

## ATTACHMENT IV: ANALYSIS OF THE ENVIRONMENT IN WHICH VA PROGRAMS OPERATE

1. INTRODUCTION VA's program division does not operate in isolation. There are important, known external and internal influences that could affect the planning and the execution of our work during the strategic plan period FY 2017 – 2019. This document examines both the external and internal influences that may impact the program operations of VA over the next 3 years.
2. ANALYSIS OF EXTERNAL ENVIRONMENT

The key external influences include:

- An evolving range of health care innovations and global progress to improve health status,
- Changing needs/expectations of donors, and
- Actions of governments, activists, technical counterpart agencies and field partners

Specific influences are identified and discussed, briefly, below.

### 2.1. HEALTHCARE INNOVATION AND PROGRESS including changing treatments and prevention:

- THE DECLINE IN “HIDDEN HUNGER” AS A GLOBAL TREND. The term “hidden hunger” is synonymous with “micronutrient deficiencies” and describes the invisible nature of the problem and the lack of overt and evident symptoms. The burden of micronutrient malnutrition, and in particular deficiencies in key micronutrients such as iron, vitamin A, iodine, and zinc, are estimated to affect 2 billion people worldwide. Pregnant women, their unborn child/children, and young children who are undergoing rapid growth and development are the most vulnerable to micronutrient deficiencies, and suffer the greatest adverse effects of one or more deficiencies. Globally, hidden hunger improved from 1995 – 2011. Africa is the only region to see deterioration in hidden hunger over ten year period from 1995 – 2011. East Asia and the Pacific performed exceptionally well experiencing much improvement during this period, while the Indian sub-continent experienced no significant change. Improvements in HHI were mostly due to reductions in zinc and vitamin deficiencies, while anemia due to iron deficiency persisted and even increased<sup>1</sup>. This trend will influence where VA places its programmatic emphasis.
- IMPROVED UNDERSTANDING OF THE EVIDENCE FOR CHILDREN'S MULTIVITAMINS. In recent years, there has emerged a better understanding of micronutrient deficiencies in children that points to a dilemma for those attempting to intervene. The key deficiencies in children in the developing world are iron, zinc, iodine and vitamin A deficiencies. The issue with iron deficiency illustrates the kind of problems encountered in deciding to offer supplement interventions. While, whether providing an iron supplement or a multivitamin containing iron, supplementation can improve blood levels of iron – thus alleviating iron deficiency

---

<sup>1</sup> GLOBAL UPDATE AND TRENDS OF HIDDEN HUNGER, 1995-2011: THE HIDDEN HUNGER INDEX. Julie C. Ruel-Bergeron, Gretchen A. Stevens, Jonathan D. Sugimoto, Franz F. Roos, Majid Ezzati, Robert E. Black, Klaus Kraemer.

anemia; however, there is no evidence of consistent health effects (e.g., reduced child morbidity, improved cognitive development or improved physical growth). Additionally, iron lies in the center of the host-pathogen battle for nutrients, and in malaria-endemic areas, where there is limited malaria prevention and clinical care (a common problem in developing countries), supplementation with a children's multivitamin (e.g. iron plus folic acid) has been associated with an increased risk of malaria. Thus, for developed and developing country settings there are reasons to pause before deploying children's multivitamins. For those children living where malaria is a problem, extreme caution is prudent. For children living anywhere (i.e., developing or developed nations) where malaria is not a problem, the evidence that children's multivitamins reduces child morbidity, improves cognitive development and/or improves physical growth is weak; and alternative proven interventions must be considered as a higher priority. For those residing in developed country settings, use of these products is further complicated given significant access to commercially fortified foods and the general level of access to food, poor acceptance of iron only supplements, and poor taste of available products. In sum, while children's multivitamins (or even iron supplements) may positively affect blood iron levels, there is no consistent correlation with an effect on health that would warrant the cost of deploying iron or multivitamin supplements with iron; and both the presence of malaria in developed nations and the ubiquitous availability of commercially fortified food and the ready availability of food based solutions in developed nations should open discussion for alternative interventions. This type of illustrative information will influence where VA places its programmatic emphasis.

- **THE GLOBAL DECREASE IN THE MORTALITY RATE FROM DIARRHEAL DISEASES AND MEASLES.** Vitamin A supplementation reduces mortality from infectious diseases, including especially diarrheal diseases and measles – which together are responsible for a significant portion (i.e., currently about 10%) of all mortality among children under 5 years of age. The death rates among children under 5 years of age attributable to both diseases have been on a decline, globally, for at least 3 decades. Continuing moderation of mortality attributable to both diseases may limit the effect of vitamin A supplementation on overall mortality rates of children under 5 years of age in years to come. VA Program operations will need to continue to monitor the effect of the declines in mortality and morbidity from diarrheal diseases and measles because of their potential effect on the usefulness of universal vitamin supplementation programs for preschool aged children:
  - Vitamin A supplementation also reduces diarrheal disease morbidity, and technically should reduce its incidence. However, incidence of diarrheal diseases appears to remain high.
  - A caveat to the good news about declines in mortality from both diarrheal disease and measles is that while global measles mortality declined 75% between 2000 and 2013 according to WHO, since 2012, measles deaths increased in 2013 and are believed to have continued to increase.
  - While globally decreasing mortality from diarrheal disease (and measles) may be factor in how important vitamin A supplementation is viewed as an essential intervention, VA recognizes that there exist geographical variances that are important to VA program operations. Diarrheal disease and measles experienced either no or only modest decline in portions of Africa and on the Indian sub- continent. VA also recognizes that it is highly likely that the hard-to-reach populations that VA serves are not necessarily materially affected

by any improvements seen in other segments of the population that we know have access to national health services.

Notwithstanding whatever changes have occurred in the incidence and mortality rates associated with both diseases: i) declines in at least mortality from both diseases should be viewed as a long-term factor affecting how relevant vitamin A supplementation will continue to be important; and ii) prevention of morbidity and mortality from diarrheal diseases is not the only reason to use vitamin A supplementation, but it is an important factor in the rationale for administering vitamin A supplementation.

- **THE GLOBAL ELIMINATION OF POLIO.** The occurrence of polio is not itself directly important to VA's work in supplementation. However, the widespread occurrence of polio and a global effort to eliminate polio prompted activation of "child immunization days" more than a decade ago to tackle the problem of polio. VA does, to a limited extent, piggyback its work in some countries on child immunization days. When children gather for government scheduled child immunization days they receive not only polio and other immunizations, but VA's field partners use these scheduled days as a vehicle to mobilize community resources to deploy vitamin A. It is an effective, cost-effective way to organize vitamin A distribution. With the elimination of polio vaccinations in 11 or 12 nations planned for the next 3-5 years, an important health care platform will be eliminated. Governments will likely discontinue immunization days, because, apart from the conquering of polio, implementing child immunization days is costly. WHO pays national governments travel and per diem expenses for those health care professions who operate child immunization days; and national governments will be unlikely to afford the expenses associated with continuing these campaign style events without WHO support. VA does not yet have a handle on the full impact of the elimination of immunization days as yet. However, we believe the impact will be nominal since our field partners do not depend upon government financing for immunization days or what is beginning to replace them – child health days.
- **DEMONSTRATED IMPORTANCE OF MULTI-MICRONUTRIENT SUPPLEMENTATION FOR PREGNANT WOMEN AND THEIR UNBORN CHILD/CHILDREN.** Recent peer reviewed research, based upon robust clinical trials, has generated clear documentation to support a widespread consensus that multi-micronutrient supplements are demonstrated to be effective for improving the health of the women, the health of the unborn child, and birth outcomes. WHO is also weighing issuing a global recommendation to supplement all women of reproductive age in place of the current recommendation of iron + folic acid supplementation. Given the veracity of the evidence (and that this is one of the few supplement interventions to have the support of clinical trials), VA would be remiss in not attempting to take a lead in deployment of multi- vitamins for women served by the NGO community. The dilemma is managing expectations pertaining to the cost to deliver this intervention in the context of other interventions we have popularized among our donors. While multi-vitamins are still among the cheapest public health interventions, the cost of multivitamins is much higher than for vitamin A and albendazole – and our donors have gotten used to the low cost of vitamin A and albendazole despite that their pricing is an anomaly in the world of cost-effective public health initiatives by being so inexpensive.