

# A 54 year analysis of articles from Mpilo Central Hospital, Bulawayo, Zimbabwe - 168 articles cited 999 times.

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## Abstract

PubMed and Google Scholar were searched to obtain articles originating from Mpilo Central Hospital, Bulawayo, Zimbabwe - 1958 to August 2011 (54 years). 168 articles cited 999 times were retrieved giving about 6 citations per article. Analysis of publication trends over time as well as publication avenues is made. The full research dataset for this study is shared. This study adds to the body of knowledge on teaching hospital research performance assessment particularly in low-income settings, a topic with few studies. Africa needs data on research.

## Introduction

The contribution of Africa, which is generally composed of low- and middle-income countries (LMICs), to global biomedical research is restricted<sup>1</sup>. Several reasons exist for this scenario including limited scientific writing technical ability, English not being a primary language, minimal or no funding of research by local and national bodies, overwhelming teaching burden, bias from high income country editors, editorial boards, publishers against LMICs researchers, journals, LMICs journals not being indexed in global databases<sup>2</sup>. Scientific publications play an important role in the scientific process providing a key linkage between knowledge production and use<sup>1,3</sup>.

Mpilo African Hospital, a teaching hospital, was opened in August 1958 to cater predominantly for the indigenous population<sup>4</sup> the designation 'African' denoted the prevailing racial notions during the colonial era. Nowadays Mpilo Central Hospital is the largest among public or private hospitals in the city of Bulawayo, Zimbabwe's second city which is located about 440km South West of the capital Harare. The word Mpilo originates from the Ndebele language word for life – Mpilo is a public hospital. The dynamic growth of the hospital and its catchment area has been previously documented elsewhere<sup>4,5</sup>.

Here, focus is on characterization of the scholarly output from Mpilo Central Hospital as measured by the analysis of articles retrieved by searching PubMed and Google Scholar<sup>6</sup>.

## Search strategy and selection criteria

PubMed and Google Scholar were searched with the term "Mpilo". The search included English language articles from the first retrieved article published in 1958 up to the latest article published in August 2011. Use of a personal database of articles was also made. Selection criteria for the articles was that at least one of the authors was affiliated with Mpilo Central Hospital or in the researcher's opinion significant data had been obtained from Mpilo Central Hospital. Number of citations to an article was obtained from Google Scholar.

## Results

A total of 168 articles (166 journal articles and a conference abstract and a poster) were identified using the above mentioned search strategy and selection criteria. Article types included letters, case reports/series, and so on but no randomized controlled trials. Various specialties were represented including, internal medicine, paediatrics, obstetrics and gynaecology, general surgery, urology,

neurosurgery, ear nose and throat, radiology, oncology.

A pattern was observed, where two 'peaks' in publication occurred, one before Zimbabwe's independence in 1980 and the other peak after independence (Figure 1). The time period around independence was characterized by paucity of publications. 39% of the articles were published in a local (Zimbabwean) journal, the Central African Medical Journal. 54% of the published articles appeared in five of 61 publication avenues (Table 1).

The 168 articles were cited a total of 999 times giving about 6 citations per article. The most cited paper was a 1997 paediatrics paper "Pulmonary manifestations in HIV seropositivity and malnutrition in Zimbabwe." by Ikeogu MO and colleagues which was cited 89 times (Table 2). Several articles from Mpilo Central Hospital have been published in top tier journals, for example a recent article in the New England Journal of Medicine<sup>7</sup>.

The full research dataset for this study is shared (Supplementary appendix – available from author), which shows that most of the scholarly output from Mpilo Central Hospital reported little external funding.



Figure 1. Number of publications from Mpilo Central Hospital per year from 1958 – August 2011, showing two distinct 'peaks' in publication (before and after Zimbabwe's independence).

Table 1. Top five publications in which articles from Mpilo Central Hospital were published 1958 – August 2011

Rank	Publication avenue (n = 61)	Number of articles (n = 168)	Percentage of total articles*
1	Central African Medical Journal	65	39%
2	Journal of the Royal College of Surgeons of Edinburgh	9	5%
3	Archives of Disease in Childhood	6	4%
3	British Medical Journal	6	4%
5	Clinical Radiology	5	3%
	<b>TOTAL</b>	<b>91</b>	<b>54%</b>

\*Rounded to the nearest percentage

Table 2. Top five cited articles from Mpilo Central Hospital 1958 – August 2011

Rank	Article title and year published	Number of citations (n = 999)	Percentage of total citations*
1	Pulmonary manifestations in HIV seropositivity and malnutrition in Zimbabwe, 1997 [8]	89	9%
2	Haemolytic-Uraemic Syndrome in Typhoid Fever, 1974 [9]	68	7%
3	Systemic lupus erythematosus in Zimbabwe, 1986 [10]	47	5%
4	Clinical and Therapeutic Aspects of Kerosene Poisoning: A Series of 200 Cases, 1964 [11]	37	4%
5	Relationship between bladder cancer incidence, Schistosoma haematobium infection, and geographical region in Zimbabwe, 1990 [12]	33	3%
	<b>TOTAL</b>	<b>274</b>	<b>27%</b>

\*Rounded to the nearest percentage

## Discussion

Consistent with findings by other workers, Mpilo Central Hospital (MCH) like the whole of Zimbabwe experienced a downturn in the number of publications between 1995 and 2004<sup>13</sup>. The waning Zimbabwean economic situation during these years and beyond<sup>14</sup> is reflected in the declining number of publications emerging from MCH during this time period to the present day. Similarly, around Zimbabwe's independence in 1980 – a time of significant sociopolitical change - there were few papers published from MCH. These aforementioned publication trends highlight the predictable circumstance that research output is related to the prevailing social, economic and political climate.

Zimbabwe is among the southern African countries at the epicenter of the HIV pandemic, its HIV prevalence in those aged 15-49 years old has been above 10% from 1990 to the time of writing; the HIV prevalence has been declining from a peak of 26.5% in 1997 and that downward trend has continued ever since<sup>15</sup>. The most cited paper from MCH was in the area of HIV<sup>8</sup> showing that important and relevant local research is performed to address local pressing health challenges. Furthermore, about 40% of MCH articles were published in a Zimbabwean journal thereby presumably closely coupling local scientific knowledge production and use.

There are few published studies that specifically assess the institutional research performance of teaching hospitals despite the results of such studies being essential for formulating, reviewing, and improving institutional research policies that strengthen and promote institutional growth<sup>16</sup>. This study adds to the body of knowledge on teaching hospital research performance assessment, particularly in low-income settings. Africa needs data on research<sup>17</sup>. Dearth of similar studies makes comparison difficult.

The full research dataset is shared in order for others to make fuller use of the results and also to save them time and effort<sup>18</sup>. Several medical text books have an author based at MCH; these books were not identified by the search strategy and selection criteria and were hence excluded in the analysis which is a limitation in assessing MCH's scholarly output. A representative text book is cited here<sup>19</sup>.

Also not revealed by the search technique and not included in the analysis is a series of articles<sup>20,21,22</sup>. The author of these articles – to a significant extent - used her experiences at MCH to draw conclusions about Zimbabwe's health system.

## Conclusion

This study adds to the body of knowledge on teaching hospital research performance assessment particularly in low-income settings, a topic with few studies.

## Conflict of interest

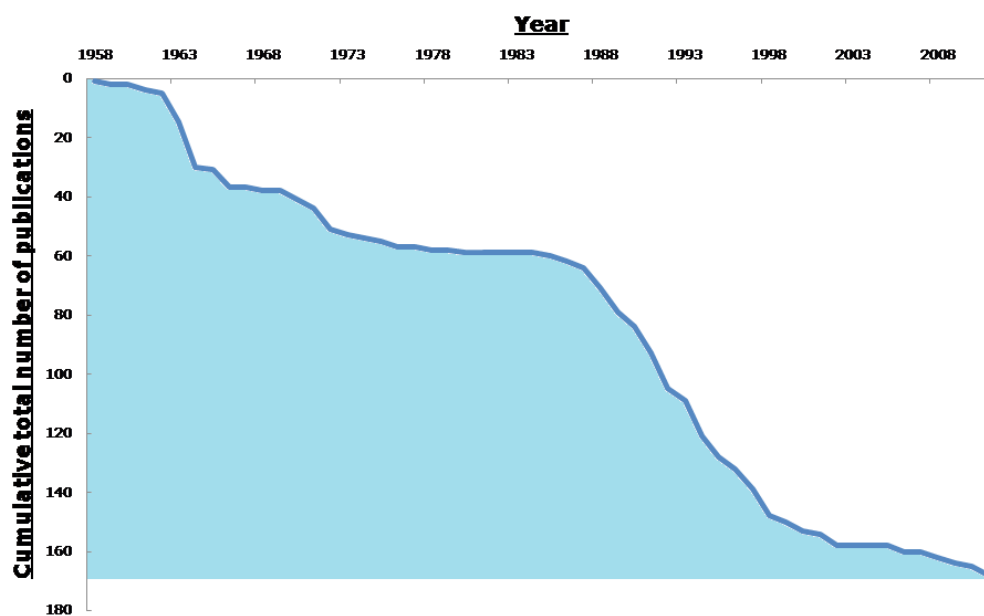
GM is an employee of Mpilo Central Hospital.

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**Figure 2.** Cumulative total number of publications from Mpilo Central Hospital per year from 1958 – August 2011. The figure resembles the side view of a mountain, the steeper the gradient the higher the number of publications.

Masukume G. A 54 year analysis of articles from Mpilo Central Hospital, Bulawayo, Zimbabwe - 168 articles cited 999 times: a short report. *Malawi Med J* 2012.