drainage, and surgery.

**Objectives:** To assess the effects of treatments for tuberculous pericarditis.

**Search Methods:** We searched the Cochrane Infectious Diseases Group Specialized Register (27 March 2017); the Cochrane Central Register of Controlled Trials (CENTRAL), published in the Cochrane Library (2017, Issue 2); MEDLINE (1966 to 27 March 2017); Embase (1974 to 27 March 2017); and LILACS (1982 to 27 March 2017). In addition we searched the metaRegister of Controlled Trials (mRCT) and the World Health Organization (WHO) International Clinical Trials Registry Platform (ICTRP) search portal using 'tuberculosis' and 'pericard*' as search terms on 27 March 2017. We searched ClinicalTrials.gov and contacted researchers in the field of tuberculous pericarditis. This is a new version of the original 2002 review.

**Selection Criteria:** We included randomized controlled trials (RCTs) and quasi-RCTs.

**Data Collection and Analysis:** Two review authors independently screened search outputs, evaluated study eligibility, assessed risk of bias, and extracted data; and we resolved any discrepancies by discussion and consensus. One trial assessed the effects of both corticosteroid and Mycobacterium indicus pranii treatment in a two-by-two factorial design; we excluded data from the group that received both interventions. We conducted fixed-effect meta-analysis and assessed the certainty of the evidence using the GRADE approach.

**Main Results:** Seven trials met the inclusion criteria; all were from sub-Saharan Africa and included 1959 participants, with 1051/1959 (54%) HIV-positive. All trials evaluated corticosteroids and one each evaluated colchicine, M. indicus pranii immunotherapy, and open surgical drainage. Four trials (1841 participants) were at low risk of bias, and three trials (118 participants) were at high risk of bias. In people who are not infected with HIV, corticosteroids may reduce deaths from all causes (risk ratio (RR) 0.80, 95% confidence interval (CI) 0.59 to 1.09; 660 participants, 4 trials, low certainty evidence) and the need for repeat pericardiocentesis (RR 0.85, 95% CI 0.70 to 1.04; 492...
participants, 2 trials, low certainty evidence). Corticosteroids probably reduce deaths from pericarditis (RR 0.39, 95% CI 0.19 to 0.80; 660 participants, 4 trials, moderate certainty evidence). However, we do not know whether or not corticosteroids have an effect on constriction or cancer among HIV-negative people (very low certainty evidence). In people living with HIV, only 19.9% (203/1959) were on antiretroviral drugs. Corticosteroids may reduce constriction (RR 0.55, 0.26 to 1.16; 575 participants, 3 trials, low certainty evidence). It is uncertain whether corticosteroids have an effect on all-cause death or cancer (very low certainty evidence); and may have little or no effect on repeat pericardiocentesis (RR 1.02, 0.89 to 1.18; 517 participants, 2 trials, low certainty evidence). For colchicine among people living with HIV, we found one small trial (33 participants) which had insufficient data to make any conclusions about any effects on death or constrictive pericarditis. Irrespective of HIV status, due to very low certainty evidence from one trial, it is uncertain whether adding M. indicus pranii immunotherapy to antituberculous drugs has an effect on any outcome. Open surgical drainage for effusion may reduce repeat pericardiocentesis in HIV-negative people (RR 0.23, 95% CI 0.07 to 0.76; 122 participants, 1 trial, low certainty evidence) but may make little or no difference to other outcomes. We did not find an eligible trial that assessed the effects of open surgical drainage in people living with HIV. The review authors found no eligible trials that examined the length of antituberculous treatment needed nor the effects of other adjunctive treatments for tuberculous pericarditis.

**Authors' Conclusions:** For HIV-negative patients, corticosteroids may reduce death. For HIV-positive patients not on antiretroviral drugs, corticosteroids may reduce constriction. For HIV-positive patients with good antiretroviral drug viral suppression, clinicians may consider the results from HIV-negative patients more relevant. Further research may help evaluate percutaneous drainage of the pericardium under local anaesthesia, the timing of pericardiectomy in tuberculous constrictive pericarditis, and new antibiotic regimens.
Summary
Background: Strategies to reduce the risk of mother-to-child transmission of the Human Immunodeficiency Virus (HIV) include lifelong Antiretroviral Therapy (ART) for HIV-positive women, exclusive breastfeeding from birth for six weeks plus nevirapine or replacement feeding plus nevirapine from birth for four to six weeks, elective Caesarean section delivery, and avoiding giving children chewed food. In some settings, these interventions may not be practical, feasible, or affordable. Simple, inexpensive, and effective interventions (that could potentially be implemented even in the absence of prenatal HIV testing programmes) would be valuable. Vitamin A, which plays a role in immune function, is one low-cost intervention that has been suggested in such settings.

Objectives: To summarize the effects of giving vitamin A supplements to HIV-positive women during pregnancy and after delivery.

Search Methods: We searched the Cochrane Central Register of Controlled Trials (CENTRAL), PubMed, Embase, and the World Health Organization International Clinical Trials Registry Platform (WHO ICTRP) up to 29 August 2017, and checked the reference lists of relevant articles for eligible studies.

Selection Criteria: We included randomized controlled trials conducted in any setting that compared vitamin A supplements to placebo or no intervention among HIV-positive women during pregnancy or after delivery, or both.

Data Collection and Analysis: At least two review authors independently assessed study eligibility and extracted data. We expressed study results as Risk Ratios (RR) or Mean Differences (MD) as appropriate, with their 95% Confidence Intervals (CI), and conducted random-effects meta-analyses. This is an update of a review last published in 2011.

Main Results: Five trials met the inclusion criteria. These were conducted in Malawi, South Africa, Tanzania, and Zimbabwe between 1995 and 2005 and none of the participants received ART. Women allocated to intervention arms received vitamin A supplements at a variety of doses (daily during pregnancy; a single dose immediately after delivery, or daily doses during pregnancy plus a single dose after delivery). Women allocated to comparison arms received identical placebo (6601
women, 4 trials) or no intervention (697 women, 1 trial). Four trials (with 6995 women) had low risk of bias and one trial (with 303 women) had high risk of attrition bias. The trials show that giving vitamin A supplements to HIV-positive women during pregnancy, the immediate postpartum period, or both, probably has little or no effect on mother-to-child transmission of HIV (RR 1.07, 95% CI 0.91 to 1.26; 4428 women, 5 trials, moderate certainty evidence) and may have little or no effect on child death by two years of age (RR 1.06, 95% CI 0.92 to 1.22; 3883 women, 3 trials, low certainty evidence). However, giving vitamin A supplements during pregnancy may increase the mean birthweight (MD 34.12 g, 95% CI -12.79 to 81.02; 2181 women, 3 trials, low certainty evidence) and probably reduces the incidence of low birthweight (RR 0.78, 95% CI 0.63 to 0.97; 1819 women, 3 trials, moderate certainty evidence); but we do not know whether vitamin A supplements affect the risk of preterm delivery (1577 women, 2 trials), stillbirth (2335 women, 3 trials), or maternal death (1267 women, 2 trials).

**Authors’ Conclusions:** Antepartum or postpartum vitamin A supplementation, or both, probably has little or no effect on Mother-To-Child transmission of HIV in women living with HIV infection and not on antiretroviral drugs. The intervention has largely been superseded by ART which is widely available and effective in preventing vertical transmission.
1. **INTRAMURAL RESEARCH UNITS**

**Alcohol, Tobacco and Other Drug**

   DOI: 10.1186/s12905-017-0447-2
   **Impact Factor: 1.572**

   DOI: 10.1080/08897077.2017.1380743
   **Impact Factor: 2.655**

   DOI: 10.1007/s10461-017-1917-0
   **Impact Factor: 2.916**

**Biomedical Research and Innovation Platform**

   DOI: 10.1055/s-0043-119463
   **Impact Factor: 2.342**

   DOI: 10.3390/molecules22101589
   **Impact Factor: 2.861**

**Biostatistics**

   DOI: 10.3390/ijerph14091072
   **Impact Factor: 2.101**

   DOI: 10.3389/fimmu.2017.01104
   **Impact Factor: 6.429**
Environment and Health
DOI: 10.1016/j.scitotenv.2017.08.138
Impact Factor: 4.900

DOI: 10.1016/j.envint.2017.09.004
Impact Factor: 7.088

DOI: 10.3390/ijerph14101142
Impact Factor: 2.101

Gender and Health
DOI: 10.1136/bmjopen-2017-017296
Impact Factor: 2.369

DOI: 10.1371/journal.pmed.1002381
Impact Factor: 8.389

DOI: 10.1080/02533952.2017.1348039
Impact Factor: 0.524

Health Systems
DOI: 10.1097/qai.0000000000001458
Impact Factor: 3.935
   **Impact Factor: 2.265**

   **Impact Factor: 6.264**

   **Impact Factor: 6.264**

   **Impact Factor: 6.264**

**HIV Prevention**

   **Impact Factor: None**

**Non-Communicable Disease**

   **Impact Factor: 47.831**

   **Impact Factor: 47.831**
   **Impact Factor: 47.831**

   **Impact Factor: 47.831**

5. Matsungo TM, Kruger HS, Faber M, Rothman M, Smuts CM. The prevalence and factors associated with stunting among infants aged 6 months in a peri-urban South African community. Public Health Nutrition. 2017 Sep 07. DOI: 10.1017/s1368980017002087
   **Impact Factor: 2.326**

   **Impact Factor: 2.806**

   **Impact Factor: 47.831**

   **Impact Factor: 5.168**

   **Impact Factor: 3.086**

    **Impact Factor: 1.731**
   **Impact Factor:** 3.314

   DOI: 10.11604/pamj.cp.2017.2.31.65
   **Impact Factor:** None

   DOI: 10.11604/pamj.cp.2017.2.33.67
   **Impact Factor:** None

**South African Cochrane Centre**

   DOI: 10.1186/s12961-017-0243-3
   **Impact Factor:** 2.271

   DOI: 10.1002/14651858.CD011084.pub2
   **Impact Factor:** 6.264

   DOI: 10.1002/14651858.CD000526.pub2
   **Impact Factor:** 6.264

   DOI: 10.1002/14651858.CD003648.pub4
   **Impact Factor:** 6.264

   DOI: 10.1136/bmjopen-2016-015815
   **Impact Factor:** 2.369
2. EXTRAMURAL RESEARCH UNITS

Child and Adolescent Lung Health
   DOI: 10.1016/s0140-6736(17)30879-6
   Impact Factor: 47.831

   DOI: 10.1007/s00247-017-3910-1
   Impact Factor: 1.465

Common Epithelial Cancer
   DOI: 10.18632/oncotarget.21278
   Impact Factor: 5.168

Developmental Pathways for Health
   DOI: 10.1017/s204017441700071x
   Impact Factor: 2.070

   DOI: 10.1017/s204017441700068x
   Impact Factor: 2.070

Drug Discovery and Development
   DOI: 10.1016/j.fitote.2017.09.001
   Impact Factor: 2.698

Gynaecological Cancer
   DOI: 10.1016/s0140-6736(17)32144-x
   Impact Factor: 47.831
**Health Services to Systems**

   DOI: 10.1186/s12939-017-0565-3  
   **Impact Factor:** 1.738

**HIV/TB Pathogenesis and Treatment**

   DOI: 10.1016/j.tube.2017.09.005  
   **Impact Factor:** 2.873

   DOI: 10.1371/journal.pone.0184124  
   **Impact Factor:** 2.806

   DOI: 10.1136/bmjopen-2017-017507  
   **Impact Factor:** 2.369

**Hypertension and Cardiovascular Disease**

   DOI: 10.1016/j.ijcard.2017.08.070  
   **Impact Factor:** 6.189

   DOI: 10.3390/ijerph14091089  
   **Impact Factor:** 2.101

**Immunology of Infectious Disease**

   DOI: 10.1093/jac/dkx326  
   **Impact Factor:** 5.071

Impact Factor: 9.661

**Microbial Water Quality Monitoring**


Impact Factor: 2.101

**Molecular Mycobacteriology**


Impact Factor: 4.302

**Prospective Gastrointestinal Cancer**


Impact Factor: 47.831


Impact Factor: 26.284

**Respiratory and Meningeal Pathogens**


Impact Factor: 3.235


DOI: 10.1007/s00247-017-3834-9

Impact Factor: 1.465
Risk and Resilience in Mental Disorders

   **Impact Factor:** 6.347

   **Impact Factor:** 13.204

Rural Public Health and Health Transition

   **Impact Factor:** 5.019

   **Impact Factor:** 3.935

   **Impact Factor:** None

3. GRANT FUNDED RESEARCH

   **Impact Factor:** 2.265

   **Impact Factor:** 1.241
   **Impact Factor:** 4.798

   **Impact Factor:** 6.294

   **Impact Factor:** 3.712

   **Impact Factor:** None
4. **RESEARCH UNITS WITH NO QUALIFYING PUBLICATIONS**

**Intramural**
- Burden of Disease
- Centre for Tuberculosis
- Office of AIDS
- Office of Cancer
- Office of Malaria
- Office of Tuberculosis
- Primate
- Violence, Injury and Peace

**Extramural**
- Antiviral Gene Therapy
- Bioinformatics Capacity Development
- Diarrhoeal Pathogens
- Herbal Drugs
- Human Genetics
- Maternal and Infant Health Care Strategies
- Receptor Biology
- Stem Cell Research and Therapy

**Research Centres**
- Advancing Care and Treatment (ACT) for TB/HIV
- Centre for Basic and Translational Human TB Research
- Centre for Tuberculosis Biomarker-Targeted Intervention
- Clinical and Community HIV-Tuberculosis Research Collaborating Centre
- Soweto Matlosana SAMRC Collaborating Centre for HIV/AIDS and TB
- TB Free through Research and Innovation
- Tuberculosis Collaborating Centre for Child Health (TB-CHILD)
- Tygerberg SAMRC Collaborating centre for HIV Laboratory Research
- UCT Collaborating Centre for Optimising Antimalarial Therapy in South Africa
- UP Centre for Sustainable Malaria Control
- Wits Clinical HIV/TB Research Unit, WITS Health Consortium
- Wits Collaborating Centre for Multi-disciplinary Research on Malaria
- Wits RHI Collaborating Centre for HIV/AIDS
## 1. GRANTS AWARDED

<table>
<thead>
<tr>
<th>SAMRC Unit</th>
<th>Funder</th>
<th>Main Funder</th>
<th>Project Title/Description</th>
<th>Contract Value</th>
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<tr>
<td>ATODRU</td>
<td>RTI</td>
<td>NIH</td>
<td>Integrating comprehensive gender specific HCT in community centres</td>
<td>Rand 33,044,193 $225,591</td>
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<tr>
<td>HSRU</td>
<td>WHO</td>
<td>WHO</td>
<td>A Proof of concept feasibility study of an outreach mentorship approach for disseminating the updated 2016 WHO HIV and infant feeding guidelines</td>
<td>Rand 2,024,145 $150,000</td>
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