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# Overcoming Parents' Covid-19 Vaccine Hesitancy: New Approaches to Insights

*Bill Bloom and Glenna Crooks, PhD*



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## Executive Summary

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This study was the first to explore which messengers were most likely to influence a parent's decisions about whether to immunize their children to protect them from Covid-19. Specifically, it used a framework developed by Dr. Glenna Crooks in more than a decade of research that identified a set of eight distinct networks that support adults.

In this study, parents were asked to identify which of their networks they would engage to help determine whether to immunize their children with a Covid-19 vaccine.

Overall, the Health Network was the top choice among the eight networks that parents would choose to help influence their decision, followed by the Family Network. These two networks received high Idea Scores and Passion Scores®, both above the mean or benchmark for other studies, while also scoring low on controversiality. This was true regardless of gender, race, education, income, or politics.

Meanwhile, seeking guidance from *Personal Advisors* (like attorneys or accountants) or a *Career Network* ranked lowest overall. Those networks had low Idea scores, low *Passion Scores*®, and high *Controversiality Scores*. The *Career Network* is the least influential among Women, Whites, Blacks, Conservatives, and those with incomes over \$24K, a High School Diploma, or a master's degree. The *Spiritual Network* scored as the least influential and most controversial with the lowest income group, White Men, Liberals, and Independents.

In addition to the research results, this study showed that the *FastFocus* market research method was a viable way to explore public health markets and marketing. It is simple for research subjects, attractive for younger cohorts, faster and more budget-friendly than other methods, and delivers actionable insights in real-time which is flexibility lacking in public health, especially when fast-moving issues emerge such as during the pandemic.

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## Market Research Pain Points

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Traditional market research creates a number of pain points that bedevil clients and market researchers alike.

### Slow Research Cycles

Traditional studies can take months to complete. This prevents them from delivering research insights quickly to clients who need them to optimize their business operations, especially in highly competitive markets or in situations like the recent pandemic that presented a large number of moving targets to address as schools closed and opened, and workplaces did likewise, and vaccines were developed and recommended for various age groups.

### Time-Starved Respondents

This makes participants unwilling or unable to complete surveys, especially when surveys are long or when studies are directed at younger cohorts. Parents, especially those who were employed, were more time-starved than ever during the pandemic.

### Cost

Traditional methods are costly<sup>1</sup> and that, alone, makes them unsuitable for repeat studies as products, messaging, and packaging ideas are designed, refined, and optimized for targeted market segments.

### Limited Insights

Traditional methods provide insights about what people think and that can be useful, but they fall short in predicting behavior, which is the ultimate goal. Given the controversies that have erupted during the pandemic, it was important to sort the rhetoric from reality and understand what parents would ultimately do when given the opportunity to vaccinate their children.

### Diluted Insights

New, “agile,” short surveys correct for some weaknesses of traditional methods, but rarely do they develop compelling stories to present to senior management along with data insights.

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<sup>1</sup> A minimum of \$25,000.

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## FastFocus Solution

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The *FastFocus* solution addresses the current shortcomings in traditional market research. We applied it to a study of Covid-19 vaccine decision-making by parents.

### Short Cycle Times

Studies can be designed and programmed in less than a day, fielded immediately, and results available in real-time. This Covid-19 vaccination study – from start to finish – was conducted in under a week.

### Mobile-First

Studies can be completed on any internet-connected device but are mobile-first and can be finished in four minutes or less. As is the case in other *FastFocus* studies, this study about Covid-19 vaccination – including among GenZ respondents – achieved a 90% engagement rate across the diverse demographic range of participants we surveyed.

### Affordability

*FastFocus* studies are affordable, enabling clients to conduct them often to identify market opportunities and threats. For this study, we were able to secure *pro bono* respondent recruiting help from *Survey Healthcare Global*.<sup>2</sup> A study such as this one about Covid-19 vaccination could be done for \$5,000 plus any third-party sample recruitment costs.

### Predictability via Superior Analytics

The behavioral focus and predictive analytics of this method provide insights into what respondents will actually do, not just what they think they'd do. This is done via three highly intuitive metrics. The *Passion Score*<sup>®</sup> is considered the primary and most important metric. That score is supported by Idea and Controversiality Scores which provide important depth and dimension.<sup>3</sup>

### *Passion Score*<sup>®</sup>

*What is it?* The *Passion Score*<sup>®</sup> captures the percentage of customers that are passionate about an idea. The survey environment is constructed so survey respondents can be, at most, passionate toward only a few ideas.

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<sup>2</sup> The authors would like to acknowledge Matt Walmsley of *Survey Healthcare Global* for his assistance. The quality of their respondents was an important contributor to the quality of the intelligence we garnered.

<sup>3</sup> The timeframe for this study did not allow us to verify a parent's actions and we plan a follow-up study with the same respondents to address that question.

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*How is it measured?* 0 – 100, representing the percent of customers who are positively passionate about an idea.

*How is it used?* The *FastFocus* algorithm uniquely identifies which customers are passionate toward specific ideas using individualized passion thresholds. It is exclusively driven by the "positive passion" respondents express by allocating tokens to products and ideas they desire.

*How is it calculated?* The *Passion Score*<sup>®</sup> is calculated through individual thresholding. e.g., 30% of people were excited about an idea. A "good" *Passion Score*<sup>®</sup> is somewhat relative to the experiment because respondents face tradeoffs among choices. However, a score in the 25-35% range is good.

### **Idea Score**

*What is it?* The "average" consensus of each idea.

*How is it measured?* Average tokens for each idea.

*How is it calculated?* Respondents allocate their tokens positively, negatively, or allocate no tokens at all. Average tokens are calculated for each idea.

*When to use it?* Identify the consensus. How will the idea be received generally? It takes into account those who dislike or are apathetic toward an idea. Combine with *Passion Score*<sup>®</sup> to understand both those who love the idea and those outside of the passionate core. Idea Score is directly comparable among ideas to assess general market acceptance.

### **Controversiality**

*What is it?* The degree to which an idea is polarizing or loved and disliked in equal numbers.

*How is it measured?* 0 – 100. 100 is an equal split between those who love and dislike an idea, while a score of 0 means all respondents either loved or disliked the idea. A 3:1 split receives a score of 50.

*How is it calculated?* The *FastFocus* algorithm uses a variant of purity indices to compare the proportion of those who are passionate to those who dislike it.

*How is it used?* In combination with the *Passion* and *Idea scores*, *Controversiality* adds an important dimension that indicates how polarizing an idea is. In some cases, polarizing ideas create valuable buzz and debate. In other cases, *Controversiality* can be viewed as negative. Context here is everything.

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## Compelling Presentations

Quantitative data are enhanced with qualitative responses, giving market researchers compelling stories to tell senior management. This aligns respondents' verbatim narrative "stories" with the networks they feel most strongly influence them.

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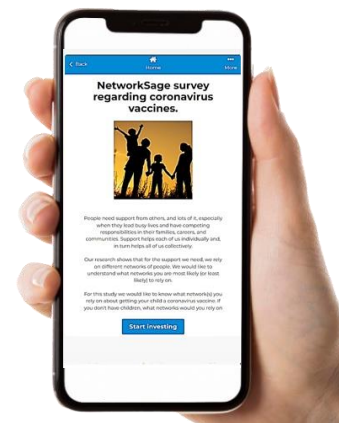
## FastFocus Covid-19 Vaccination Study

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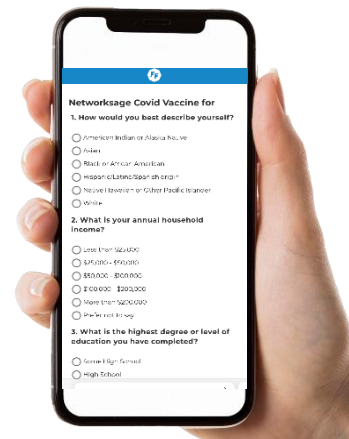
### Overview

A *FastFocus* study of the networks that influence parents' decisions about Covid-19 vaccination for their children was conducted from January 12-15, 2022, and – like other *FastFocus* studies – was accomplished in four steps.

**Step One** In the first step, we issued a call to action, explaining the question we wanted to answer. In this case: "What networks do you rely on for decision-making about vaccinating your children against Covid-19?"



**Step Two** In this step, we asked research subjects a relevant set of demographic and behavioral questions we planned to use later to segment the data for analytics. In this case, the research subjects were parents with children between the ages of 5 and 17. These questions assured a diversity represented by gender, race, education, income, children's ages, political leanings, whether any children had already been vaccinated for Covid-19, and, for unvaccinated children, their likelihood of doing so.





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**Step Three** In this step, we informed participants they had a fixed set of tokens to spend on one or more of the Networks that most accurately represent which one(s) they would rely on for decision-making about Covid-19 vaccines for their children. In this study, they received 1.5 tokens per Network for a total of 12 tokens and were instructed to use all of them. This creates scarcity that forces them to carefully consider their options and make tradeoffs and is a key factor contributing to the predictability delivered by the resulting analytics.

#### Networks

- **Family:** parents, siblings or other relatives
- **Health and Vitality:** physicians, nurses, other health care providers
- **Education and Enrichment:** teachers, mentors, fellow students
- **Spiritual:** clergy, congregation members
- **Social and Community:** friends, neighbors, social media
- **Career:** co-workers, HR, boss
- **Home and Personal Affairs:** legal and financial advisors
- **Ghosts:** the deceased or others no longer in your life

**Step Four** In the final step, we asked respondents to tell us why they invested tokens as they did. In this case, into the Networks where they spent tokens. This adds a vital qualitative component and provides insights into the motivations and rationale behind their quantitative token spend. This helped Glenna see that the concept of a *Ghost Network*<sup>4</sup> was not well understood by the participants and, thus, did not produce actionable insights.

*“Health professionals know more about the virus and the effects on people.”*

*“Some are working for the government and have been lying to us for the money. Most have lost their integrity.”*

### Tracking Results and Scores

“Real-time” tracking of respondent data showed us some important population segments were underrepresented and led to additional outreach by *Survey Healthcare Global*, which successfully recruited additional participants. *FastFocus* analytics then generated three scores in real-time.

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<sup>4</sup> In the Network Information Architecture, a “Ghost Network” is composed of people who were once in a person’s life but who are no longer. Though they are no longer present, they can still be influential. An immunization example, for example, could include memories older people have of relatives who contracted polio before a vaccine was available.

**The Idea Score** This score measures “likeability” or general affinity. The higher the score, the greater the likeability, with the mean likeability score being 100.

In the study of Covid-19 vaccination decision making by parents, in focusing on the scores overall, two networks – the *Health Network* with a score of 248 and the *Family Network* with a score of 217 – were very likable.

Both far exceeded the next two ranking networks: the *Education Network* with a score of 78 and the *Spiritual Network* with a score of 74. Those two networks far exceeded the score for the *Career Network*, which was 48. More about that later.

Idea Score	
<total>	
Health	248
Family	217
Education	78
Spiritual	74
Social	79
Career	48
Personal Affairs	46
Ghosts	14

**The Passion Score®** This score differentiates among the top options and measures the level of positive intensity, trust, and emotion about how respondents spent tokens. A higher score shows greater passion, with a score of 30% being the benchmark for passion. A score of 30% or greater signals that the choice made by participants should be seriously considered.

In the study of Covid-19 vaccination decision making by parents, in focusing on the scores overall, the Health Network with a score of 52%, and the Family Network, with a score of 49% indicate passion.

Both far exceeded the next two ranking networks: the *Education Network* with a score of 17% and the *Spiritual Network* with a score of 16%.

Controversiality	
<total>	
Health	4
Family	7
Education	8
Spiritual	26
Social	21
Career	34
Personal Affairs	36
Ghosts	84

**Controversiality Score** This score measures polarity, meaning like vs. dislike. A higher score shows greater polarization. A score of 100 indicates the highest level of polarization or, in other words, people either love it or hate it. There is no in-between. The lower the score, the less polarizing the idea is.

In the study of Covid-19 vaccination decision making in parents, in focusing on the scores overall, the *Health Network*, with a score of four, and the *Family Network* with a score of seven, are the least polarizing. The *Education Network* is a close third, with a score of eight.

All three are far less polarizing than the *Spiritual Network* with a score of 26 and especially, the *Career Network* with a score of 34.

Passion Score™	
<total>	
Health	52%
Family	49%
Education	17%
Spiritual	16%
Social	15%
Career	9%
Personal Affairs	8%
Ghosts	6%

**Score Summary.** Taking all of these scores into account, overall, the *Health Network* was the top choice, followed by the *Family Network*. This is because they received high *Idea Scores* and *Passion Scores*®, both above the mean or benchmark for our studies. They also received very low *Controversiality Scores*. This was true regardless of gender, race, education, income, or politics.

	Idea Score	Passion Score™	Controversiality
<total>			
Health	248	52%	4
Family	217	49%	7
Education	78	17%	8
Spiritual	74	16%	26
Social	79	15%	21
Career	48	9%	34
Personal Affairs	46	8%	36
Ghosts	14	6%	84

Meanwhile, seeking guidance from *Personal Advisors* (like attorneys or accountants) or a *Career Network* ranked lowest overall. Those networks had low *Idea Scores*, low *Passion Scores*®, and high *Controversiality Scores*.

The *Career Network* is the least influential among Women, Whites, Blacks, Conservatives, and those with incomes over \$24K, a High School Diploma, or a master's degree. The *Spiritual Network* scored as the least influential and most controversial with the lowest income group, White Men, Liberals, and Independents.

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## FastFocus Analytics

In this study, the *FastFocus* scores allowed us to see greater differentiation among the top choices and it more accurately identified passionate subgroups.

### *Greater Differentiation Among Top Choices*

In this study, we found that the *Health Network* (Passion Score® = 52%) and the *Family Network* (Passion Score® = 49%) were the most trusted across the populations surveyed. Those *Passion Scores*® showed a preference over the third-ranked *Education Network* (17%) and the fourth-ranked *Spiritual Network* (16%).

### *More Accurate Identification of Passionate Subgroups*

In this study, filtering questions showed subgroup differences. For example, Black Females, unlike the population overall which ranked the *Health Network* as the most influential and the *Family Network* as second, ranked their *Family Network* (Passion Score® = 44%), their *Education Network* (Passion Score® = 34%) as second, and their *Health Network* (Passion Score® = 30%), 22 percentage points lower than that of the general respondent population.

In addition, Black Females rated their *Health Network* as more controversial and polarizing (*Controversiality Score* = 20) than participants overall (*Controversiality Score* = 4), which appears to be a finding consistent with the literature about the experiences they report of poor-quality care and outcomes. As compared with participants overall, Blacks overall, Hispanics overall, Hispanic Males and conservatives rated their *Family Network* – rather than the *Health Network* – as the most influential.

## Qualitative Enhancements

Respondent verbatims say why they invested tokens, adding important insights to other scores, especially the *Passion Score*®.

A previous study is a good example. In that application, *FastFocus* tested the packaging of a CBD remedy for dogs. At the outset, the client's remedy didn't score well and the verbatims indicated why. "Pharma-style" packaging touted the product as effective, "like a medicine," which led respondents to say their dog wouldn't eat it. The winning brands – in terms of *FastFocus* scores and commercial sales – on the other hand, emphasized not only "effectiveness" but "deliciousness" on their packaging. Insights such as those informed the client, who changed their packaging, increased their *Passion Scores*® close to the top of the pack, and most importantly, grow their sales.

## Compelling Presentations

Just having the data, however, might not be enough for presentations to senior management. For those clients, *FastFocus* can offer video and deep, text sentiment analyses to enrich quantitative scores. We do this with enhanced storytelling by partnering with **VoxPopMe** to

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capture video verbatims from participants and with **CANVS** to deliver fast, reliable sentiment analysis. This provides a story reel grounded in quantitative data.



## Why Study Networks?

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We live and work within multiple networks, each composed of people who provide us with support. Understanding this is important for several reasons.

### *Networks influence*

Networks influence our health, including such things as mood, weight gain, smoking, substance abuse, and suicide, as has been demonstrated by network science studies by such experts as Nicholas Christakis, MD. They do this by sharing information and exerting social pressure to conform to a group's norms. We benefit when the information is accurate and social pressure supports safe and healthy behaviors, but the opposite can occur as well.

### *Network Determinants of Health*

The *Network Determinants of Health* (NDOH) are far more modifiable than the *Social Determinants of Health* (SDOH)<sup>5</sup> which are not easy targets for health care interventions. Working at the network level with the quantity and quality of people's connections is far more actionable and efficient for health care providers and empowering for patients and families.

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<sup>5</sup> SDOH includes factors such as education, zip codes, and gun ownership.

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### ***Increasingly Complexity and Sources of Conflict***

Networks are increasingly diverse in today's hypermobile, connected world. Most people live, work, and socialize in networks that hold different, and even conflicting, values and world views.

We've observed these network dynamics since public health measures were instituted during the Covid-19. Some networks embraced mask-wearing and vaccination; others did not. Some spread accurate information, but not all networks did. Some people hid their vaccination status, including from family members who rejected available vaccines. Some people experienced what parents have for many years concerning routine childhood vaccines. That is, the views about vaccines held by people in some of their networks – for example, their *Social Network* or *Spiritual Network* – clashed with the recommendations of the pediatrician in their child's *Health Network*.

### ***Network Framework***

Each network is important and has a role to play in securing long, healthy, satisfying life. At times, however, one network may become more important than others. For example, when a child is diagnosed with a serious disease, the child's *Health Network* will become far more important than the parent's *Social Network*. On the other hand, if children are healthy and the parent is looking for a new job, their *Social Network* should assume greater importance since research shows that the principal source of new jobs is "friends of friends."

In more than a decade of deep ethnographic research, one of us (Glenna Crooks) identified eight networks that support adult life and work. The first five of these eight networks are called *birthright networks* because we're born into them.

***Family Network*** This network includes the family of origin and other families that a parent has been part of, including the one they create for their children and any former families from past relationships. This network bore the brunt of the pandemic more than most others.

***Health and Vitality Network*** This network includes those who help people be healthy, fit, and look good. Studies show that health is a bigger predictor of wealth than education, and attractive people make \$25K more than unattractive people, making this a more important network than most people realize. The pandemic disrupted this network when vaccines were allocated by geography (rather than by health system) and when mass vaccination centers became the delivery site of choice by national policy.

***Education and Enrichment Network*** This network includes those involved in all levels of formal education, including daycare, pre-school, and before- and after-school care programs. This network was among the most disrupted for Family Networks and, because of that, for Career Networks employing parents during the pandemic.

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**Spiritual Network** This network includes those in congregations and houses of worship or others outside those formal settings focusing on what is spiritual and meaningful in life. This network supports humankind’s search for meaning, particularly during difficult times and in the face of inexplicable events. In that case, it’s no wonder that canceling in-person services resulted in so much pushback.

**Social and Community Network** This network includes neighbors, friends, and those in the community, clubs, civic organizations, and social media platforms. This network offers safe water, streets, access to healthy food, and mass transit. Public health systems that provide testing and vaccination programs are part of this network.

The next three are called *Coming-of-Age Networks* because they form as people leave home, finish school, become financially independent, find a mate, and have a child.

**Career/Job Network** This network includes people in a workplace: bosses, direct reports, colleagues, and cross-functional or support teams. It also includes a company’s clients, customers, and suppliers. No network has been immune to pandemic disruptions, but this is one of the sources of near-daily stories about how we adapted to new ways of working.

**Home and Personal Affairs Network** This network includes those who help protect, maintain, and improve household and personal property, not just with “hands-on” services like roofing or plumbing but also with skilled legal and financial advice. Glenna’s research revealed that this was one of the most underdeveloped of most adults’ networks.

**Ghost Network** This network includes people who are not currently physically present in a person’s life because they have passed away, moved away, or drifted away as life changed. Before they left, however, they created impressions that affect decision-making in the present time. Glenna’s youngest brother died at the age of 45 from a vaccine-preventable disease. That painful experience continues to influence three generations of the family, making them more alert to new vaccines when they become available.

## Implications for Covid-19 Vaccination Decisions

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Three elements contribute to the successful management of a pandemic: communication, trust, and a shared sense of threat. Since the start of this pandemic, we’ve used traditional messengers to accomplish that, and the public’s response is clear: it’s not working well enough.

The pandemic isn’t over. We need to keep at it and do it better and this study suggests a number of ways to do that.



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## Reinforce Trusted Connections

These results suggest we should continue to reinforce the trust people, overall, have in their health networks. Those networks were disrupted by the mass vaccination centers used for the rollout and by pandemic restrictions that created some barriers to care. We need to restore that trust and the access to care settings parents have already chosen to support the health of their children.

## Act on the Messenger Preferences of Black Mothers

The results of this study align with reports of institutional racism and poorer health outcomes experienced by Black Mothers. The low and controversial ratings they gave to their *Health Network* were not unexpected, but they are troublesome and unlikely to change for the better during Covid-19. We need to explore new ways to communicate through the *Family* and *Education Networks* they trust.

## Conduct Additional Studies

Additional *FastFocus* vaccine studies will provide new insights.

***Needs of diverse populations*** The first should account for the diversity of communities we serve. This would include single-parent families and non-native English-speaking parents, for example, as well as studies with adults who are hesitant to vaccinate themselves against Covid-19.

***Top-performing networks*** The second would do a deeper dive to learn more about the top-performing networks. For example, knowing that the *Family Network* ranks first or second as an influencer for parents is useful, but message campaigns will be more efficient if we know which person or people are the most important influencers. It is the parent's spouse or life partner? Their siblings? Vaccines are sometimes viewed as a victim of their own success, underappreciated by younger cohorts of parents with no personal experience of vaccine-preventable disease. Might grandparents – especially Maternal Grandmothers – be influential? If so, is this another indicator of “the Grandmother Hypothesis” which has shown that the presence of a grandmother improves the chance a baby will survive, even in wealthier nations?

***Bottom-performing networks*** The third would do a deeper dive to learn more about the bottom-performing networks. Who, within the Career (or Job) Network is the least influential and most controversial? Co-workers? Human Resources? Some companies successfully immunized virtually all employees before mandates were enacted. Did employer mandate conflicts emerge because they were government requirements and not voluntary? Or were other dynamics at play?

***Other drivers of hesitancy*** The last would be a study to explore the types and drivers of Covid-19 vaccine hesitancy. People are vaccine-hesitant for at least a dozen different reasons that



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surfaced during this pandemic. We don't understand the nuances of those. Some might be addressed with new messages and messengers. Others might not and may require other public health and healthcare system changes.

### **Beyond the Pandemic**

Beyond the pandemic, given that networks are known to impact various behavior-related health conditions – obesity, depression, smoking, alcohol misuse, violence, and suicide – knowing which networks can influence healthy behaviors provides us with the insights to imagine new types of network-informed interventions.

In summary, the *FastFocus* method is a viable way to explore public health markets and marketing. It's simple for research subjects, attractive for younger cohorts, faster and more budget-friendly than other methods, and delivers actionable insights in real-time which is flexibility lacking in public health, especially when fast-moving issues emerge such as during the pandemic.

### **About the Authors**

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#### **Bill Bloom**

Bill is the founder and CEO of *FastFocus*. In his career, he invented, designed, and developed a wide range of software products and solutions. This included interactive adventure games for Disney, enterprise SAAS solutions, and mobile applications for FedEx, E-Trade, the FBI, and others. During those years he saw that traditional market research was central and critical for each project but wasn't up to the task. That's why he set out to build a better, faster research mousetrap.

#### **Glenna Crooks, Ph.D.**

Glenna was a Presidential Appointee, responsible for public health policy, including for vaccines. She was also the Global Vice President of Merck's Vaccine Business and, as founder and CEO of Strategic Health Policy International, Inc., was a consultant to vaccine companies and governments worldwide addressing tough vaccine and immunization system challenges. She is currently co-Founder of the CogentSage Group and her groundbreaking ethnographic research on support networks is the topic of her latest book, "The NetworkSage: Realize Your Network Superpower."