



Outcomes From a Free Access Partnership: HINARI Impact after Nine Years

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Abstract:

Partnerships to accomplish any goal remain viable if all involved feel like the partnership objectives are being accomplished. HINARI (Health Access to Research programme) was conceived in early 2001 to offer developing country institutions free or nominal-cost access to the world's biomedical literature. Initially, HINARI was a partnership of six major commercial publishers and the World Health Organization. Eight years later, HINARI is one of three sister programs, and the partnership has grown to include three United Nations agencies/programmes, Yale and Cornell universities, more than 180 publishers of all varieties and scale, the International Association of STM Publishers, Microsoft Corporation, Ex Libris, and innumerable individuals and institutions who have become champions and ambassadors of the concept.

The impact of information access in the published literature can only be measured after a period of time, and HINARI and its sister programmes under the Research4Life umbrella have analyzed author and citation patterns to determine whether opening access to major scientific journals has made a difference in some of the poorest countries of the world. The audience will be asked to help speculate about external factors that may contribute to differences in measured outcomes in different countries.

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HINARI Impact after Nine Years

After almost ten years, we would expect to see outcomes from the availability of scholarly health information in developing countries. Even though the impact of information access in the published literature can only be measured after a period of time, ten years should be long enough to see some trends, if any trends are there to be seen. Of course, as soon as the question of outcomes and impacts are raised, and we look at possible indicators of those outcomes and impacts, a large number of new questions arise.

As part of the Millennium Development Goals milestone year of 2010, HINARI (health), AGORA (agriculture) and OARE (environment) under the collective umbrella name of Research4Life are reviewing aspects of the three programmes, including the user experience and the partnership infrastructure. Today we are looking at some of the issues and outcomes that arose during the impact component of this review process.

In designing the work of our outcomes analysis, we chose to keep relatively close to the output measures of the Research4Life programmes. Those output measures include how many journals are available to the users, how many countries are eligible for access, how many institutions in each country are registered for use, and so on. For our current outcomes analysis, we chose to examine literature impact indicators and selected four questions to explore:

1. Are researchers/authors in the Research4Life countries publishing more articles in international scholarly journals now than before the programmes were available?
2. Are researchers/authors in Research4Life countries citing more of the journals included in the programmes now than before the programmes were available?
3. Are the citations used by researchers/authors in Research4Life countries, in general, more current now than they were before the implementation of Research4Life programmes?
4. To what degree are other international researchers/authors citing works published in Research4Life programme countries and has the degree of citedness increased since the programmes were available?

As soon as a researcher begins exploring questions like these, other factors immediately complicate the picture. In 2009, one of the Research4Life partners took an initial quick look at authorship patterns in the Research4Life countries versus the rest of the world.

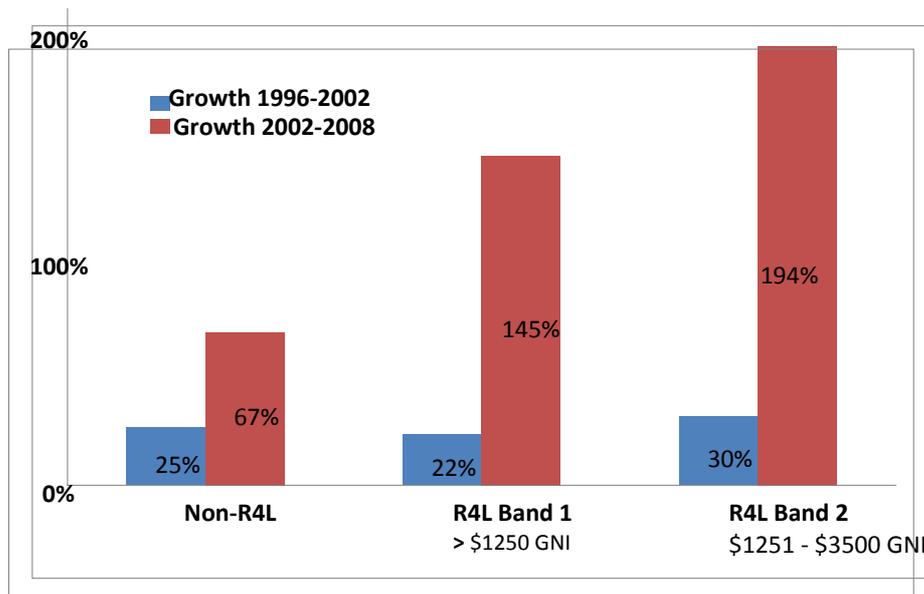


Figure 1: Growth in Authorship in Research4Life Band 1 and Band 2 Country Groups.

The results were quite exciting for us, of course, and then the follow-on questions began. No matter how much you may want to say that a single measure like growth of authors in a particular set of countries is the result of the availability of your programme, the reality is that the picture is much more complex than that.

What are some of the factors that can affect any measured changes in outcomes for literature impact questions such as those above?

First, there are external issues that may affect what happens in any particular country, or any particular institution in a country.

- Improvements in ICT (Information and Communication Technologies) - computer equipment, information management activities like virus protection, network structure, etc.
 - Bandwidth - whether increased through satellite availability, undersea cables, or institutional investments
- Coordinated investments in research or higher education in a country
- Political, labour or economic stability or instability
- A champion or champions promoting information use and research
- English language training - since English is a common scientific language¹, if a single institution or an entire country invests in English-language training this can have a significant impact on reading and authoring patterns

¹ Meyer P. The English Language: A Problem for the Non-Anglo-Saxon Scientific Community. *British Medical Journal*, 1975, 553-554.

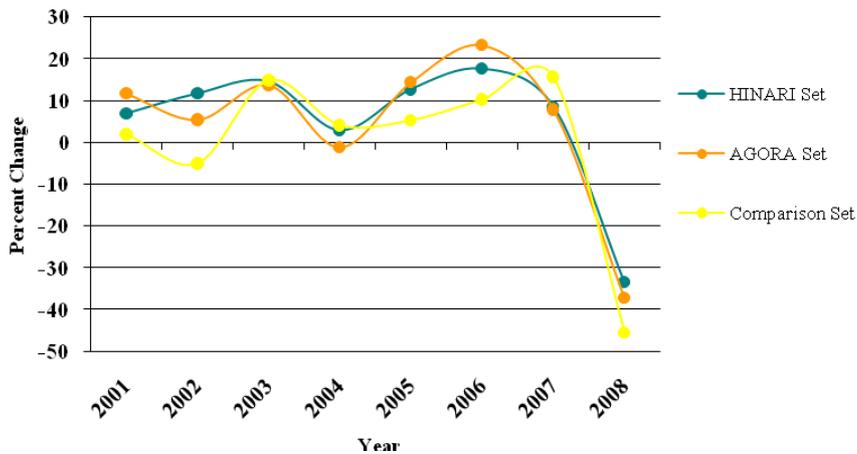


Figure 2: Percent Change in Frequency of Citations Made by Kenya Researchers

For example, the change over time in the number of citations made by Kenya researchers to the journals available in HINARI and AGORA slightly increased compared to the citations made to journals not available in the HINARI and AGORA programmes until 2007 and 2008 when everything decreased dramatically. It is very tempting to assign the decrease to the 2007-08 election turmoil in Kenya, but the downward trend started in 2007. Regardless of the reason, can anything be said with any assurance at all about the programme reference differences in this country, or have outside factors completely overwhelmed any analysis of impact of our programmes in this case.

Second, there are issues of access to the scientific literature from multiple sources.

- Other developing country initiative programmes - known major programmes, and unknown smaller ones
- Open Access generally - large international high profile and smaller local lower profile titles both have an impact
- One on one donor programs - reducing an analysis to individual institutions where you can attempt to identify and eliminate all other influences still will not avoid the problem where an unknown arrangement by a single benefactor changes the results
- Special sales offers at deeply discounted rates for which some of the wealthier institutions may have subscriptions

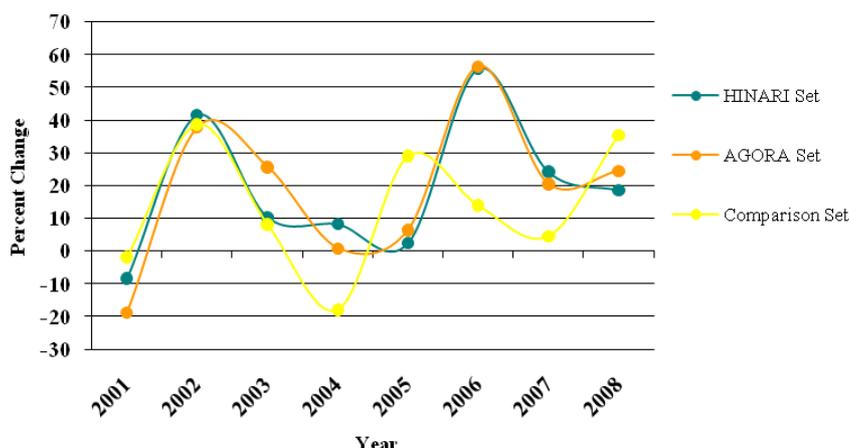


Figure 3: Percent Change in Frequency of Citations Made by Bolivia Researchers

In the case of Bolivia, we know that at least one other developing country programme is available in the country, with overlap of journals offered. This makes it very difficult to review changes in citations to "our" journals and be assured the impact is the result of the availability of HINARI or AGORA.

Examining situations where at least the initial numbers are extremely low complicates the analysis picture even further. In the case of Bolivia, we are counting around 500 references to the relevant journals during the year 2000 and approximately 2000 references in 2008. That is a four-fold increase overall, and yet if the initial number was 10,000 and it increased to 11,500, we would be discussing only a 15% increase.

If too many factors and low individual country numbers negate any effort at determining impact, looking for similar trends from several angles can create stronger proofs of causality. For this reason, we are exploring four questions in three areas, looking to see whether the resulting measures of impact can reinforce each other if the Research4Life programmes are having a measurable impact.

- Looking at the countries available in Research4Life (authors and citedness)
- Looking at the increase in currency
- Looking at the journals that are cited

As in the public health arena that HINARI hopes to improve, we are left with the imperfect science of looking for trends to emerge after inserting specific filters on the data that can be measured. At the end of the process, we can state with greater or lesser assurance that our work providing access to information is having an impact on the research output in developing countries as measured by the published literature. If we can confirm that much, it matters much less how the users access information, or indeed whether it was "our" information or someone else's. What matters is that users are provided as much access to relevant information as possible, and that we all go on trying to widen that information door in every way we can.