

50by40 Health Rationale

Priority Statements Summary

Background

The Health Working Group of 50by40 was formed to uncover ways that all members working towards the shared 50by40 goal to reduce animal production by 50% by 2040 may effectively and responsibly use the health frame as part of a multifactorial approach to motivate consumption and production changes.

This Health Rational Priority Statements Summary was developed by collating and analyzing the most compelling research to pull out a series of overarching support statements focused on the human health rationale for the reduction of animal production and/or consumption that are defensible; science-based; understandable and compelling.

Use: This document is meant to be used for internal reference by 50by40 members and leadership to use the statements and associated references in public statements, resources, or other outlets. The statements are not comprehensive rather represent the most compelling health rationale statement backed by scientific evidence under the category. Further elaboration and scientific reference is likely warranted and encouraged when using as is pairing these health rationale statements with rationales for other drivers like animal welfare and environmental health. Category Statements are as follows

1. [Overarching Health Rationale statement](#) - To be Developed
2. [Diet Composition and Dietary Pattern](#)
3. [Alternative products](#) statement 1 (alternative products) statement 2 (cultivated meat)
4. [Animal agriculture and public health](#)
5. [Quality of life / Occupational health](#)
6. [Benefits of agroecological food production and health](#)
7. [Employee health](#)
8. [Climate change and health](#) statement 1
9. [Climate change and health](#) statement 2

Limitations: There exists - within 50by40 members and beyond - a myriad of opposing and nuanced perspectives for the best diet composition for human health. These “diet wars” have been going on for a long time and it is not the aim of 50by40 to resolve differences in approach, drivers, and ideologies among members but rather to support diverse perspectives and find common ground in advocating for the 50by40 goal. Therefore these statements in full, do not represent the perspectives of all 50by40 members; however they may be used singularly or in combination by any one member or the leadership of 50by40 in a variety of circumstances and situations to make the health case for action. Through development of this document the following tensions among 50by40 members were identified and should be acknowledged when considering use:

- Some members do not feel our statements should show any form of animal agriculture in a positive light

- Some members feel it is within our scope to also elevate the positive aspects of beef. *Some reflections include: many cultures have a long history of eating red and processed meat, as well as respecting animals. Beef can be part of religious ceremonies. For some populations livestock is their only asset and is used for fuel, clothes, dowry etc.*
- Some members noted that all statements should ensure reflection on just transition for those impacted
- Some members would advocate for sustainable production qualifiers to be integrated into all statements.
- Some members feel processed food should always be discouraged where as others feel we should be conditionally inclusive of processed foods to articulate a transition and continuum of diet change.

Outstanding questions for 50by40 leadership

- Terminology: Are we wedded to plant-based or can we use plant-forward or plant-centered.
- How will 50by40 reference conventional ag? - suggestion from a member to use the term “industrial corporate run”
- How will we refer to processed food? - Here is a [good commentary from AICR](#) that might be good to reference when we use the term to point out what we are specifying

Overarching Health Rationale Statement - To Be developed

- Articulate the continuum: moving from diet high in meat and processed foods to increasing incorporation of whole food plant-based options followed by a statement representing the research to this effect. Could also include the health impacts of production.

Diet Composition and Dietary Patterns: Whole food, plant-forward diets have health benefits and create fewer adverse health effects than diets with excessive red/processed meat. Overall meat reduction as part of a whole-food, plant-forward diet, especially among people who regularly consume red and processed meat, is associated with lower risks of Type 2 diabetes, cardiovascular disease, certain types of cancers, and premature death.

Guidance to reduce red and processed meats is based on a large body of evidence indicating that higher consumption of red meat — especially processed red meat — is associated with higher risk of Type 2 diabetes, cardiovascular disease, certain types of cancers, and premature death.

DEFINITION: [Healthy dietary pattern](#): “Research on healthy dietary patterns points to an abundance of minimally processed plant foods — vegetables, fruits, whole grains, legumes, and nuts; moderate amounts of dairy products, seafood, and poultry; and lower amounts of processed and red meat, sugar-sweetened foods and beverages, and refined grains.”

Use Guidance

- Important to note that this statement is not to be prescriptive for every individual’s dietary and health needs; rather it will be broadly advantageous at the population level and work to accomplish 50by40 goals.
- Add a statement about the nutritional adequacy of plant-based diet to appeal to global south
- Consider putting in context of the continuum moving from diet high in meat and processed foods to whole food plant based. Consider pairing with reflections on benefits of diets with SOME meat to prevent alienating farmer groups.
- Pair with statement about the accessibility (cost and ease) so that it is not perceived as for the elite. Consider emphasizing that PBD are reflected in many cultures that we have since disconnected from.
- Consider pairing with statements on agricultural production practices to call out differences between conventional vs sustainable
- Consider pairing with non-health statement reflecting on that dairy and seafood have GHG impact.
- Consider pairing with a statement about the accessibility (access and cost). Ex: potatoes, oatmeal, rice and beans, etc are all health-promoting and extremely inexpensive. Share data on the thrifty vegetarian food plan that meets all requirements saves \$15/wk compared to one that includes even HALF the amount of meat in the typical American diet while delivering far more servings of F&V.
- Associated Support Statement(s)
 - **Red / processed meat:** A higher consumption of red meat (per 100 g a day) is associated with a modest but significant increased risk of several major chronic diseases and

increased mortality. Diseases with Increased risks associated with higher levels of red and processed red meat consumption include stroke, cardiovascular disease, and colorectal and advanced prostate cancer. Increased risks are greater for processed than for unprocessed red meat.

Use Guidance

- If used, must be in context or compliment of health benefits of plant-based diet to reflect on all meat, not just red meat, and red processed meat.
- Pair with statement about the benefits of the ideal alternative. *Ex: see the Oct 2016 paper by Song in JAMA Intern Med "Association of Animal and Plant Protein Intake with All-Cause and Cause-Specific Mortality" to see that substituting 3% of protein kcal from processed meat with plant protein decreased risk of death by 34% throughout the follow-up (in people with 1+ risk factor).*
- Consider pairing with a similar relative risk to provide context. Example: second-hand smoke and lung cancer with lunchmeat by [Dr. Greger's at the 2020 DGA Advisory Committee](#)

Cautions

- May alienate beef ranchers
- Does not acknowledge any benefits beef based on production system
- Does not offer a just transition reflection for those in this industry.
- Conflict with efforts to reduce food waste as processed meats often use parts of the animal normally thrown away and focus on red meat may encourage people to favor poultry or fish which have their own ramifications.
- Does not acknowledge any nutritional or cultural benefits of SOME meat

References:

1. <https://www.ncbi.nlm.nih.gov/pubmed/?term=effectiveness+of+changes+in+diet+composition+calabrese>
2. <https://www.ncbi.nlm.nih.gov/pubmed/29659968>
3. <https://www.ncbi.nlm.nih.gov/pubmed/31569217>
4. <https://www.ncbi.nlm.nih.gov/pubmed/31387433>
5. <https://www.ncbi.nlm.nih.gov/pubmed/27789558> and <https://www.ncbi.nlm.nih.gov/pubmed/?term=recommended+dietary+pattern+AHA+correction>
6. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2885952/>
7. IARC report 2015 https://www.iarc.fr/wp-content/uploads/2018/07/pr240_E.pdf
8. <https://onlinelibrary.wiley.com/doi/pdf/10.1111/joim.12543> Citation: Wolk A (Institute of Environmental Medicine, Karolinska Institutet, Stockholm, Sweden). Potential health hazards of eating red meat (Review). *J Intern Med* 2017; 281: 106–122.
9. http://www.aicr.org/reduce-your-cancer-risk/recommendations-for-cancer-prevention/?_ga=2.238325888.1874031865.1540262788-1843795673.1523037402 , "Number 5 of top 10 cancer prevention recommendations by American Institute for Cancer Research is to decrease red meat")
10. <https://www.sciencedirect.com/science/article/pii/S0899900714004237?via%3Dihub>

11. <http://www.thepermanentejournal.org/issues/2019/winter/6921-food.html>
12. <https://www.ncbi.nlm.nih.gov/pubmed/25246449>
13. <https://www.aace.com/publications/algorithm>
14. Satija, A. Et.al. J Am College Cardiology, 2017;70(4):411-22
<https://www.ncbi.nlm.nih.gov/pubmed/28728684> ;
15. Baden et al. J Nutr. 2019 Apr 1;149(4):676-686
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6461739/>
16. <https://www.ncbi.nlm.nih.gov/pubmed/26573136>
17. <https://www.ncbi.nlm.nih.gov/pubmed/21070685>
18. http://www.onlinejacc.org/content/early/2019/03/07/j.jacc.2019.03.010?_ga=2.202634067.355345324.1554304403-501013667.1553528448 , "2019 ACC/AHA Guideline on the Primary Prevention of Cardiovascular Disease"
19. https://www.ars.usda.gov/ARSUserFiles/80400530/pdf/DBrief/20_Food_Patterns_Equivalents_0304_1516.pdf
20. [Dietary Guidelines advisory committee](https://health.gov/dietaryguidelines/2015/) <https://health.gov/dietaryguidelines/2015/>
21. <https://health.gov/dietaryguidelines/DGAC-Meeting-7-Summary-508.pdf>
22. AHA <https://www.ncbi.nlm.nih.gov/ucsf.idm.oclc.org/pubmed/27789558>
23. GFI <https://www.frontiersin.org/articles/10.3389/fnut.2016.00055/full>
24. <https://eatforum.org/learn-and-discover/the-planetary-health-diet/>
25. http://www.onlinejacc.org/content/early/2019/03/07/j.jacc.2019.03.010?_ga=2.202634067.355345324.1554304403-501013667.1553528448

Alternative Products 1: Meat alternatives can be made from plant-proteins (soy, wheat, pea, mycoprotein) that are free of dietary cholesterol, antibiotics, or hormones prevalent in many animal products.

Alternative Products 2: Cultivated meat or meat made in laboratory conditions can be produced without cholesterol and saturated fats creating a healthier nutritional profile compared to conventional meat.

Use Guidance

- Add a statement noting that that each product maintains its own attributes to be evaluated for health implications. Some considerations
 - Lab grown meat has to be produced in sterile conditions which may require use of chemicals of health and environmental concern
 - Production of some of these products have concerning concentration of pesticides which may be due to the use of GMO ingredients.
 - Consider acknowledging that while promising, there is currently a poor regulatory environment and independent safety testing for cell-based meat.
- Caution of the perspective and framing that rich people get to eat steak and poor people eat lab grown burgers at Burger King.

References: **Note the following references are analysis of research not directly peer reviewed research**

1. Comparison of various plant-based burgers:
<https://www.marketwatch.com/story/meatless-fast-food-burgers-probably-arent-any-healthier-but-theyre-definitely-more-expensive-2019-06-12>
2. Comparison of plant-based beverages:
<https://nutrition.org/going-nuts-about-milk-heres-what-you-need-to-know-about-plant-based-milk-alternatives/>
3. https://noharm-uscanada.org/sites/default/files/documents-files/4679/Redefining%20Protein%20Report_4-13-17.pdf
4. <https://www.theatlantic.com/health/archive/2013/08/is-lab-grown-meat-good-for-us/278778/>

Animal agriculture and public health: Exposure to higher levels of air pollution related to conventional animal agriculture including feed production is associated with an increase in asthma and other respiratory disease, CVD, lung cancer, premature death. Agriculture-related water pollution increases the risks of methemoglobinemia, various kinds of cancer, birth defects, and thyroid disease. Dead zones from nutrient runoff cause algal blooms and threaten seafood production and various forms of marine life. Some algae produce toxins that threaten human and animal health when ingested or inhaled.

Use Guidance

- Consider pairing with a statement on disproportionate impact on rural land often low income communities
- Consider widespread use as the statement aligns perspectives of groups in environmental justice and health.

References

1. <https://www.ncbi.nlm.nih.gov/pubmed/29890597>
2. <https://www.ncbi.nlm.nih.gov/pubmed/27007730> ;
3. <https://www.ncbi.nlm.nih.gov/pubmed/30041450>
4. <https://www.nature.org/en-us/about-us/where-we-work/priority-landscapes/gulf-of-mexico/stories-in-the-gulf-of-mexico/gulf-of-mexico-dead-zone/> ;
5. https://www.nsf.gov/discoveries/disc_summ.jsp?cntn_id=298181

UNDER DEVELOPMENT: Quality of Life / Occupational Health - A 2016 study by the Government Accountability Office found that the rates of injury and illness in the meat industry are higher than all other manufacturing jobs

Use Guidance

- Okay to use in the US or when discussing cautions of increase of industrial agriculture in developing world
- Consider only use in policy discussions rather than individual awareness and ensure is paired with opportunities for alternative jobs and a just transition
- Most effective in discourse with labor union advocates

Discussion

- Is this a valuable statement to include in the health case? Some note it is a bit off point

- Often health is focused on nutrition. However we could desilo conversations within labor unions. “No jobs on a dead planet”. Will need to be contextualized. Will be valuable with policy makers to ensure better jobs and considerations for a just transition.
- Agree with de-siloing. Maybe consult with a few unions that do occupational health work to ensure we have a full breadth of health impacts. Maybe broadening the language of injury and illness. AND would they find this a supportive statement or annoyed we are using this.
- Matters who we are talking to.

References:

1. Additional Data Needed to Address Continued Hazards in the Meat and Poultry Industry. GAO-16-337: Published: Apr 25, 2016. Publicly Released: May 25, 2016. <https://www.gao.gov/products/GAO-16-337>

Benefits of agroecological food production: Unlike conventional agriculture, applying agroecology to food production optimises interactions among animals, plants, humans and the environment. Adopting agroecological practices can increase yields, labor productivity and farm profitability, and decrease labor demand.

Use Guidance

- Ensure it is paired with a statement about the need to reduce meat production and consumption. We need to be careful not to present this solution as one that can be scaled to meet current demand for animal products without reductions.
- Important we acknowledge that each production system needs to be evaluated for these outcomes as there are numerous variables associated with them.

References

1. Agriculture at a Crossroads: <https://www.globalagriculture.org/report-topics/agroecology.html>
2. IATP: <https://www.iatp.org/agroecology-key-agricultural-resilience-and-ecosystem-recovery>
3. Social and economic impacts:: https://www.researchgate.net/publication/283721240_Social_and_economic_performance_of_Agroecology
4. FAO: <http://www.fao.org/3/I8926EN/i8926en.pdf>

Employee Health - Healthy employees are more productive. The return on investment for a business to assist employees in improved nutrition and other lifestyle changes can yield a significant return on investment. In one example, for every \$100 spent on a wellness program, the organization earned \$176 in output from its employees.

Use Guidance

- Pair with statement about health benefits of plant-based diet
- Use cautiously as research outcomes on wellness initiatives are variable.

References: *Note references discuss some of the disparate findings of these wellness initiatives*

- 1) <https://www.ncbi.nlm.nih.gov/pubmed/30990549>
- 2) https://www.rand.org/pubs/occasional_papers/OP373.html
- 3) <https://www.healthaffairs.org/doi/10.1377/hlthaff.2009.0626>
- 4) <https://insights.ovid.com/article/00043764-201409000-00006>

Climate Change 1: Food animal production is responsible for about 15% of all anthropogenic global GHG emissions. The health impacts of climate change are considerable including increases in infectious diseases, heat stress, malnutrition and undernutrition due to increased food insecurity, asthma and respiratory illness, water-borne illness, increased vector-borne diseases and more. These impacts will vary from region to region. Climate change is already having widespread adverse impacts on human health and they are expected to increase. The general consensus is that the current state of food insecurity will be worsened by climate change-related impacts

References

1. <http://www.fao.org/news/story/en/item/197623/icode/>
2. [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(18\)32594-7/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(18)32594-7/fulltext)
3. <https://unfccc.int/news/climate-change-impacts-human-health>
4. <https://noharm-uscanada.org/issues/us-canada/climate-and-health-resources>
5. See bibliography of citations:
<https://drive.google.com/file/d/0B4UUKHq3FuFENVVXVHA3cIBOV1dUUXVvXzBYMko3UVpUcjHJ/view?usp=sharing>

Climate Change 2: Climate change is likely to adversely impact nutritional quality as well as safety, access and distribution of food and water due to unpredictable weather events that impact the safety and stability of food and water supply.

Use Guidance

- Consider adding a specific example to illuminate that this is happening now after using the statement (ex: loss of corn and soy crop in 2019)
- Would be best to use this statement after noting the link between meat production and climate.

References

1. <https://tinyurl.com/yxvc8bpz>
2. <https://www.nature.com/articles/s41598-018-33952-4>
3. <https://www.nature.com/articles/s41558-018-0253-3>
4. <https://www.sciencenewsforstudents.org/article/climate-change-global-warming-food-eating>
5. <https://www.sciencedirect.com/science/article/pii/S2542519619300944?via%3Dihub>