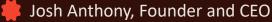
nlumn

Food Forum 30th Anniversary

The Promise of Personalized Nutrition

November 30, 2023 🛛 🌞 Josh Anthe



nlumn



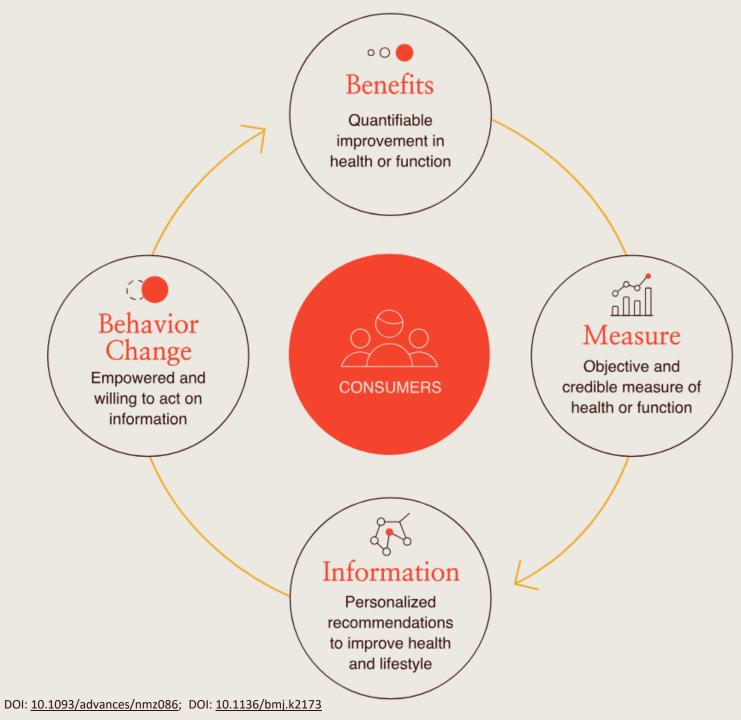
Nlumn is a consulting company whose clients include conference participants. Opinions expressed are my own and do not represent the views or opinions of any current or previous clients or employers.



Definition

nlumn

Personalized nutrition uses individual specific information, founded in evidence-based science, to promote dietary behavior change that may result in measurable health benefits.



The promise of personalized nutrition can have systemwide implications by helping address chronic illnesses, reducing health care costs, and improving health outcomes.



We are spending more than \$4 trillion in annual healthcare costs:



of healthcare costs are for chronic illnesses and mental health



Poor health has a dramatic impact to productivity:



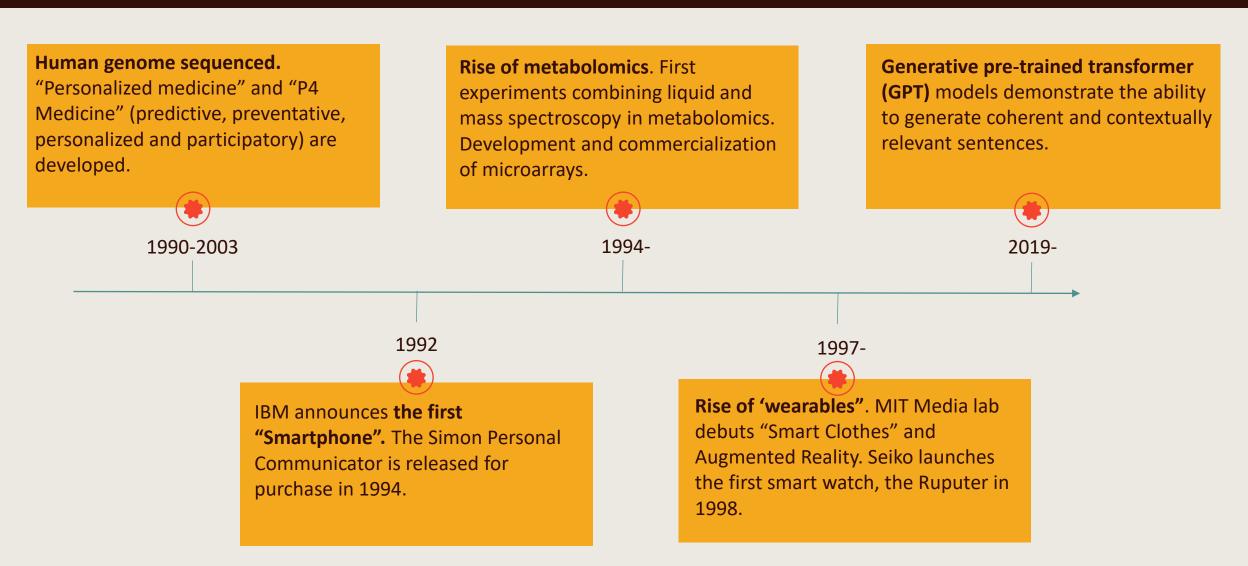
Cost to employers due to poor worker health



Preventative care could save 100,000 U.S. lives per year.

Poor Worker Health Costs U.S. Employers \$575 Billion A Year (forbes.com); CDC 2023; How Preventive Healthcare Services Reduce Spending for Payers (healthpayerintelligence.com),:

Technological advancements are making more personalized approaches possible



The Human Genome Project; Metabolomics – Wikipedia; https://www.engadget.com/seiko-ruputer-first-smartwatch-133015434.html; Wearable technology – Wikipedia; A simple guide to the history of generative AI. Bernard Marr and Co. 2023

Despite technical advancements we are in the early stages of demonstrating efficacy

Deliver Health and Functional Benefits

- Need simple and reliable measures of nutrient status.
- Lack clear definition of health-disease continuum.
- Biomarkers of health optimization must be identified.

Results are better than population-based guidelines

- General guidance focuses on absence of disease.
- Lack of representative data sets.
- Requires different experimental approaches.

Show outcomes can be maintained over time

- Longitudinal studies are difficult and expensive.
- Individual health needs change over time.
- Science must be translated to affordable and acceptable solutions.

Further research is critical to advance personalized nutrition. However, understanding and addressing individual lifestyle choices and behaviors are equally important. Consumers are interested in personalized nutrition and health and are already participating in a variety of ways.

nlumn



Consumers are experimenting with different eating styles and personalized nutrition plans:



of people interested in personalized nutrition have tried an eating pattern or style in the last year.



of consumers participated in a personalized nutrition in the last year.



More than 40% use apps regularly to track their health:

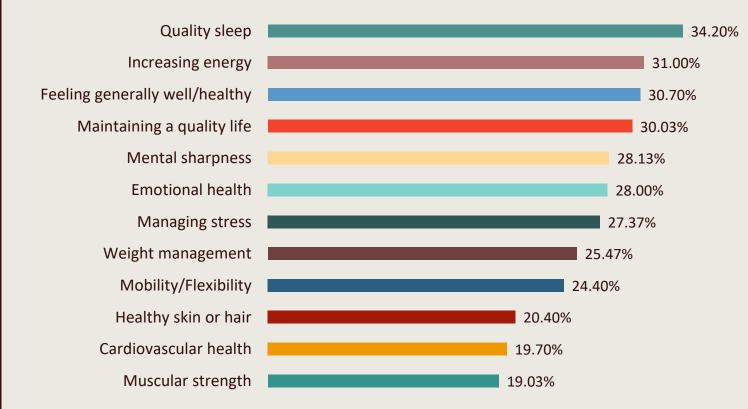


One-quarter are very comfortable sharing their data in exchange for health services. 50% were somewhat to very comfortable.

Nlumn U.S. Personalized Nutrition Consumer Study 2023

Consumer desired benefits highlight recovery, energy and mental and emotional wellness as unmet needs.

22. Which of the following health and wellness attributes are most important to you? (Select up to 5)



Nlumn U.S. Personalized Nutrition Consumer Study 2023

nlumn

Key Finding

nlumn

The value equation for consumer's personalized nutrition plans today isn't quite right with costs that are greater than the results.

Value Equation:	Results
	Cost (Money + Effort)

Results

The results have been mixed, with many still not achieving health goals or getting desired benefits.

Cost

Money: The number one reason for stopping and the biggest barrier to starting was the cost.



of those who had a plan and stopped did so because it was too expensive.



of consumers who haven't participated cited cost as the biggest barrier.

Effort: Most users stop participating in their program within six months. The effort isn't worth the results.



of consumers seek a high level of support, but only 34% report they receive that level of support.

Nlumn U.S. Personalized Nutrition Consumer Study 2023

How sectors can work together to deliver effective models

Academia

- Increase cross-disciplinary research.
- Build diversity in data sets.
- Develop meaningful markers of health and disease.

- Increase funding for health research.
- Expand claim
 opportunities.
 Provide structure for
 incentives for
 democratization.

Government

- Share consumer behavior data.
- Support translation of benefits.
- Deliver innovative solutions that support end benefits.

nlumn

Industry

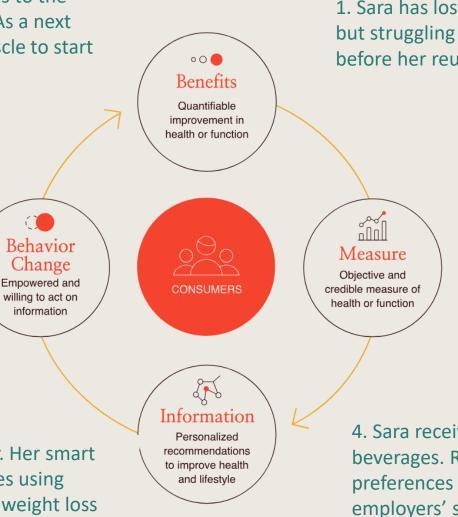
How it might look in the not-so-distant future

8. Sara reaches her goal weight and goes to the reunion excited to see her classmates. As a next step she wants to work on building muscle to start rock climbing.

7. Sara's risk reduction with the additional weight loss is calculated and she receives discount in her health insurance.

6. Sara receives a list of ingredients and products to refill her fridge. She can partner with people seeking the same benefits for volume discounts.

5. Sara's sister is coming over for dinner. Her smart fridge suggests tweaks to family favorites using existing ingredients consistent with her weight loss goals.



1. Sara has lost 10 lbs. and is happy with her progress but struggling to reach her goal weight loss of 15 lbs. before her reunion in 6 weeks.

> 2. Continuous sensors note changes in satiety-related hormones and the need to adjust energy and nutrients to support weight loss goals and maintain body composition.

3. Also noted is a decreased hydration status in the afternoon impacting focus and contributing to hunger.

4. Sara receives recommendations for afternoon beverages. Recipes are consistent with her preferences and goals are communicated to her employers' smart beverage machine.

nlumn

Summary

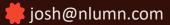
- More tailored approaches to nutrition may help address chronic illnesses, reduce health care costs, and improve health span. However, we are in the early stages of demonstrating efficacy.
- Consumers are already seeking more personalized nutrition solutions but stop using programs within 6 months due to a value gap-the price they paid wasn't worth it for the results they received.
- A mismatch between science, consumer expectations and outcomes requires sectors to work together to address gaps and deliver evidencebased models that are accessible and affordable.





Thank You





www.nlumn.com

