

NEXT-GENERATION FOOD-AS-MEDICINE

Food Retailers Big Opportunity



Next-Gen Food-as-Medicine: Food Retailers Big Opportunity

America has a problem, a really big problem. The health of U.S. consumers is eroding, driven by a swelling older population and the increasing prevalence of chronic health conditions like obesity, diabetes, and coronary heart disease. “On average, people spend about 50 percent of their lives in less-than-good health including 12 percent in poor health”, states a [McKinsey](#) study. The report goes on to say “The upshot is that we spend more time in absolute terms in moderate and poor health than we have at any other point in history.”

The link between diet and chronic health conditions has been clearly established through myriad studies. “Diet contributes to the development of many chronic conditions including obesity, cardiovascular disease, hypertension, stroke, type 2 diabetes, metabolic syndrome, some cancers, and perhaps some neurological diseases,” states a report from the NIH. And the problems cascade as “one medical condition, when present, often contributes to the development of other medical conditions,” the report goes on to state.

The idea of food-as-medicine dates back over 2,000 years to when Hippocrates is quoted as saying “Let food be thy medicine and medicine be thy food.” But while many food retailers have made an effort - albeit many times a half-hearted one - to help shoppers by providing rudimentary nutritional guidance, it has not been enough to stem the tide of poor health.

As I wrote about in [Retail in the Age of ‘i’](#), the world is becoming increasingly customized to each of us individually. As consumers, we have long grown accustomed to the customization offered in the digital world, as websites and online

merchants personalize our interactions based on past purchases, browsing, and more. But increasingly, the physical world is being made more and more relevant to us individually. Consider 3D printed footwear, clothing, and medical prostheses. And cutting edge science is leveraging our unique DNA and genomes to tailor medications and treatments to us individually.

Today, the food-as-medicine movement is hitting an inflection point, driven by growing consumer self-advocacy and increasing disillusionment with traditional medicine. Next-generation food-as-medicine initiatives are powered by a growing array of new technologies that enable truly individualized food guidance at massive scale.

Retailers have an opportunity to leverage these powerful new technologies to go on offense, taking a leading role in improving the health & wellbeing of their shoppers and their company associates, while increasing sales and shopper loyalty. Doing well by doing good.

The Problem

According to the U.S. Census Bureau, 12.6% of the U.S. population in 1990 was 65 years old and up. By 2020 that had increased to 16.8% of the population. (Source: [Statista](#)). By 2040, about one in five Americans will be age 65 or older. And, “older Americans are living longer. In 1960, men who turned age 62 could expect to live another 15 years. By 2040, they will likely live for another 22 years. For 62-year-

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- McKinsey study

old women, the gain in remaining life expectancy between 1960 and 2040 will be four years.” (Source: urban.org)

But perversely, while living longer, people in the U.S. are growing sicker. “According to the [Centers for Disease Control](https://www.cdc.gov) and Prevention, six out of every ten adults in the United States have at least one chronic disease, and about four in ten have two or more chronic diseases.”

And the problem is growing worse as the number of older people living with one or more chronic diseases is projected to explode over the next couple decades. “The number of people in the United States aged 50 years and older will increase by 61.11% from 137.25 million in 2020 to 221.13 million in 2050. Of the population 50 years and older, the number with at least one chronic disease is estimated to increase by 99.5% from 71.5 million in 2020 to 142.6 million by 2050. At the same time, those with multimorbidity (multiple conditions) are projected to increase 91.16% from 7.8 million in 2020 to 14.9 million in 2050.” (Source: [National Library of Medicine](https://www.nlm.nih.gov)). Those are frightening numbers.

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- Centers for Disease Control

And all this comes at a massive financial cost. What business has not experienced ever-increasing healthcare costs, often far exceeding the rate of inflation. And retailers, with their large workforces, bear significant costs from associates’ poor health, from sick time to poor productivity, and more.

The kicker is that while ‘the United States spends significantly more on healthcare compared to other nations it does not have better healthcare outcomes. What’s more, rising healthcare spending is a key driver of America’s unsustainable national debt.” (Source: [Peter G. Peterson Foundation](https://www.petergpeterson.com)). About 90% of the annual \$4.1 trillion health care expenditure is attributed to managing and treating chronic diseases and mental health conditions. (Source: [CDC](https://www.cdc.gov)).

Efforts to Date Are Not Enough

Government has long mandated nutrition labels on food products, but reading the labels and understanding the data can be a complex job; many times far too confusing for a shopper in a hurry. We have seen retailers use label reading tours as a way to assist shoppers with understanding complex nutrition labels. The problem is that much of the information learned is forgotten almost as soon as the shopper leaves the store.

Some retailers use shelf tags to convey key nutritional information, calling out if a product is gluten-free or Keto friendly. Tags though have multiple problems, from being put on the wrong items, to falling off the shelf, to having very limited space to convey nutritional guidance.

Dietitians in the store can be very helpful but the impact is limited by how many shoppers a dietitian can effectively interact with. And providing recipes that are beneficial for people with certain health conditions is again helpful, but the internet has millions of recipes for those interested in searching them out.

Driven by the need for digitized product data (descriptions, images, nutrition panel data) to power up their eCommerce stores, retailers typically license data from providers like Syndigo, IX-One or Brandbank. Providers like SPINS, Label Insight, and NutritionIX provide product dietary attributes, often used to provide insights to CPG manufacturers. These companies are compiling data provided by the food manufacturers and, given the millions of food products available for sale, inevitably there are errors in the data. And when you are providing guidance to foods based on an individual's stated health conditions, mistakes are to be avoided.

Retailers' latest foray into the food-as-medicine movement revolves around Healthy Benefit Cards. Healthy Benefit Programs draw funds from a mix of HSA/FSA and HRA accounts, Medicare Advantage, and other programs. These spending benefits are restricted to OTC products, medical and safety equipment, counseling services, along with medically tailored meals and healthy foods.

Healthy Benefit Programs are a complex space, with players including retail, healthcare, government agencies, third parties, and consumers. While a growing number of retailers are realizing the opportunity that Healthy Benefit Cards represent, oftentimes retailer interest is driven simply by revenue opportunities - not a deep-seated belief in the transformative power of a comprehensive food-as-medicine program.

A Tipping Point

We have reached a tipping point, which means the time is right for food retailers to take action.

According to a [Gallup](#) survey released in late 2023, 60% of people view the pharmaceutical industry negatively, while only a record-low 18% have positive views. A [PricewaterhouseCooper's](#) study goes on to say "Stakeholder groups and consumers continue to have concerns about the nature and extent of pharmaceutical sales and marketing practices. More than 94 percent of stakeholders said pharmaceutical companies spend too much on advertising; they also feel that industry advertising lacks transparency with respect to drug risks and benefits." Adding fuel to the fire, growing reports of pharma manufacturers concealing test data only add to the negative views.

Compounding the negative view of the pharmaceutical industry are consumer views of the drug store industry. According to [J.D. Power](#), “consumer satisfaction with CVS and Walgreen’s fell 23% and 25%, respectively, between 2021 and 2023.” Making matters worse, there are 3,000 fewer drugstores at the

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- Gallup 2023 survey

beginning of 2024 than there were in 2019, according to RetailStat. Those store closings a result of competitors like Walmart and Aldi selling many of the same products as drugstores, but at cheaper cost. And those competitors also sell food.

The mirror to pharmaceutical skepticism is seen in consumers’ growing self-advocacy. In a world where healthcare is becoming increasingly unaffordable, along with growing distrust of the pharmaceutical industry, more consumers are seeking to take charge of their own health.

Self-advocacy is fueled by several trends:

Increased Access to Information: While the internet has made information widely available to nearly every person, health apps and wearables now provide individuals realtime data on a growing number of health metrics. Apple’s Watch, for example, is capable of reporting blood oxygen levels, can take an ECG reading, track a wearer’s heart rate, record sleep patterns, and far more. Pairing the watch with Apple’s iPhone, yields even more health metrics. And AI is helping synthesize all this data and information into useable, actionable intelligence for the individual.

Education and Awareness: Public health campaigns and patient advocacy groups both foster the idea of people taking more responsibility for their health.

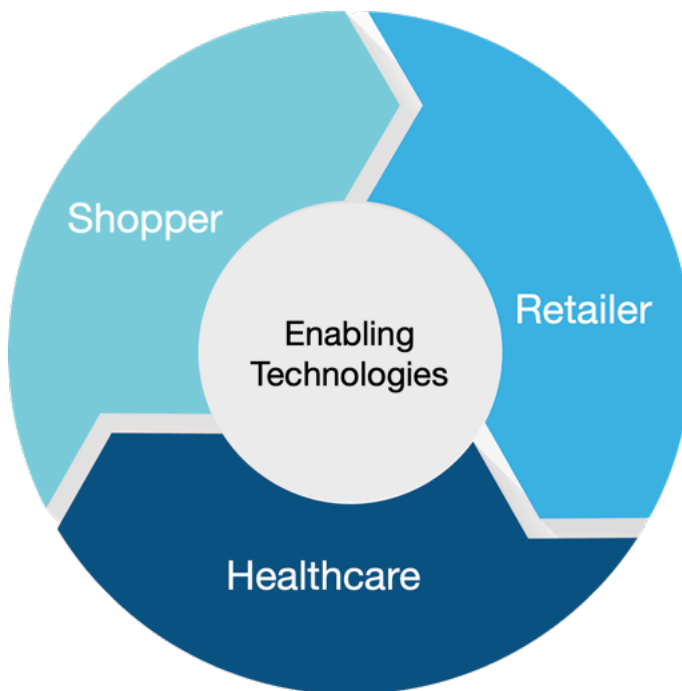
Chronic Disease Management: Chronic conditions like diabetes and heart disease almost demand that individual’s take an active role in treating and managing their health conditions.

And the opportunity for food retailers goes beyond those 60% of adults who have one or more chronic health conditions. Some in the healthcare arena use the term ‘worried well’ to refer to those people who are in relatively good health, and want to stay that way. The ‘worried well’ shoppers value personalized guidance to foods beneficial to their wellbeing.

As the baby boomer generation grows older, many are not willing to give up the more active lifestyles that they’ve enjoyed earlier in their lives. As age-related health conditions become more prevalent,

many people are not content to just sit back and take a pill; they are actively seeking how they can manage and improve their lifespan, their quality of life - and many times that involves the food they eat.

So What To Do: Creating an Ecosystem to Converge Food and Health



So how can the food industry, particularly food retailers, take advantage of growing self-advocacy and the food-as-medicine movement?

The first thing for retailers to realize is that seizing the massive opportunity will take commitment and dedication to developing a comprehensive food-as-medicine program, including developing partnerships with healthcare in the retailer's market area. Putting some basic food guidance on shelf tags, having a dietitian in the store, or accepting non-personalized Healthy Benefit cards will not do it.

The place to begin is thinking of the broader space as an ecosystem consisting of the shopper, the food retailer, and healthcare. And that ecosystem rests atop two key technologies:

advanced nutrition science that powers food product attribution and hyper-personalization.

Nutrition Science Driven Food Attribution

Having accurate data on each food product sold is mandatory for a successful food-as-medicine initiative. And not just the usual product description and package size. What's necessary are hundreds, even thousands, of nutrition-driven attributes for each food product.

Sifter Solutions provides the gold-standard when it comes to nutrition related attributes on food products. Andrew and Thomas Parkinson, the founders of Sifter, realized the importance of accurate data long ago when they founded Peapod, the original online grocery platform. The industry's need for quality data was reinforced when they formed their next company, ItemMaster. All that learning came together as they realized the need for accurate nutrition data on food products and how that could be used to power up the food-as-medicine movement.

Sifter Solutions' extensive food attribution is informed by evidence-based nutrition science, nutrition policy, and a regulatory framework on how a food's nutritional composition impacts a growing number of health conditions. Sifter has developed proprietary algorithmic equations that determine a grocery product's eligibility to an ever-growing number of nutrition-related attributes, including 200+ diets, 1,300 ingredient likes and dislikes, 12 classifications of medications, food security, and sustainable practices. These algorithms, aided by natural language processing, machine learning, and AI, are developed by registered licensed dietitians, who ensure that Sifter's dietary and allergen filters align with clinical standards of nutrition care and food regulations.

Sifter is the only food product data provider to be FoodMed Certified by the Validation Institute and was the winner of the 2024 Health Value Award for Food as Medicine Tech Solutions. Sifter's use of the latest technologies to ensure the accuracy of its data has earned it attention from some of the country's largest food retailers and healthcare companies.

It's that science backed and validated approach that is necessary to obtain healthcare's participation in a retailer's hyper-personalized food-as-medicine initiative.

Hyper-Personalization at Massive Scale

Accurate data and shopper health profiles feed AI systems making hyper-personalization efficient at massive scale. Birdzi's industry leading capability is able to utilize Sifter's food nutrition attributes, along with the individual shopper's health profile, to target shoppers with highly relevant product offers and information, even creating a personalized weekly ad for each shopper offering savings on specific food products that align with the shopper's health profile.

Healthy Benefit Cards are focused on general nutrition; fruits & vegetables are good for you. Birdzi's AI enables the retailer to use the store's entire product catalog to suggest relevant and meaningful food products from across all the departments and categories to each individual shopper based on their specific health profile.

Thanks to the power of sophisticated artificial intelligence feeding off of extensive data, Birdzi's system understands not only health related preferences but also brand preferences and purchase cadence, ensuring each shopper is getting offers and savings on meaningful and relevant food products. And along with hyper-personalization, Birdzi integrates to the retailer's POS system to deliver individualized savings at checkout, either online or in the store.

What most food retailers have not yet realized is that AI technology like that described here makes it efficient to shift marketing away from its mass promotion past to a world of hyper-personalized,

individualized marketing that focuses on growing the share of wallet the retailer receives from each customer. Next-generation food-as-medicine programs do not simply address aggregate populations having a common health condition, like people with diabetes. Next-generation initiatives work at the individual level, realizing that while people with diabetes have similar needs, each individual has their own nutritional needs, wants, and brand preferences. For example, one diabetic may only need to avoid sugar, but another diabetic must also avoid nuts, and wants a vegan diet.

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Tools like those provided by Sifter Solutions and Birdzi power up this next-generation food-as-medicine capability and give retailers the ability to address each shopper individually, while doing it efficiently at scale.

It Begins with the Shopper

The process begins with the shopper being invited to create their own, individualized health profile, typically in the retailer's mobile app. The shopper can self-identify health conditions, food allergies, diet interests, lifestyle interests, and even what prescription medications are being taken. The retailer can either build that profile in their app or use an SDK from Sifter.

The shopper's individual profile is now used to filter the store's food offerings to see only those that fit his or her health profile. And remember, this is all happening at the individual shopper level; each shopper's health profile is unique and results in a unique selection of appropriate foods that align with the profile.

Shopping online, the shopper can quickly find foods within each category that are relevant, making online shopping faster and easier. In the store, this capability is almost like having a dietitian accompanying you through the aisles. Imagine being in front of the pasta section and needing to find gluten-free, nut-free pastas. Simply using the app, the shopper can find just what she's searching for.

Sifter can provide the retailer the ability for a shopper to scan a product at home or in the aisle to see if it aligns with their health profile. Gone are the days of a shopper having to study a nutrition panel and try and remember what they should be looking for.

By combining Birdzi's hyper-personalization with Sifter's product attributes, the retailer can tailor its marketing to the individual shopper. Imagine a weekly ad customized to each shopper filled with only products from across the store that align with the shopper's health profile, even including brand preferences.

Connecting with Healthcare

Today, healthcare funding of food-as-medicine initiatives is very clumsy; initiatives coming out of the healthcare and healthcare-related spaces trying to create a one-size-fits-all approach when touching retail. For example, Healthy Benefit Cards require POS integration and are limited to identifying 'healthy' foods at the department or category level, for example any produce department purchase qualifies. This cumbersome process does not support an individualized approach.

So now imagine a food retailer, armed with the tools like those described earlier, approaching health insurance companies or large payers in their market area. The retailer offering to provide individualized food guidance to the payer's or healthcare's subscribers, who in turn could offer savings on premiums or subsidize savings on specific food items beneficial to the individual. The payer or health insurance company realizing lower claim costs and improved subscriber wellbeing. The retailer benefitting from new shopper acquisition and even potentially a per-member-per-month (PMPM) fee.

At a time when food retailers are searching for new revenue streams, a next-generation food-as-medicine program generating a PMPM fee can be a significant source of new revenue while at the same time strengthening the shopper relationship. For example, some of the Healthy Benefit Programs are charging insurance companies \$50 or more per-member-per-month fees for participating subscribers. That's \$600 annually per shopper. That's more annual revenue per shopper than many retailers generate from a good portion of the shoppers going through their doors.

Food retailers have the opportunity to get started with their sizable workforces; many retailers self-insure for healthcare. The food retailer can offer individual food guidance to their workers, subsidizing food costs and providing added savings to their associates, while the company benefits from lower claim costs, improved associate wellbeing, less sick time, and improved productivity.

The Benefits of a Comprehensive Food-As-Medicine Initiative

For the retailer, the benefits are manifold. Being seen as a valued partner in the shopper's health & wellness efforts builds relationships and loyalty. By making shopping easier, retailers benefit from bigger baskets, more frequent trips, greater store (category) engagement, and improved shopper retention over time.

And the financial benefits are even closer to home. Offering individualized food guidance for associates, retailers can realize improved productivity through less sick time and associates simply feeling better. Being seen as a partner in health & wellbeing, retailers can gain valuable associate retention, helping lower costly turnover. Not to mention lowering claim costs as associates improve their health.

Through partnerships with healthcare, retailers benefit from shopper acquisition as healthcare enrolls patients into the retailer's food-as-medicine program as part of an overall treatment plan.

Beyond financial benefits, retailers can engender good will and be seen as partners in improving the quality of people's lives. Food-as-medicine is a classic example of doing well by doing good.

Shoppers realize benefits in every direction, from savings on beneficial and relevant food products to saving time shopping online or in the store through individualized guidance. Added to that are healthcare savings, fewer doctor visits, less deductible payments, and fewer medications. And, of course, the biggest benefit is improved overall health and wellbeing, something that people increasingly value as they get older.

Healthcare benefits from lower claim costs and improved outcomes. Being able to guide subscribers to appropriate food products across the store on an individualized basis promises to be far more effective than the unwieldy approach used by Healthy Benefit Cards today, giving healthcare a higher ROI on their food-as-medicine investments.

Going Further

Individualized food guidance, as presented here, is just the beginning. Looking to the near future, shopping for and consuming food will become even more personalized.

Augmodo is building an augmented reality platform for shopping in conjunction with the next generation of smart glasses coming to market. As described in Bionic Retail, the next generation smart glasses will closely resemble the everyday glasses many people wear now, but they will be wirelessly

tethered to your smartphone. The glasses will leverage the enormous processing power today's smartphones have to provide a digital overlay to the physical world around you.

Imagine going down the aisle in the grocery store and the food products that align with your profile seem to 'pop', making it easy to find the right foods. It will be like having a personal dietitian accompany you on a trip through the store.

Netherlands-based [Gelderse Vallei](#) hospital is partnering with the Nutrition and Healthcare Alliance to develop 3D food printing in a hospital setting. "3D printed food is not new. It has already done the market a good turn by personalizing texture, shape and flavor. What is new is the personalization of macro and micro nutrients for certain target groups, such as patients. A personalized food product based on data such as a person's medical condition, possible comorbidities, nutritional status, as well as age, gender and body

composition supplemented with taste and texture preferences, can support recuperation."

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Other hospital systems are also experimenting with 3D food printing for

dysphagia patients, those patients with difficulty swallowing. 3D food printing shows promise for enabling these patients to eat what appears to be normal food with full flavor, that has been 'printed' to make it easier to chew and swallow. This is life-changing technology for patients that have had no alternatives to baby food.

Imagine the implications to food retailers when 3D food printing becomes more commercially available. The question is not if this will happen, but when. Star Trek's food replicator will one day soon be a reality.

Conclusion

Understanding the intrinsic link between the food grocery retailers sell and the health & wellbeing of their shoppers, retailers have a massive opportunity to not only grow their business but also to stem the tide of poor health and chronic disease that affect a majority of people in the United States. In doing so, food retailers can strengthen and make more productive their own workforces, while reducing healthcare related costs and improving the morale of their associates.

The explosive growth of data, particularly nutrition related data for food products, combined with artificial intelligence, make possible hyper-personalized food guidance based on an individual's health condition, all at massive scale.

And the time is ripe for retailers to take the leading role in next-generation food-as-medicine initiatives, taking advantage of the growing consumer self-advocacy movement and growing unease with the pharmaceutical and medical establishment.

But assuming that leading role requires change. I wrote in [Bionic Retail](#) about the need for retailers to change paths, to make the leap to the exponential path to the future... or remain on the path to retail purgatory. One of the key requirements for making that leap is to identify the 'we've always done it this way' thinking inside the organization and set it aside.

Ahold Delhaize USA's recently announced [Foodcare](#) initiative is a case in point. While the intentions are good, the program leverages existing tools, like the Guiding Stars shelf tag program, dietitians in the store, and participation in Healthy Benefit Cards. Nowhere to be found is guidance to specific foods beneficial to the individual based on their specific needs. No hyper-personalization to help shoppers find the most relevant foods for them from across the store. No added savings on foods beneficial to the individual shopper. And Ahold Delhaize USA is hardly alone in continuing along the path to purgatory, creating opportunity for a less encumbered-by-the-past retailer to implement a next-generation food-as-medicine program.

It's time for retailers to step up and do well by doing good



Hawkins has been helping the retail industry create the future for over twenty five years. As a retailer, he pioneered loyalty and shopper insights. Deep knowledge of shopping behavior and marketing economics led to developing the first marketing personalization capability two decades ago. His journey has included blazing a path for biometrics, computer vision, digital engagement, and more. Along the way he's decimated countless industry practices on a relentless march into the future.

As a strategic advisor, Hawkins has had the privilege of working with retailers, wholesalers, CPG brand manufacturers, and tech companies in over 20 countries on 5 continents. Companies like Kroger, ASDA, Mitsubishi, Lawson, Hy-Vee, KVAT Food City, Wakefern, Procter & Gamble, Unilever, Retailix, Retail Next, NCR, and many others. More recently, his work has expanded into the growing convergence of the massive food and healthcare industries.

And that leadership continues today. Hawkins has leveraged his deep retail experience, knowledge of human behavior, technology expertise, and view to the future, to help retailers change paths, moving from the linear world of yesterday to the exponential world of tomorrow.

His expansive industry view and early insight into disruptive technology makes him a sought-after keynote speaker at conferences in the U.S. and around the world. Hawkins is the author of Building the Customer Specific Retail Enterprise; Customer Intelligence; **Retail in the Age of I**, and **Bionic Retail**, along with the **Retail Mindsteps** Innovation Briefs and White Papers. Hawkins lives in Colorado with his wife Heather, and Remington, their Bernese Mountain Dog.

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