CASE STUDY

Barrier Analysis Rapid Community Assessment:
A tool for understanding determinants of behavior change

Snapshot

- In 2022, the New Orleans Health Department (NOHD) began a grant-funded project to address vaccine hesitancy in Orleans Parish.
- NOHD conducted a Barrier Analysis to identify underlying causes of vaccine hesitancy within its target population.
- This case study will articulate the process for conducting a Barrier Analysis and illustrate its application using examples from NOHD's vaccine hesitancy project.
- The Barrier Analysis conducted by NOHD showed that vaccine hesitancy in the target population is likely linked to perceived action efficacy, perceived social acceptability, and perceived positive and negative consequences of vaccination.

Introduction

Barrier Analysis is a rapid assessment tool used in community health and other community development projects to identify behavioral determinants associated with a particular behavior. These behavioral determinants can inform the development of effective behavior change communication messages, strategies, and supporting activities (e.g., creating support groups). It focuses on eight determinants: perceived susceptibility, perceived severity, perceived action efficacy, perceived social acceptability, perceived self-efficacy, cues for action, perception of divine will, and positive and negative attributes of the action (i.e., the behavior).

Barrier Analysis can be used at the start of a behavior change program to determine key messages and activities for intervention. Ongoing programs focusing on behaviors that have not changed very much (despite repeated efforts) can conduct a Barrier Analysis to understand what is keeping people from making a particular change.

In 2022, the New Orleans Health Department (NOHD) began a grant-funded project to understand hesitancy in vaccine uptake and develop approaches to increase health-seeking behavior for vaccine-preventable diseases in Orleans Parish. NOHD conducted a 'barriers for behavior change' analysis to learn the underlying determinants of vaccine hesitancy within the target population. Using examples from the NACCHO-funded Vaccine Hesitancy Project implemented in Orleans Parish, this case study will illustrate the process for analyzing barriers to behavior change.

Problem

The goal of NOHD's vaccine hesitancy project was to identify underlying causes of vaccine hesitancy within vulnerable populations and partner with community stakeholders to design and

implement behavior change interventions. Vaccination coverage rates for Covid-19 and the flu remain low in specific neighborhoods within Orleans Parish despite targeted efforts to improve vaccine uptake. Hesitancy towards a healthy behavior is not an issue of personal beliefs but relatively hidden barriers to adopting this behavior. These barriers can be identified using a 'Barrier Analysis' approach.

Intervention

A Barrier Analysis can be formative research to inform behavior change intervention design. Understanding barriers to behavior change will strengthen social and behavior change communication programs. The Barrier Analysis methodology examines eight key "determinants" influencing a person's decision to adopt a behavior. The approach helps to identify the factors that have the most substantial influence on a person's behavior. A vital component of the Barrier Analysis is using a Doer/Non-Doer survey. Comparing the responses of people who do a behavior (the Doers) with those who do not (the Non-Doers) helps to identify the most important determinants that can inform the selection or design of effective behavior change activities.

The steps in conducting a Barrier Analysis are as follows:

1. Define the ideal behavior (well-written behavior statement).
2. Identify and describe the priority audience (demographics).
3. Design the Doer/Non-Doer questionnaire.
4. Organize the field work and conduct data collection (to identify the critical determinants).
5. Code, Tabulate, and Analyze the Data.
6. Identify the most influential determinants that facilitate or impede the behavior change (according to Doer/Non-Doer results).
7. Use the Results to Make Decisions

Barrier Analysis can be done quite rapidly. If you have two to four people available to carry out Barrier Analysis, the analysis process can take 1-2 days for each behavior you study. A larger group can generally analyze more behaviors in the same timeframe.

For NOHD's Barrier Analysis of vaccine uptake, three geographical areas of focus were identified. The vaccine coverage rates for Flu and COVID-19 in these areas are lower than the average rate in Orleans Parish. And these areas are similar in their proportion of significant populations of low-income black residents and youth.

The Barrier Analysis approach requires a minimum sample size of 90 respondents (45 Doers and 45 Non-Doers). To determine if there were differences across geographical areas, NOHD aimed to collect 90 respondents from each focus geographical area. While these areas share similar characteristics, their needs, challenges, and attitudes may still differ due to geographical locations and sub-cultures.

Seventeen local community health workers were recruited to assist in planning, conducting, and analyzing the Barrier Analysis. NOHD conducted a three-hour training workshop to familiarize the community health workers with the Barrier Analysis and finalize logistics. Bilingual community health workers also assisted in translating the survey to Spanish. Through convenience sampling, the Doer/Non-Doer surveys were administered to respondents at least 18 years old and self-identified as living in one of the three areas.

During data collection, the team was divided into groups of three to four people to cover multiple neighborhoods and spent 1-2 days in each area. The survey was done on paper with

answers recorded by the data collector. Each data collector aimed to collect an equal number of Doer and Non-Doer respondents to ensure a balanced sample size. In the end, the team completed a total of 277 questionnaires.

To organize and analyze the survey results, work with your data collection team to go through the completed questionnaires question by question. Have participants identify some of the responses that they are seeing for a given open-ended question to get a sense of the types of answers people are providing. Take the most common answers and develop a coding guide for each, tabulating responses by Doer and Non-Doer.

For the vaccine hesitancy study, NOHD conducted a four-hour data analysis workshop with the community health workers. The workshop began with distributing and organizing the first focus area surveys. Each person received 4-6 surveys that included both Doer and Non-Doer surveys. Survey results were tabulated by counting the number of responses that were the same or similar across all respondents divided by Doers and Non-Doers.

Data Tabulation Example

Question	Responses	# Vaxxed	# Non-vaxxed
1a) Do you think you could get (disease)?	Yes	81	54
	No	49	53
	Not sure/ Don't know	1	1
	Possibly	10	14
1b) Do you think you will get (disease) in the next few months?	No	116	105
	Maybe/possibly/unsure	14	10
	Yes	12	7
1c) What are the problems or complications that you can have if you do not get vaccinated?	Getting sick/no one safe/ going to the hospital	116	75
	Death	33	9
	No problems/ nothing	6	19
	Not sure/ Don't know	5	1

Once all questionnaires were tabulated, percentages were calculated for each possible response. Then the difference between Doer and Non-Doer was calculated, and the responses with the most significant differences were identified.

Question	Response	# Vaxxed	% Vaxxed	# Non-vaxxed	% Non-vaxxed	Difference	Priority L/M/H	
1a) Do you think you could get (disease)?	Yes	81	56.3%	54	40.6%	15.6%	M	20% + Difference (Vaxxed)
	No	49	34.0%	53	39.8%	-5.8%	L	
	Not sure/ Don't know	1	0.7%	1	0.8%	-0.1%	L	
	Possibly	10	6.9%	14	10.5%	-3.6%	L	
1b) Do you think you will get (disease) in the next few months?	No	116	80.6%	105	78.9%	1.6%	L	10% - 19.9% Difference (Non-vaxxed)
	Maybe/possibly/unsure	14	9.7%	10	7.5%	2.2%	L	
	Yes	12	8.3%	7	5.3%	3.1%	L	
1c) What are problems or complications that you can have if you do not get vaccinated?	Getting sick/no one safe/ going to the	116	80.6%	75	56.4%	24.2%	H	
	Death	33	22.9%	9	6.8%	16.1%	M	20% + Difference (Non-vaxxed)
	No problems/ nothing	6	4.2%	19	14.3%	-10.1%	M	
	Not sure/ Don't know	5	3.5%	1	0.8%	2.7%	L	
2a) How bad of a disease is (disease)?	Very bad/ horrible/ bad	104	72.2%	61	45.9%	26.4%	H	
	somewhat bad	26	18.1%	30	22.6%	-4.5%	L	10% - 19.9% Difference (Non-vaxxed)
	Average	9	6.3%	28	21.1%	-14.8%	M	
	Not at all	2	1.4%	4	3.0%	-1.6%	L	
2b) Would you consider (disease) a dangerous disease?	Yes	127	88.2%	74	55.6%	32.6%	H	
	Somewhat	4	2.8%	27	20.3%	-17.5%	M	
	No	16	11.1%	22	16.5%	-5.4%	L	
3a) When a person gets vaccinated, does it help to prevent getting sick?	No	20	13.9%	57	42.9%	-29.0%	H	
	Somewhat/so-so	27	18.8%	29	21.8%	-3.1%	L	
	Reduces severity, but doesn't prevent	12	8.3%	2	1.5%	6.8%	L	
	Not sure	1	0.7%	1	0.8%	-0.1%	L	
	Yes	85	59.0%	32	24.1%	35.0%	H	
3b) How effective do you feel vaccinations are in preventing (disease)?	Helps prevent (a lot)	88	61.1%	22	16.5%	44.6%	H	
	Somewhat	33	22.9%	35	26.3%	-3.4%	L	
	A little/ not very effective	14	9.7%	61	45.9%	-36.1%	H	
	Don't know/ not sure	2	1.4%	5	3.8%	-2.4%	L	

Results

NOHD found that perceived action efficacy, perceived social acceptability, and perceived negative and positive consequences were the strongest determinants of behavior change across all three geographic areas.

Perceived action efficacy

Unvaccinated respondents believed that vaccines were only somewhat or not at all effective in preventing diseases. They generally did not find vaccines helpful in preventing illness.

Perceived social acceptability

Vaccinated: My family would approve if I got vaccinated, and their approval is most important to me. I don't think anyone would disapprove if I got vaccinated.

Unvaccinated: I don't think anyone would approve or disapprove if I got vaccinated. My approval is most important to me.

Perceived positive and negative consequences

Unvaccinated respondents were more likely to think that there was no benefit to getting vaccinated.

Conclusion

A Barrier Analysis can help bridge gaps between important programs and communities in need. Understanding the determinants of behavior change for populations of interest can create links to activities that increase the chance of making an impact.

The New Orleans Health Department values data-informed decision-making. Using the results of the Barrier Analysis, NOHD is adjusting its social and behavioral communications targeting outbreaks of vaccine-preventable diseases. Based on the findings, NOHD will develop intervention messages to promote personal benefits (rather than group benefits) with increased emphasis on community education on how vaccines work.

The Barrier Analysis can be a valuable tool for rapid assessment and strategic planning for community health and community development interventions. The approach has been used for COVID-19 vaccine interventions in the U.S. and other countries; and for addressing a range of themes like food security, maternal health, and sanitation.