QUALITATIVE RESEARCH: FROM DEVELOPING THE INTERVIEW GUIDE TO WRITING THE REPORT

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OUTLINE

What is Qualitative Research?

Why Qualitative Research?
- Qualitative Research Questions
- Uses of Qualitative Research

Creating the Interview Guide

Developing the Protocol
- Recruitment & Enrollment
- Data collection
- Analysis

Conducting the Study

Managing and Analyzing the Data

Writing the Report

DISCLAIMER

My PhD is in Nutrition and I conduct public health nutrition research, so many of my examples are nutrition-related.

I hope you have ideas for your own studies, on topics different than nutrition, as there will be time for interaction and engagement on your topic of interest after each segment.

WHAT IS QUALITATIVE RESEARCH?

"Qualitative research analyzes data from direct fieldwork observations, in-depth, open-ended interviews, and written documents. Qualitative researchers engage in naturalistic inquiry, studying real-world settings inductively to generate rich narrative descriptions and construct case studies. Inductive analysis across cases yields patterns and themes, the fruit of qualitative research."

Michael Quinn Patton, Encyclopedia of Statistics in Behavioral Science, Qualitative Research, 15 October 2005, https://doi.org/10.1002/0470013192.bsa514.

Qualitative	Quantitative
Purposive sampling	Representative sampling
Analysis of words	Analysis of numbers
Responses are not systematically standardized	Responses are systematically standardized
Results presented in longer space, because they include quotations.	Results presented in a smaller space
Smaller sample size	Larger sample size
Reduced generalizability	Increased generalizability

WHAT IS QUALITATIVE RESEARCH?

Types of data collection methods
- In-depth interviews
- Focus group discussions
- Photovoice
- Content analysis
- Direct observation
- Case studies

Today, we will focus on collection and analysis of data from in-depth interviews.

USES OF QUALITATIVE RESEARCH

Uses of Qualitative Research

- Program evaluation – Example, the Produce Prescription Program

- Quality Improvement – Example, Diabetes Prevention Program

- Hypothesis generation – Example, the WISEWOMAN Program

QUALITATIVE RESEARCH QUESTIONS - EXAMPLES

- What are the benefits and challenges related to involvement in a Produce Prescription Program for participants and farmers?
  - The Produce Prescription Program provides vouchers to nutrition education participants to redeem for free fruits and vegetables at local farmers' markets and stands.
- What are the barriers and facilitators to attendance at Diabetes Prevention Program sessions among pre-diabetics at ECU's Department of Family Medicine?
  - The Diabetes Prevention Program is a healthy eating and physical activity program for pre-diabetics, to prevent diabetes onset.

WHAT ARE YOUR QUALITATIVE RESEARCH QUESTIONS?

Please enter your qualitative research questions in the chat, or unmute yourself and share your research questions. We will spend 10-20 minutes learning about and discussing your qualitative research questions.

CREATING THE INTERVIEW GUIDE

Now that we have a good qualitative question, we can create the interview guide.

The interview guide can be based on the research question, as well as constructs of a relevant theory.

For the Diabetes Prevention Program example, interview guide questions were based upon the goal of learning more about participants' barriers and facilitators to DPP attendance and were also framed within the context of the Health Belief Model.

The Produce Prescription Interview Guide was based upon the goal of learning more about participants' experiences in the program, and how to improve the program.

CREATING THE INTERVIEW GUIDE

PICH Produce Prescription Participant Follow-Up Interview Guide

Thank you for being willing to participate in our program evaluation. We hope to learn more about how you used the produce prescription vouchers and how we could improve the program. I will ask you several questions about the produce prescription program, and it will take less than 30 minutes. I will audio-record this interview and you are able to stop this interview at any time. Do you have any questions?

1. How did you hear about the PICH Produce Prescription Program?
   a. Were you a part of a nutrition program?
   b. Did you get the vouchers from your healthcare provider?
   c. Did you receive these vouchers another way? If so, how?

2. If yes to participating in a nutrition program, could you tell us a little more about the program you participated in?
   a. How did you receive the nutrition program information? (Phone sessions, text messages, online sessions, in person sessions)
   b. Do you feel more confident to improve your current health habits after this program?
   c. How did you receive the vouchers and how often? (via mail, in person; after every class, at the end of all of the classes)
   d. How did the vouchers help use the skills you learned during the program?

3. How many vouchers did you receive?
   a. Did you redeem all of the vouchers that you received?
   b. If no, of the vouchers you received, how many did you redeem?

4. If you did NOT redeem any vouchers, what prevented you from redeeming the vouchers?

5. If you only redeemed SOME or NONE of your vouchers, what prevented you from using all of them?

6. If yes, where did you spend your vouchers?
   a. Was that your first time shopping at [Insert Retailer]?
   b. If so, how was your experience at [Insert Retailer]?
   c. Are you likely to go back and shop there sometime?
      i. Probe: Please tell me more about that.
   d. What did you enjoy about going to [Insert Retailer]?
   e. Was there anything you did not enjoy about [Insert Retailer]?

7. If yes, what did you purchase with the vouchers?
   a. Probe: How did you prepare/cook the items?

8. Did you prepare/share the produce for or with your family?
   a. Probe: Have you been able to incorporate more fruits and vegetables into your/your family's meals?
   b. Probe: Have you noticed any positive health changes since incorporating more fruits and vegetables into your diet?

9. Do you feel that you are able to eat more fruits and vegetables because of this program?
   a. Probe: Did you prepare/share the produce for or with your family?
   b. Probe: Have you been able to incorporate more fruits and vegetables into your/your family's meals?

10. 10. If yes, have you noticed any positive health changes since incorporating more fruits and vegetables into your diet?

11. Overall, what did you like about the program?

12. How could we improve the program?

13. Is there anything else that you would like to say?

CREATING THE INTERVIEW GUIDE

Things to avoid:

- Why questions
- Yes/no questions
- Questions where a participant could give a very brief answer.

Probe with things like: "Please tell me more about that."

YOUR INTERVIEW GUIDE

What questions would you want to include on your interview guide?

How will you translate your research question into questions on your interview guide?

What theory will guide the interview questions?

Please send your ideas in the chat or unmute to discuss your interview guide ideas.

DEVELOPING THE PROTOCOL

- Study purpose

- Subject/ participant eligibility and recruitment—How will you recruit and screen potentially eligible participants?

- Data collection

- Process for obtaining informed consent

- Data management and analysis

DEVELOPING THE PROTOCOL

- Study purpose—State the study's purpose.
  - Include background rationale if possible.

- Subject/ participant eligibility and recruitment
  - What are the study's eligibility criteria?
  - How will participants be recruited?
  - How will they be screened for eligibility?

- Consider how you will recruit participants
  - Passive: Flyers, emails to listservs
  - Active: Walking around a waiting room asking potentially eligible individuals if they are interested

- Obtain permission from location for recruitment of participants

- Informed Consent

DEVELOPING THE PROTOCOL

- Where will interviews occur?

- Approximately how long will they last?

- Will they be audio-recorded?

- Will the interviewer be trained in qualitative methods?

- Will there be a separate note-taker?

- Will participants be paid for their voluntary participation?

DEVELOPING THE PROTOCOL

- How will you document informed consent?

- Who will read the participant the consent form, answer questions, and ensure participants understand the study?

- Print two copies – one for your files and one for the participant.

Informed Consent to Participate in Research

Information to consider before taking part in research that has no more than minimal risk.

The interviewer will read all elements of the consent sheet below and will ask the participant if they have any questions. The interviewer will record the date and time the phone call occurred, interviewer name, and any questions asked and answered, as well as document that the participant agreed to participate – all on the consent documentation form.

_____

The title of this research study is "Partnerships to Improve Community Health (PICH) Produce Prescription Evaluation. The Sponsor/Funding Source is Kate B. Reynolds Charitable Trust. The Principal Investigator is Dr. Stephanie Jilcott Pitts, Department of Public Health,115 Heart Drive, Greenville NC 27834; 252-744-5572.

Researchers at East Carolina University (ECU) study issues related to society, health problems, environmental problems, behavior problems and the human condition. To do this, we need the help of volunteers who are willing to take part in research.

The purpose of this research is to evaluate the PICH Produce Prescription Program. You are being invited to take part in this research because you are a person who participated in the PICH Produce Prescription Program, over the age of 18, and an English speaker. The decision to take part in this research is yours to make. By doing this research, we hope to assess the dietary impact of produce prescription vouchers on recipients and learn how to improve this program from the participant perspective.

If you volunteer to take part in this research, you will be one of about 30 – 45 people to do so.

You should not volunteer for this study if you are under 18 years of age, not an English speaker, and not a person who participated in the PICH Produce Prescription Program.

You can choose not to participate.

The research will be conducted over the phone. The total amount of time you will be asked to volunteer for this study will be 30-45 minutes.

You will be asked to do the following: First, you will be asked to listen to me explain this study. You may ask questions at any time. After you agree to participate, we will proceed with the interview. We will ask you several questions about the produce prescription program. We will audio-record this interview. The audio recording will be downloaded to a password protected computer and transcribed verbatim. The electronic transcripts will be kept for 3 years. Only study staff will be given access to these transcripts. The audio recordings will be deleted from the recorder after transcription.

We don't know of any risks (the chance of harm) associated with this research. Any risks that may occur with this research are no more than what you would experience in everyday life. We don't know if you will benefit

ECU and the people and organizations listed below may know that you took part in this research and may see information about you that is normally kept private. With your permission, these people may use your private information to do this research:

- The sponsors of this study.
- Any agency of the federal, state, or local government that regulates human research. This includes the Department of Health and Human Services (DHHS), the North Carolina Department of Health, and the Office for Human Research Protections.
- The University & Medical Center Institutional Review Board (UMCIRB) and its staff have responsibility for overseeing your welfare during this research and may need to see research records that identify you.

We will keep all information (audio recordings and verbatim transcripts) on password protected computers and in locked filling cabinets in a locked research office. The transcripts of the recordings could be used for teaching purposes or training purposes. If used for these purposes, the transcripts will be stripped of identifiers and used in future research without anyone knowing it is information from you. We will keep audio recordings for no more and transcripts for no more than 3 years.

You can stop at any time after it has already started. There will be no consequences if you stop and you will not be criticized. You will not lose any benefits that you normally receive.

The people conducting this study will be able to answer any questions concerning this research, now or in the future. You may contact the Dr. Stephanie Jilcott Pitts at 252-744-5572 (M-F, between 9 am to 5 pm). If you have questions about your rights as someone taking part in research, you may call the University & Medical Center Institutional Review Board (UMCIRB) at phone number 252-744-2914 (days, 8:00 am-5:00 pm). If you would like to report a complaint or concern about this research study, you may call the Director for Human Research Protections, at 252-744-2914.

DEVELOPING THE PROTOCOL

Data management and analysis

- Which software program will you use?

- Discuss codebook creation and double-coding.

ECU

Protocol components

A research protocol is a separate document clearly describing the science, objectives and ethics of the project.

The scientific aspects of the protocol should include a discussion of;

- the research problem and background analysis
- the relevant literature including animal and adult literature (where appropriate)
- study objectives
- the research design and methodology
- study population (including control populations if applicable) to be used (inclusion/exclusion criteria)
- proposed study endpoints
- ascertainment/measurement methods for evaluating study endpoints
- a schematic timeline when the protocol proposes multiple interventions or multiple time points
- statistical plan including hypothesis and proposed sample size
- definition of adverse and serious adverse events

The ethical aspects of the protocol should include a discussion of;

- potential benefits to participants and others
- potential harms to participants and others
- how potential harms will be minimized - including the risk of breech of privacy and confidentiality
- alternative treatments or procedures
- the document and process for seeking consent and assent

CONDUCTING THE STUDY

Checklist of materials:

- Recording device

- Copies of the interview guide

- Consent forms (2 copies per participant)

- Pens for note-taking

- Participant incentives and associated paperwork

FROM SCHENSUL, ET AL, INTERVIEW INTRODUCTION

- Introduce yourself and the project/ organization
- Ensure confidentiality, explain how you will protect privacy
- Tell interviewees that their views are very important to you
- Ask permission to record interviews using tape recorder and in writing
- Make interviewees comfortable, make small talk, establish rapport, etc.

From: Schensul et al. Essential Ethnographic Methods: Observations, Interviews, and Questionnaires (Ethnographer's Toolkit).
ISBN: 0761991441

FROM SCHENSUL, ET AL, WAYS TO MESS UP YOUR INTERVIEWS

- Phrase a question as a statement

- Fail to notice that the interviewee provided an alternative meaning to the one asked for

- Finish sentences for interviewee

- Fail to clarify the referents for terms like "stuff" or "things"

FROM SCHENSUL, ET AL, WAYS TO MESS UP YOUR INTERVIEWS

- Incorrectly assume that the meaning of slang words are self-evident

- Prematurely determine beginnings and endings of episodes in a narrative

- Ask questions in ways that the informant does not understand

FROM SCHENSUL, ET AL, TIPS:

- Avoid offering your personal opinions and making judgments.

- Avoid showing surprise, disgust or other strong emotions.

- Accept hospitality when offered.

- Be aware of the general condition of interviewee.

FROM SCHENSUL, ET AL, PROBING IN INTERVIEWS

- Neutral agreement

- Repeat what person said in a questioning way

- Ask for more information

- Ask for clarification on internal differences

- Ask for an opinion

- Ask for clarification on various term meanings

WHEN TO STOP INTERVIEWING?

→Once data saturation on key themes is reached, and/or resources are depleted.

YOUR EXPERIENCE CONDUCTING QUALITATIVE INTERVIEWS

Have you ever conducted a qualitative interview?

Have you made any of the mistakes Schensul talks about?

What are your "go to" probes in an interview?

MANAGING AND ANALYZING THE DATA

Now that our interviews have been conducted, what next?

Transcribe audio files verbatim

- Rev.com is one service that can be used.
- Webex also generates a transcript if the meeting is recorded, but those transcripts must be heavily edited.

Read through transcripts and try to correct as many errors as possible.

Begin the coding process!

MANAGING AND ANALYZING THE DATA

- Create a consensus codebook:

- Enlist help from a double-coder

- Both coders should read over the interview guide and 3-5 data-rich transcripts.

- Coders should independently create a start list of codes and operational definitions (and illustrative quotes).

  - What are codes? They are tags or labels for assigning units of meaning to the descriptive or inferential information compiled during a study.

- Coders should then meet together to discuss codebooks and create one consensus codebook that will be used by both coders to independently code all transcripts.

MANAGING AND ANALYZING THE DATA

- Once the consensus codebook is completed, begin independently coding the transcripts using the consensus codebook.

- Meet to discuss coding decisions and reach consensus.
  - →Note that you may need to revise codes – some decay, some emerge, break some into sub-codes.

- Add the consensus codes to each transcript in Nvivo.

- **It is important that two coders code the same text to decrease bias, and ensure codes mean what the researchers say they mean.**

MANAGING AND ANALYZING THE DATA

- Combine deductive & inductive codes into a codebook

- Deductive, top down, etic codes
  - Interview guide used to develop themes (codes) and operational definitions, combining them into a codebook

- Inductive, bottom up, emic codes
  - Codes to describe unanticipated themes that emerge from the data

CODEBOOK DEVELOPMENT-ONE MORE OVERVIEW!

1. Two researchers (often the ones who are also going to code the data) independently examine the same 3-5 data-rich transcripts, and create a codebook, including deductive and inductive codes and operational definitions.

2. Researchers (coders) come together to discuss the codebooks, resolve discrepancies, and reconcile their codebooks into one consensus codebook.

3. Researchers (coders) then independently code the same 3-5 transcripts, come together to discuss/ resolve discrepancies, and clarify the codebook and operational definitions.

4. Researchers (coders) independently code the remaining transcripts, with codes being added/ combined/ eliminated as coding proceeds.

EXAMPLE CODEBOOK – ADD ILLUSTRATIVE QUOTES IN A COLUMN ON THE FAR RIGHT TO IMPROVE THE CLARITY OF THE CODEBOOK.

Code	Operational Definition
PA_Bar	Barriers to physical activity among children
PA_Facil	Facilitators to physical activity among children
Nutr_Bar	Barriers to F/V consumption among children
Nutr_Facil	Facilitators to F/V consumption among children
Soc_Supp	Social support that enables physical activity or healthy eating among children

To describe types of produce purchased at farmers' markets, customers responses to the program, reasons for farmers decided to participate in the produce prescription program, suggestions for improvement, and other themes related to the Produce Prescription Program in eastern North Carolina.

Code	Operational Definition	Illustrative Quotes
Community need	Describes need for Produce Rx Program and similar programs	I believe anytime you give somebody some means to getting fruits and vegetables in my community is a plus. We are a technically what I call a food desert, especially my end of the county. We drive 30, 35, 40 miles to a supermarket to get fresh produce. So, anything like that would be a big heap of discount…FM01 The problem is that when people go shopping in XXX County, they're buying for a week. The problem is, then they get home and their bananas don't last the week. So, in other words, there's no real place to run out and get it other than the fruit stands that you'll see popping up during the spring and summer FM 03 (?check)
Customer barrier – transportation	Farmer mentions that customers did not have transportation to site	However, they have not came out as of today. And again I think that is basically due to that we are in rural Northeastern North Carolina. So, lot of people lack the transportation to get to and from the farm due to our location (FM 01)
Customer barrier – promotion	Farmer mentions that customers may not have had transportation to the site	Unfortunately, we have been unable to reach the customers that is in our area and a lot of the reason is due to people are just not familiar with it or they need more information or they're not aware of the prescription program. (FM 01)
Future improvements - publicity	Farmer notes future improvements, like more publicity for the farms participating either through	It would have been good to have like a flyer just identifying what this program is, why they are providing in the community and how this program can assist the community in improving their overall health

MANAGING AND ANALYZING THE DATA

Textual data can be added directly into various software programs for coding.

Nvivo (QSR International, Melbourne Australia) is the program ECU users have access to.

Dedoose is another program that is web-based and user-friendly.

QUALITATIVE DATA ANALYSIS SOFTWARE PROGRAMS

Please describe your experience with qualitative data analysis software programs?

We will now move on to an Nvivo demonstration.

First, read over the example transcript.

N'VIVO

We will open up Nvivo, import the sample transcript, create a few codes, and code the transcript.

DIFFERENT TYPES OF QUALITATIVE ANALYSES

Today we will look into 2 different methods for qualitative analysis:

- Content analysis
- Thematic analysis

CONTENT ANALYSIS

Content analysis is "a research tool used to determine the presence of certain words, themes, or concepts within some given qualitative data (i.e. text). Using content analysis, researchers can quantify and analyze the presence, meanings and relationships of such certain words, themes, or concepts."

From: Content Analysis Method and Examples | Columbia Public Health

CONTENT ANALYSIS METHODS

Decide the level of analysis: Word, word sense, phrase, sentence, themes

Decide how many concepts to code for: Decide either: A. to allow flexibility to add categories through the coding process, or B. to stick with the pre-defined set of categories.

- Option A allows for the introduction and analysis of new and important material that could have significant implications to one's research question.
- Option B allows the researcher to stay focused and examine the data for specific concepts.

Decide whether to code for existence or frequency of a concept: The decision changes the coding process.

- When coding for the frequency of a concept, the researcher would count the number of times a concept appears in a text.

Refer to this website: https://www.publichealth.columbia.edu/research/population-health-methods/content-analysis

CONTENT ANALYSIS METHODS

Decide on how you will distinguish among concepts: Should text be coded exactly as they appear or coded as the same when they appear in different forms? For example, "dangerous" vs. "dangerousness". The point here is to create coding rules so that these word segments are transparently categorized in a logical fashion.

Develop rules for coding your texts: The researcher can code for exactly what he/she wants to code. Validity of the coding process is ensured when the researcher is consistent and coherent, meaning that they follow their translation rules.

Decide what to do with irrelevant information: Should this be ignored (e.g. common English words like "the" and "and"), or used to reexamine the coding scheme in the case that it would add to the outcome of coding?

Refer to this website: https://www.publichealth.columbia.edu/research/population-health-methods/content-analysis

CONTENT ANALYSIS METHODS

Code the text: By using software, researchers can input categories and have coding done automatically, quickly and efficiently, by the software program.

Analyze your results: Draw conclusions and generalizations where possible. Determine what to do with irrelevant, unwanted or unused text: reexamine, ignore, or reassess the coding scheme.

▪ Interpret results carefully as conceptual content analysis can only quantify the information. Typically, general trends and patterns can be identified.

THEMATIC ANALYSIS

Thematic analysis as an independent qualitative descriptive approach is mainly described as "a method for identifying, analyzing and reporting patterns (themes) within data" (Braun & Clarke, 2006: 79).

Braun, V. & Clarke, V. (2006). Using thematic analysis in psychology. Qualitative Research in Psychology, 3, 77-101.

Article

Thematic Analysis: Striving to Meet the Trustworthiness Criteria

International Journal of Qualitative Methods
Volume 16: 1–13
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sagepub.com/journalsPermissions.nav
DOI: 10.1177/1609406917733847
journals.sagepub.com/home/ijq
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Lorelli S. Nowell[1], Jill M. Norris[1], Deborah E. White[1], and Nancy J. Moules[1]

THEMATIC ANALYSIS METHODS
ESTABLISHING TRUSTWORTHINESS DURING EACH PHASE OF THEMATIC ANALYSIS

Phase 1: Familiarizing yourself with your data

Prolong engagement with data

Triangulate different data collection modes

Document theoretical and reflective thoughts

Document thoughts about potential codes/themes

Store raw data in well-organized archives

Keep records of all data field notes, transcripts, and reflexive journals

Nowell et al. Thematic Analysis: Striving to Meet the Trustworthiness Criteria. 2017. International Journal of Qualitative Methods.

THEMATIC ANALYSIS METHODS
ESTABLISHING TRUSTWORTHINESS DURING EACH PHASE OF THEMATIC ANALYSIS

Phase 2: Generating initial codes

Peer debriefing

Researcher triangulation

Reflexive journaling

Use of a coding framework

Audit trail of code generation

Documentation of all team meeting and peer debriefings

Nowell et al. Thematic Analysis: Striving to Meet the Trustworthiness Criteria. 2017. International Journal of Qualitative Methods.

THEMATIC ANALYSIS METHODS
ESTABLISHING TRUSTWORTHINESS DURING EACH PHASE OF THEMATIC ANALYSIS

Phase 3: Searching for themes

Researcher triangulation

Diagramming to make sense of theme connections

Keep detailed notes about development and hierarchies of concepts and themes

Phase 4: Reviewing themes

Researcher triangulation

Themes and subthemes vetted by team members

Test for referential adequacy by returning to raw data

Nowell et al. Thematic Analysis: Striving to Meet the Trustworthiness Criteria. 2017. International Journal of Qualitative Methods.

THEMATIC ANALYSIS METHODS
ESTABLISHING TRUSTWORTHINESS DURING EACH PHASE OF THEMATIC ANALYSIS

Phase 5: Defining and naming themes

Researcher triangulation

Peer debriefing

Team consensus on themes

Documentation of team meetings regarding themes

Documentation of theme naming

Nowell et al. Thematic Analysis: Striving to Meet the Trustworthiness Criteria. 2017. International Journal of Qualitative Methods.

THEMATIC ANALYSIS METHODS
ESTABLISHING TRUSTWORTHINESS DURING EACH PHASE OF THEMATIC ANALYSIS

Phase 6: Producing the report

Member checking

Peer debriefing

Describing process of coding and analysis in sufficient details

Thick descriptions of context

Description of the audit trail

Report on reasons for theoretical, methodological, and analytical choices throughout the entire study

Nowell et al. Thematic Analysis: Striving to Meet the Trustworthiness Criteria. 2017. International Journal of Qualitative Methods.

WRITING THE REPORT

- Introduction-Describe the prior literature on the topic and the gap your study will fill.
  - Make sure you end with your study purpose.

- Methods-Describe the research methods clearly. Go back to your protocol and insert relevant information.

- Results-Discuss results including tables that include quotes to illustrate key themes.

- Discussion-Describe how your results fit in with prior work in the topic area; next steps, and strengths/limitations.

- Conclusions-Describe implications of your findings.

EXAMPLE OF A QUALITATIVE RESULTS SECTION

SDC

A Mixed-Methods Examination of the Impact of the Partnerships to Improve Community Health Produce Prescription Initiative in Northeastern North Carolina

Mary Jane Lyonnais, MPH; Archana P. Kaur, MPH; Ann P. Rafferty, PhD; Nevin S. Johnson, BS; Stephanie Jilcott Pitts, PhD

ABSTRACT
Objective: To conduct a mixed-methods examination of the impact of the Partnerships to Improve Community Health produce prescription initiative in northeastern North Carolina.
Design: Quantitative surveys were conducted among participants before and after the distribution of produce prescription vouchers. Univariate statistics were used to describe the participant population, and paired *t* tests were used to examine change in fruit and vegetable intake. Qualitative, in-depth telephone interviews were conducted among participants, health educators, and food retailers and coded for themes.
Setting: Eight health promotion programs, 2 food pantries, and 11 food retailers.
Participants: In each health promotion program or food pantry, between 6 and 97 participants were enrolled.
Intervention: Produce prescription vouchers were distributed to participants and redeemed at local food retailers.
Main Outcome Measure (s): An increase in local fruit and vegetable purchasing and consumption.
Results: Of the produce prescription participants who completed the baseline survey (n = 93), 86% were female, 64% were African American, and 68% were food insecure. The voucher redemption rate was 18%. The majority of participants indicated that they visit farmers' markets more now than before the produce prescription initiative, that shopping at the farmers' market made it easy to include more fresh produce in their family's diet, and that they tried a new farmers' market because of the produce prescription initiative. All health educators and food retailers who participated felt that the initiative benefited their program or operation and were willing to partner with the program again.
Conclusions: While redemption rates were lower than anticipated, the produce prescription initiative had positive impacts on participants' local fruit and vegetable purchasing and consumption. Because of COVID-19, the initiative was not implemented until late in the North Carolina produce season. Moving forward, the program will start earlier and work with local food retailers to connect with their communities to increase redemption rates.

KEY WORDS: farmers' market, fruit and vegetable intake, nutrition education

FIGURE Themes Mentioned in Qualitative Interviews With Participants, Health Educators, and Food Retailers

Financial access. Food retailers and health educators described the financial challenges that consumers often face purchasing fresh produce in their area and noted the need participants had for financial assistance when purchasing local produce. All participants were grateful to have extra financial support in purchasing FVs, especially those who were older than 65 years and on a fixed income. One of the participants described the quality of the food they could purchase with the prescriptions on a limited budget:

> We really like that because both of us are past that 65 point and on Medicare, and on a very fixed and limited income so that we found that extremely helpful to be able to get food without paying premium prices for it, especially to get premium food without paying premium prices. (PT 03)

Customer perceptions

Increased purchase and consumption of fresh produce. Overall, the health educators felt that the program had many benefits, such as increasing access to fresh produce, increasing produce consumption, and heightening awareness of local healthy food for participants and their families. One health educator responded that many participants were eating more local produce as a result of the program:

> …So it was an increase in consumption for produce specifically. Just some conversations with them, I know that it's the contributing factor is the awareness and information that they learned along

with access to food. Access to this prescription produce, allow them to be willing to try new foods and try more of it, eat more of it. (HE 02)

One participant expressed appreciation for the freshness of the produce purchased through the produce prescription initiative as opposed to receiving produce through a distribution, which can sometimes have been sitting for longer periods of time: "…and if you don't cook it right there, it will spoil on you. And see with the voucher you get fresh produce there and that makes a difference" (PT 07).

Positive attitudes toward nutrition education. Participants expressed favorable views of the health education aspect of the initiative. One participant mentioned the value of learning how to read food labels when grocery shopping. Another was glad to receive information on how to prevent type 2 diabetes. One health educator stated participants could use both the vouchers to implement the information from the program into their lives:

> …but also people being able to use the vouchers to be able to actually implement what (we are) teaching them. Obviously, we could say fresh fruits and vegetables are healthy, but if you don't have the funds to buy so much of it, that's not going to help a whole lot. So, I think both pieces played into it. (HE 01)

Purchasing locally

Positive change in customer base for retailers. Food retailers reported that customers were appreciative of the initiative and excited to spend the vouchers at their market. One positive change food retailers noticed was the increase in customers due to the program and noted that some even became regular customers. This is reflected from 2 of the produce retailers, one who stated, "I've seen faces I've never seen before" and "They were happy to get them. I mean, we're going through some trying times now. And happy, they were excited about. It's very positive" (FMM 03). Another said, "Some of them became regulars yeah" (FMM 05).

Community support. Health educators expressed that the program was needed to encourage people to shop locally and use what they learned in class to prepare FVs. All participants enjoyed shopping locally and were happy to support those in their community, as one participant put it:

> …Purchase from the local people instead of the big stores, helping the local business and the local little farm. It was a pleasant atmosphere, more pleasant

ANOTHER EXAMPLE OF A QUALITATIVE RESULTS SECTION

Code and Operational Definition	Illustrative Quote	Number of times code was used all together	Number of transcripts in which code was used
Financial Benefits - Participant discusses financial benefits of program	"Everything is so expensive now, so you just get the necessities. You might pick up a can of string beans versus getting fresh strings beans or you might pick up a can of tomatoes instead of the fresh tomatoes. I think the fresh fruit and vegetables are always better. So I bypass the fruits when I'm spending my own money because they're pricey."- Participant 22	33	19
Change in FV intake-Participant discusses change or no change in FV intake and/or if the program helped them incorporate more fruits and vegetables.	"Yes ma'am.By getting [those] vouchers, by me learning about the vouchers, it made me eat more veggies because really I don't like veggies. And by me getting [those] vouchers and I went and picked out the stuff out I like, it made me eat them and I really enjoyed it."- Participant 15	41	27
Limited Store Availability- Participant mentions lack of places to shop for food	"And you know this little town...I don't know if you know where [Rural Town A] is at. It ain't really hardly nothing down here. You have to go so far to get to a store." -Participant 15	18	11
How Vouchers Helped Use Skills- Participant mentions how having the vouchers helped them use skills they learned in the program	"For one, I got vegetables that I wouldn't normally get to cook and I got to try them. So that helped out a lot." -Participant 12	13	11
Confidence to Improve Health Habits- Participant describes how program increased confidence for healthier habits.	"Yeah, it has, those things that they taught. And it gave me more access to the vegetables with organic produce, so yeah, I was happy." -Participant 10	12	11
Health Status Impacts- Participant mentions changes in health since starting program	"I work in the health field, so well, I've been out for a while, but just working in the health field and the impact of COVID, I think kind of incorporating my vegetables and stuff, it helped build my immunity a whole lot. I would say, even when I caught COVID, just eating more vegetables and incorporating more of what I needed in my body versus eating a whole lot of meat. I actually got to a point where I got tired of eating a lot of meat and I ate more vegetables." -Participant 30	29	23
Continue Program- Participants discuss wanting the program to continue	"Yeah, I pray to God that the vouchers still continue going on because there's lots of people in the community, really needs it. It's good for all folks ... and I hope the program stay in the county." -Participant 20	13	10
Gardening- Participant mentions any aspect of gardening	"We normally raise a nice garden and we freeze, even at our age, we freeze stuff and we go out and pick fresh stuff. But when we got these	5	3

KEY WORDS FOR A METHODS SECTION

IRB approval obtained

Purposeful sampling

Trained interviewers, facilitators

Data saturation

Codes, themes, categories from research questions and from the data

Codebook, or themes (codes) and operational definitions

Independent coders who resolve coding discrepancies

Data added into software program for organization and management

Thematic or content analysis

OUTLINE

What is Qualitative Research?

Why Qualitative Research?
- Qualitative Research Questions
- Uses of Qualitative Research

Creating the Interview Guide

Developing the Protocol
- Recruitment & Enrollment
- Data collection
- Analysis

Conducting the Study

Managing and Analyzing the Data

Writing the Report