**English for Medical Students: Writing research articles in English**

**This week you should complete TWO sections on moodle, 04 Results and 05 Discussions. We will meet together as a class on 28th August to discuss your progress.**

**04 Developing academic literacies: The Results section**

These activities focus on the Results section of a typical research article. Research suggests that typically the Results section falls into one or two moves with possible steps, such as the following:

1. *Indicating Consistent Observation:*
	1. Highlighting overall observation.
	2. Indicating specific observations.
	3. Accounting for observations made.
2. *Indicating Non-Consistent Observations*

Not all of these moves and steps will be present in any given article (for example, all of the observations might be consistent with each other!), but they very often are. We will first look at how they are realised in the article whose introduction we read for the last session. The tables have been omitted but may be found in the original article if you wish to see them:

Rasella, D., Harhay, M. O., Pamponet, M. L., Aquino, R., & Barreto, M. L. (2014). Impact of primary health care on mortality from heart and cerebrovascular diseases in Brazil: a nationwide analysis of longitudinal data. *BMJ,* 349, g4014*.*

[http://www.bmj.com/content/349/bmj.g4014.full.pdf+html](http://www.bmj.com/content/349/bmj.g4014.full.pdf%2Bhtml)

1. Read the full section quickly and answer the following questions:
	1. Which of the two moves and steps are present in this article? In what order are they presented?
	2. Colour-code each move and step that you find, labelling each one.
	3. Note down any useful language. Add any particularly useful vocabulary to **Your Vocabulary** List on moodle.

**Results**

In the municipalities examined, the age standardised mortality rate for ambulatory care-sensitive conditions, according to the ICSAP list, decreased 32.7% in the group of cerebrovascular diseases and 44.6% in the group of heart diseases (table 1). From 2000 to 2009, the FHP coverage increased 227%. Socioeconomic conditions improved during the period, with the per capita income increasing 36.5% and the percentage of individuals living in households with inadequate sanitation decreasing 40.2%.

*[Table 1  Standardised mortality rates (SMR) and variables of 1622 selected municipalities in Brazil, 2000-09]*

Table 2 shows the crude and adjusted association of mortality from cardiovascular disease with annual FHP coverage levels. After adjustment, the cerebrovascular mortality rate was 14% lower with intermediate FHP coverage compared with no coverage and 18% lower with consolidated coverage (both statistically significant). The percentage reduction is obtained by subtracting from 100% the rate ratio estimated by the statistical model. For heart diseases the reduction was greater, reaching 21% with consolidated FHP coverage group and maintaining the statistical significance across all levels of FHP coverage. The FHP coverage had no effect on the mortality rate for accidents, used as control.

*[Table 2  Fixed effect negative binomial models for crude and adjusted association between standardised mortality rates and annual coverage with Family Health Program (FHP) in 1622 selected municipalities in Brazil, 2000-09]*

Table 3 presents the impact of average FHP coverage in each municipality over the past four, six, and eight years exhibiting a dose-response decrease in mortality rates with greater average FHP coverage in the previous years. The effect reached a maximum of a 31% decrease for cerebrovascular diseases and 36% for ischaemic and other forms of heart disease, and maintained statistical significance across all levels of FHP coverage. The differences between mortality rate ratio estimates for the annual (table 2) and four, six, and eight year FHP coverage (table 3) were statistically significant (confidence intervals not overlapping) for most comparisons and model specifications. As with the annual coverage models, the FHP coverage showed no effect on the mortality rate from accidents, regardless the level of coverage of the previous years.

*[Table 3  Fixed effect negative binomial models for adjusted association\* between standardised mortality rates and average coverage of Family Health Program (FHP) in 1622 selected municipalities in Brazil, 2000-09]*

The number of per capita health education activities performed in the community and the number of per capita domiciliary visits of health professionals and of medical consultations in primary care were positively associated with the average FHP coverage of the past eight years (table 4). The average FHP coverage over the past eight years was associated with a reduction in hospitalisation rates related to heart and cerebrovascular diseases, with a similar magnitude to that found in the mortality rates analysis (table 4).

*Table 4  Fixed effect negative binomial models for adjusted association\* between process variables, hospitalisation rates, and average coverage of Family Health Program (FHP) in past 8 years in 1622 selected municipalities in Brazil, 2000-07*

The difference-in-difference analysis using the years 2000 and 2009, performed to verify the robustness of the fixed effect regression findings, showed a strong and statistically significant effect of FHP, following the gradient of increased FHP coverage for both mortality rates (see appendix on bmj.com).

The FHP average treatment effect estimates obtained with the propensity score matching analysis and the FHP rate ratio estimates obtained with the fixed effects negative binomial regression models weighted for the propensity score—performed as further analyses of the robustness of the results—are similar and confirm the findings of the study. The detailed results and explanations of the methodology are available in the appendix.

As a final sensitivity analysis, we fitted our models using data from all Brazilian municipalities, which had on average a lower overall community socioeconomic status than the selected ones, and found similar and statistically significant results, with a mortality rate ratio for the effect of consolidated FHP coverage during the previous eight years of 0.78 (95% confidence interval 0.75 to 0.81) on ischaemic and other forms of heart disease mortality and 0.96 (0.94 to 0.99) on cerebrovascular disease mortality (see appendix table 5S).

1. Now return to the article that you chose on a topic that interests you.
	1. Read the Results section and do the same activities that you did for (1) above.
	2. Upload your colour-coded analysis to moodle by **26th August.**
2. Think of a piece of research that you have been involved with.
	1. Draft a brief Resuls section for an article about it.
	2. Upload your draft to the moodle site by **26th August**.
3. **By 26th August**, in the learning blog on moodle, write around 150-200 words in your learning blog, e.g. on the following topics:
* Useful language that you have noticed that is useful in:
	+ Describing results, in particular:
		- Indicating statistical increases and decreases
		- Describing non-consistent observations
* Questions/comments about how a Methods section should be drafted