Rethinking Food System Resource Use & Distribution To Support Planetary Health & Boundaries:

Wasted Food and Meat Consumption

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“We cannot get into the doughnut’s safe and just space without tackling the distribution of global resource use in both consumption and production. “ -Kate Raworth
WASTED FOOD & PLANETARY/HUMAN HEALTH
Wasted Food
Greenhouse Gas Emissions

China #1

US #2

Republic of wasted food #3

UN FAO 2013
In the U.S.

- 40% U.S. food supply wasted (Hall, 2009)
- 50% increase since 1970s

About 40% each consumers and consumer-facing businesses (ReFED 2016)
40% of food produced in the U.S. is wasted.

How much of our RDA* of nutrients does the country throw away every day?

Why do consumers discard food?

- Concerned about food safety and freshness.

Neff, Spiker, Truant 2015
What Motivates Wasting Less?

- Money is top motivator
  - $1,500 average family of 4 (Buzby, 2014)
- Environmental concerns rank lowest

Neff, Spiker, Truant. Wasted food: US consumer awareness, attitudes and behaviors,
PLOS ONE 2015
Setting Targets

• US: pledged 50% reduction by 2030 (USDA, EPA, 2015)

• Systems approach - key relevant features
  – Across food chain, complexity, interactions among components/factors, attention to unintended consequences, feedback loops (not always co-benefits)

• UK: Comprehensive interventions at consumer level, education, business changes, policy, all informed by research, evaluation
  → 21% reduction in avoidable consumer waste of food, 5 years (WRAP 2013, 2014)
Public Health Co-Benefits of Addressing Wasted Food

• Nutrition
  – Behaviors benefit both, e.g., avoid excess, planning
  – Packaging – size, frozen, etc.
  – \textit{BUT: processed}

• Food Safety
  – Learn better “home economics” skills
  – \textit{BUT: “Just eat it”}

• Food Security
  – Avoid food production impacts on resources, climate, etc.
  – Save $ -less waste, purchasing “seconds”
  – Recovered/donated food feeds people

BUT: donation quality, dignity concerns
BUT: risk of “too much” appeal – lose big picture

Food recovery is not the solution to hunger OR waste
MEAT AND PLANETARY/HUMAN HEALTH

Image: wikimedia commons
Feed Conversion Ratios of Animal Source Foods

- **Energy** (fossil fuel use : lb protein): 54:1 (Cow), 17:1 (Pig), 4:1 (Chicken)
- **Water** (L water : kg meat): 6,810:1 (Cow), 2,182:1 (Pig), 1,773:1 (Chicken)
- **Feed** (kg feed : kg meat): 7:1 (Cow), 4:1 (Pig), 2:1 (Chicken)
Cradle to Farmgate Impact

(Kim, Santo, Scatterday, Neff, Nachman, in progress)
Meat & Public Health

• U.S. meat consumption 20-60% above recommendations in 2015-20 DGA (Fehrenbach, Righter & Santo, 2015; DGA 2015)

  – Heart disease, stroke, T2 diabetes, obesity, some cancers
  – Red/processed assoc w higher overall, cardiovascular and cancer mortality
• 32% eat less meat now than 3 years ago
• Of those *not* currently reducing meat, about 1/3 want to in future

(NPR/Thomson Reuters 2015)
What explains change in amount of meat you eat?

- **Cost**: 51%
- **Health**: 50%
- **Other**: 23%
- **Environment**: 12%
- **Welfare**: 12%
- **Refuse**: 2%

Neff, Edwards, Righter, Palmer, Wolfson, in progress
Non-Reducers: Agreement with Statements

Healthy diet includes meat: 30%
Meals incomplete: 25%
Boring: 20%
Too expensive: 15%
Not filling: 10%
Don't like: 5%
Not a big vegetable eater: 5%
Don't know how - cook meatless: 0%

Neff, Edwards, Righter, Palmer, Wolfson, in progress
Systems Approach to Changing Meat Consumption – Example

• Level playing field for animal products vs produce
  – Regulations on meat production: clean air/water; antibiotics
  – Address disparate government support
  – Carbon tax policies that account for livestock emissions...?
Roles for Nutrition Educators

• Advice - Waste
  – Challenge “Fresh” and overly precautionary discarding
  – Encourage uses of leftovers, spare ingredients
  – Encourage waste tracking

• Advice - Meat
  – Challenge ideas like: “A healthy diet includes meat”
  – Meats not all same; replacements matter too
  – Convenience, cost saving

• Engage in policy efforts on wasted food, meat, food security/poverty, and environment
Conclusions

• Diet pushing us to the edge of planetary and social boundaries
  – We must rethink food system resource use, distribution
  – Cut waste of food and meat consumption

• Dietary choices guided less by environmental or social concern than nutrition and economics
  – Critical co-benefits exist

• Nutritionists uniquely positioned to use systems thinking, build on co-benefits, help push us back into the safe & just space for humanity
Thank you!
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