SAMBA feedback

Progress:

- Target journal:
  - JN. Mathematics and Method section
  - Teresa Fung
- I used SAMBA to analyze all nutrients from 29 PSC datasets from BRINDA. I will use SAMBA to analyze another 23 WRA datasets. Where can I compare the results (lots of results published before were illustrated using figures. Is there a central location for the all the results?)
  - Pull from each paper - check the results (but not published)
  - Show examples - comments on discussion. Policy makers easy or appropriate to do (?)
  - Discussion: Quick/in standardized way.
- Independent testing. Qualitative feedback/Future/Discussion
  - **Trevor Creft (ICF)**
  - UCD
  - **MAPS**
  - Gretchen
  - CDC folks
- Method:
  - Comparison (BRINDA datasets + other dataset sources)
  - The usage of SAMBA
- Main results: Geographic mapping. How are we going to present?
  - One nutrient? separate by age?
  - SAMBA package
  - Global map
    - PSC: four panel maps (hb, serum ferritin, retinol/rbp, agp or crp)
    - WRA:four panel maps (hb, serum ferritin, retinol/rbp, agp or crp)
- **Structure of the paper (less is MORE)**
  - Introduction
  - Challenges of micronutrient analysis

- Introduction to the SAMBA package
  - Algorithm of SAMBA
    - Figures
  - Validation of SAMBA
    - the same results (appendix)
  - Application of SAMBA (apply to 52 PSC and WRA datasets)
    - **Show the map**
  - Customization of the SAMBA
- Strengths and limitation
- Implication to the policy world and next step
- Conclusion
- Appendix:
  - Cutoff tables (OSF table) - which is not the point of the paper (package is flexible)
    - Can be updated with new international standards
  - When and how we adjust for inflammation
- **BRINDA summary**
  - Companion paper (cite them both)
  - Target journal: Nutrition review
  - Give ODI early
  - Flexible in formatting
- **CDC clearance**

Share results with GAIN

- Sign the author's work group letter
  - Ty
  - Gretchen
  - Share the cleaned datasets through oneDrive
- Standard acknowledge BRINDA and its collaborators
- Indexed in the BRINDA publication list
- 2 billions will only produce regional/global estimates

- [ ] BRINDA team will carefully review the paper and provide critical feedback

Yaw CDC:

- [ ] Chat with CDC about clearance
- [ ] Add to the micronutrient toolkits (YEAH!!!)
- [ ] Shiny app
    - [ ] USAID advancing nutrition. Sylvia

Parmi:

- What journal are you planning to submit to? Will it be a research paper or short communication/review? It's a bit confusing as written now, since it appears to be a research paper, but some of the info does not fit into the traditional categories of Background, Methods, etc.
- Results. Table 1. Not sure what the point of this table is. If to show that SAMBA and independent analyst produce same results, I don't think you need to show both columns. Can just say there were no differences.

- [ ] Wondering if we should be looking at additional metrics to compare the package to the traditional statistical approach. Any differences in time? Data errors? Could we do a qualitative survey of early users?
- And in terms of what examples of data we should use to demonstrate the package, let's discuss. I know we landed on Kenya and NHANES for simplicity sake, but it seems a bit arbitrary and may need some justification in the text. Or we consider showing a broader set of surveys.

- [ ]

Yaw:

1. I also do agree ms needs some more work.
2. I would also extend it beyond Kenya and NHANES, for only PSC. That would broaden the appeal to international entities that work with mn data.
3. **Would further describe the practical utility of SAMBA, in terms of sub-national/regional estimates;**
4. **Geographic mapping of prevalence of MN deficiencies within and across countries**

Ty:

For the structure of the paper, I think we should stick with one approach: either (1) the standard intro, methods, results, discussion, or (2) making informative headers. But as it is now, it's sort of a mix. If you to use the

second approach, I would call the “results” header something like “Application of the SAMBA package.” And instead of a discussion, perhaps there could just be a conclusion (but a more substantial conclusion section that includes some discussion). Then you can freely scatter discussion into different sections as needed. But it’s of course up to you, and the other authors.

I will do a more thorough review for the next draft. Also, it might be nice to share the next draft with Lynnette, Mdu, Silvia, and Gretchen to see if they would like to provide feedback (Silvia already said she would).

Melissa:
Looking forward to discussing shortly. Agree with comments raised. In addition, it would be helpful to discuss the overlap and synergy with the BRINDA macro/summary paper. It would also be helpful to clearly outline model assumptions in paper. For example, perhaps in a supplemental table could summarize all the micronutrient deficiency cut-offs for each population group.

Testers:

- ○ Fanny Sandalinas
- ○ Gareth Osman
- ○ Binyam Girma
- ○ Murray Lark
- ○ Hakunawadi Pswarayi
- ○ Blessings Likoswe
- ○ Andrew Bean
- ○ Louise Ander

Samba improvement:

Samba package

1. Line 520 of samba_v1.6_df.R on github
reads: final_biodata$serum_vitaminD = final_biodata$urine_iodine * 2.496

I think that's a mistake. I am not sure whether it affects any of the processed BRINDA data you've shared (everything I've looked at, including the Pakistan data, seems to be right)

BRINDA NPW data

2. Bangladesh 2012, NPW, serum retinol values of 0 are considered as deficiency but they appear to be missing/error codes (from comparing to the prevalence/sample size in the final report). I have corrected this manually in my data but you may want to check/correct in yours.
3. related to Ty's question today, pakistan 2011 seems to have error codes or detection limits in the serum vitamin D data (110 obs @ 177.216, and 655 obs @ 7.488), but the prevalence I got treating these as true values matches the FR (I think no action needed)
4. Viet Nam 2010 dataset appears to have serum vitamin D measurements for the same subsample as it has B12, but vitamin D is not mentioned in the paper referred to on the BRINDA website. Would you know anything about this? I am wondering whether it's safe to use the data
5. Cameroon 2009 -- from what I can tell, vitamin B12 aand folate were measured in a subsample. I'd like to check the sampling protocol to see how the subsample was taken to be sure I am using the data correctly. However, the link on the BRINDA website does not give details and I can't find the final report online. Would you be able to share the final report or any documentation on the sampling?

So far I have been focusing on the NPW data with at least 6 deficiencies measured, in order to get a sense of the overlap among these. Thanks so much for your support on this!