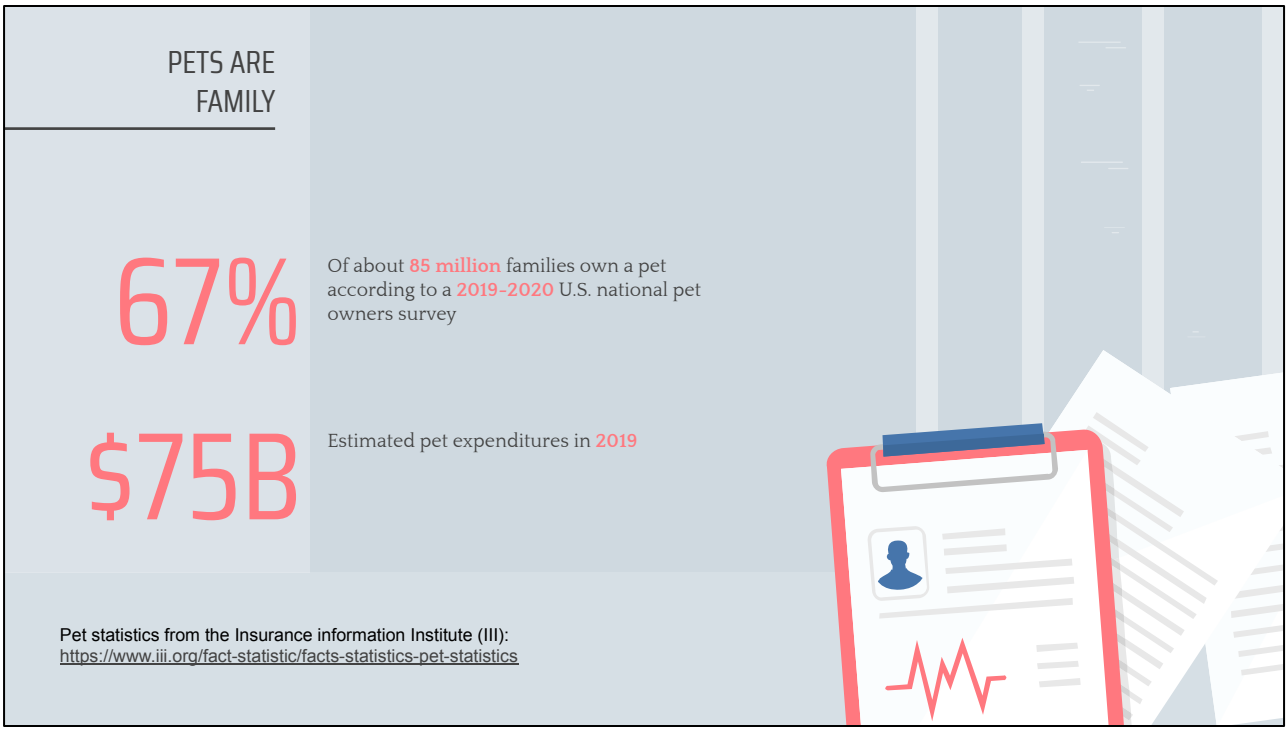
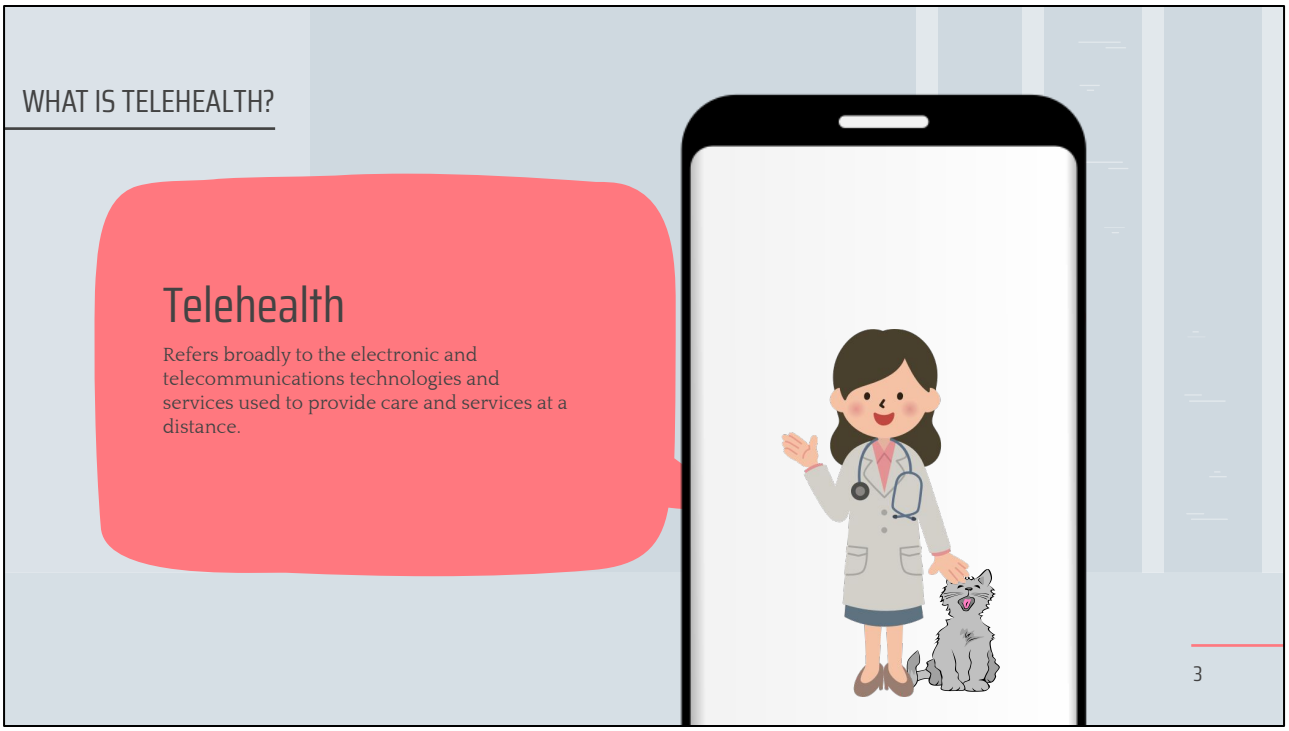
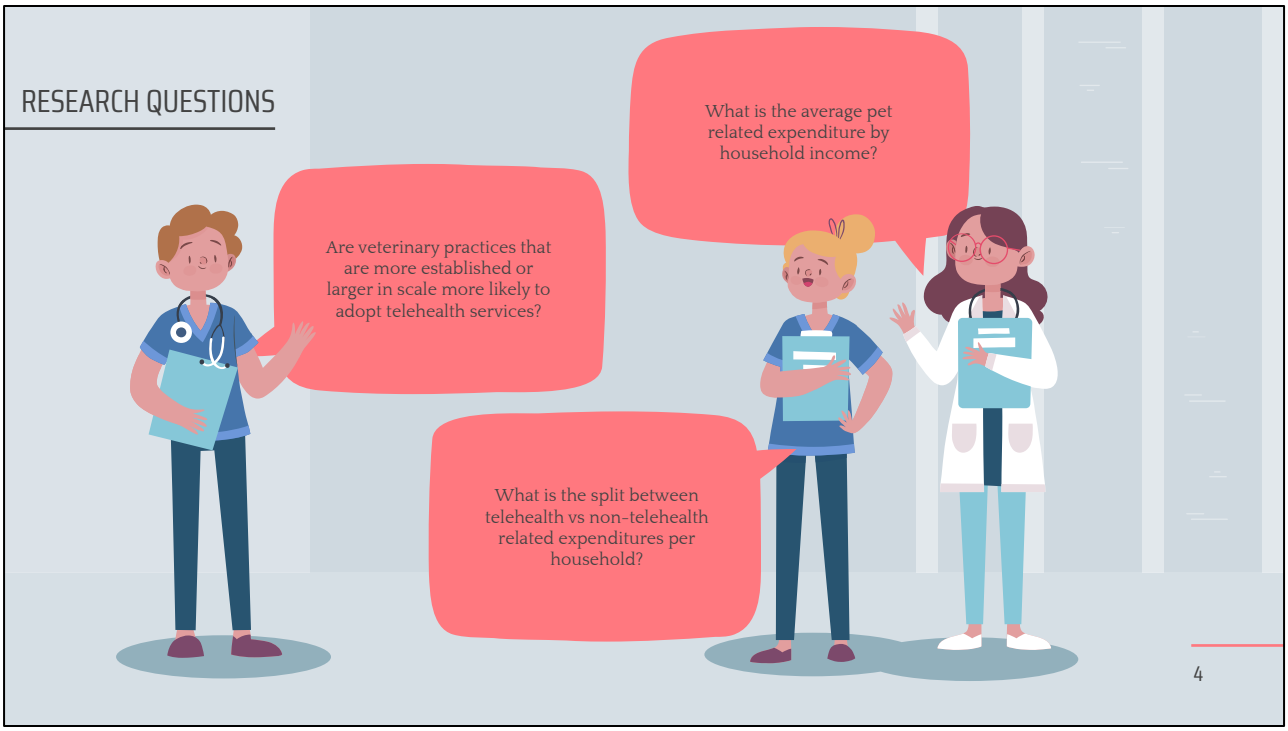
Hi everyone, welcome to Veterinary Expo and joining our panel discussion on Telehealth for pets. My name is Frances and I am very excited to be joined by my research colleagues Matt and Andy from UC Berkeley here today to talk to you about some exciting research that we are embarking to bring to you the latest insights on the adoption of veterinary telehealth technologies.



- Pets to many households represent an important part of a family
- They require the same level of care and attention that rival our human counterparts
- Let's take a look at some numbers between 2019 and 2020, 67% or 85-million families in the U.S own a pet
- In 2019, the expenditures on pets were estimated at $75 billion dollars. These include veterinary care, OTC medicine, food, supplies, grooming and boarding

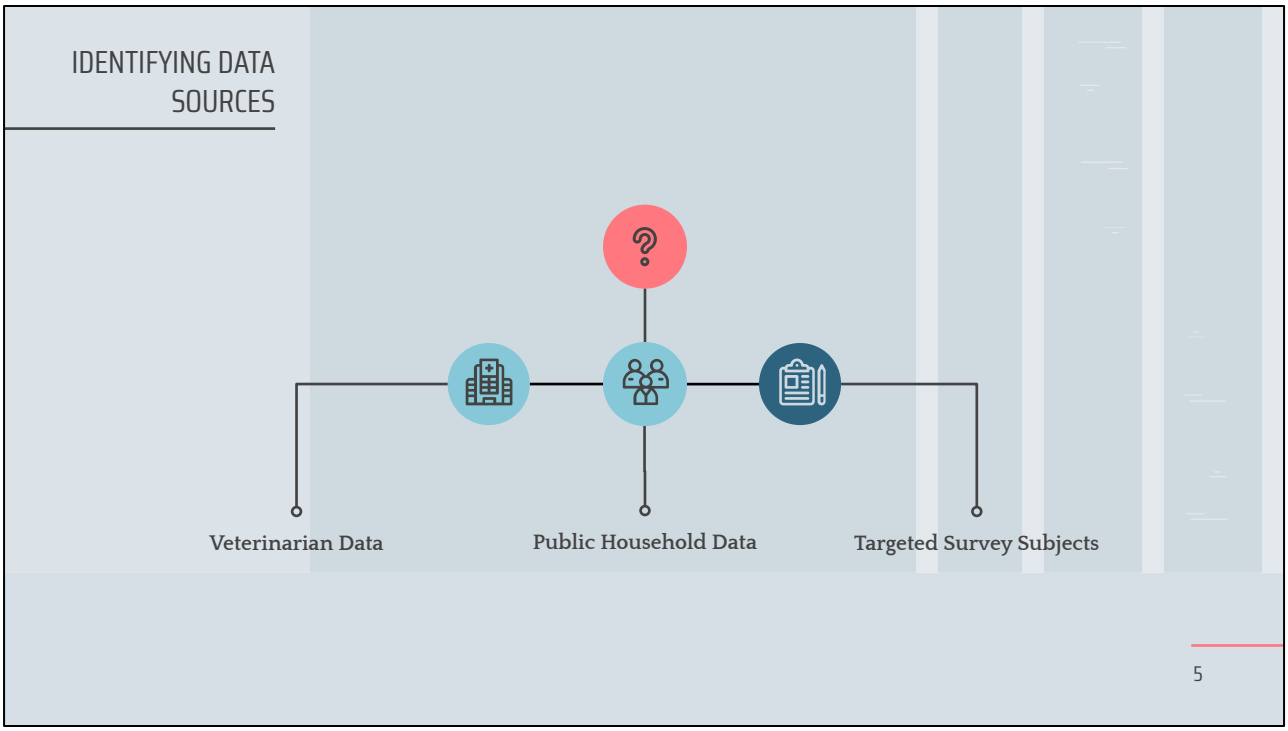


- The recent global pandemic has accelerated digital transformation across all industries
- Veterinary care is certainly not immune to this evolving landscape
- This brings tremendous opportunities for clinics and practices to find new ways to engage and connect with their patients
- This also serves as a key motivation for our research group at UC Berkeley to conduct research design to explore and bring new insights into the current state of veterinary telehealth in North America
- In so doing, we hope to be able to help identify veterinary telehealth adoption trends, gaps and opportunities of services/features in a marketplace that is still in its nascency

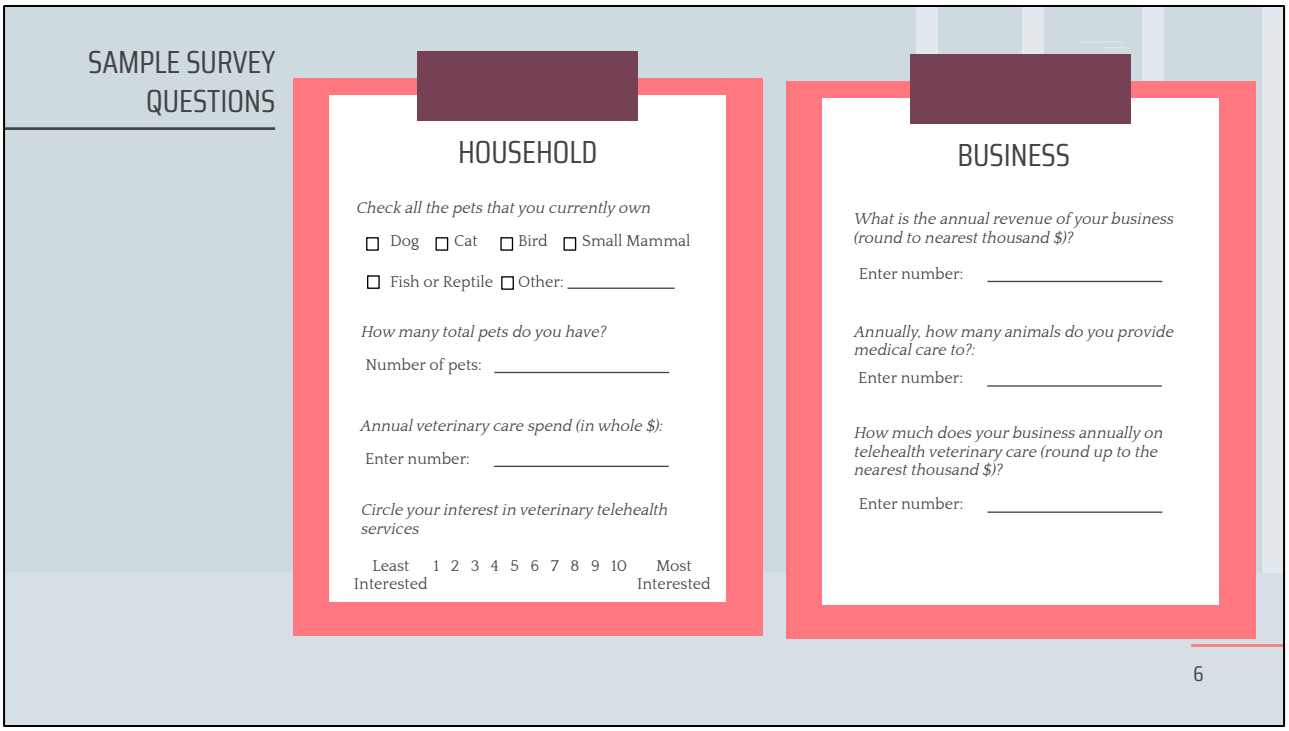


- So what are the key questions that we would like to explore in the research? We have 3 key ones and they include:
    - Are veterinary practices that are more established or larger in scale more likely to adopt telehealth services?
    - What is the average pet related expenditure by household income?
    - What is the breakdown of telehealth vs. non-telehealth related expenditures per household?

- By exploring these questions, we hope to be able to gain a better understanding of what telehealth products/services are desirable for pet owners

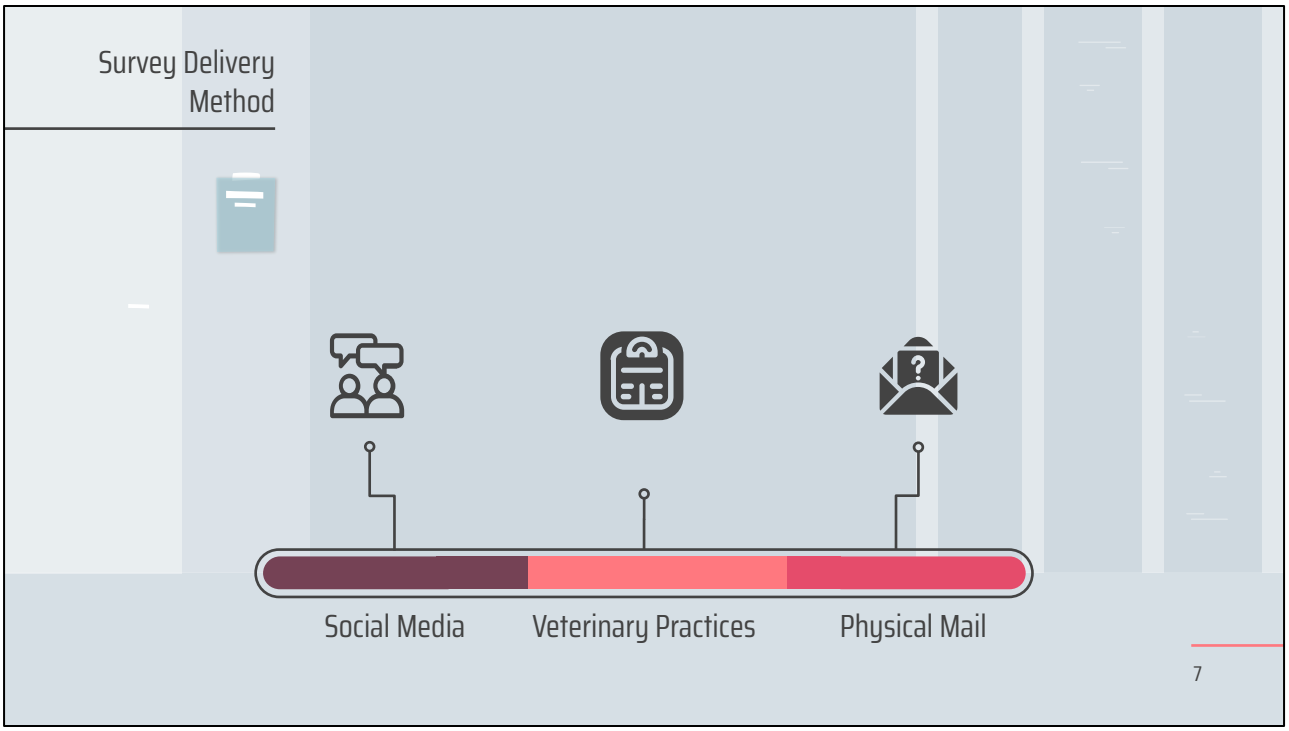


- We will be leveraging data sources that cover household pet ownership and veterinary information in the United States and Canada on an annual basis
- To focus the scope of this data survey, we will narrow our search to the top five categories of pets (cats, dogs, birds, fish/reptiles, and small mammals, such as hamsters and rodents)
- The datasets leveraged will be from two sources:
    - Publically available data (light blue circles)
        - This includes government census data, public pet statistics, etc.
        - Public and private company disclosed financial data (if available)
    - Targeted Survey (dark blue circles)
        - Household demographics, household income, veterinary expenditures
        - Veterinary business surveys regarding financial expenses and its relation to telehealth investments



This slide goes more in depth in the targeted surveys.

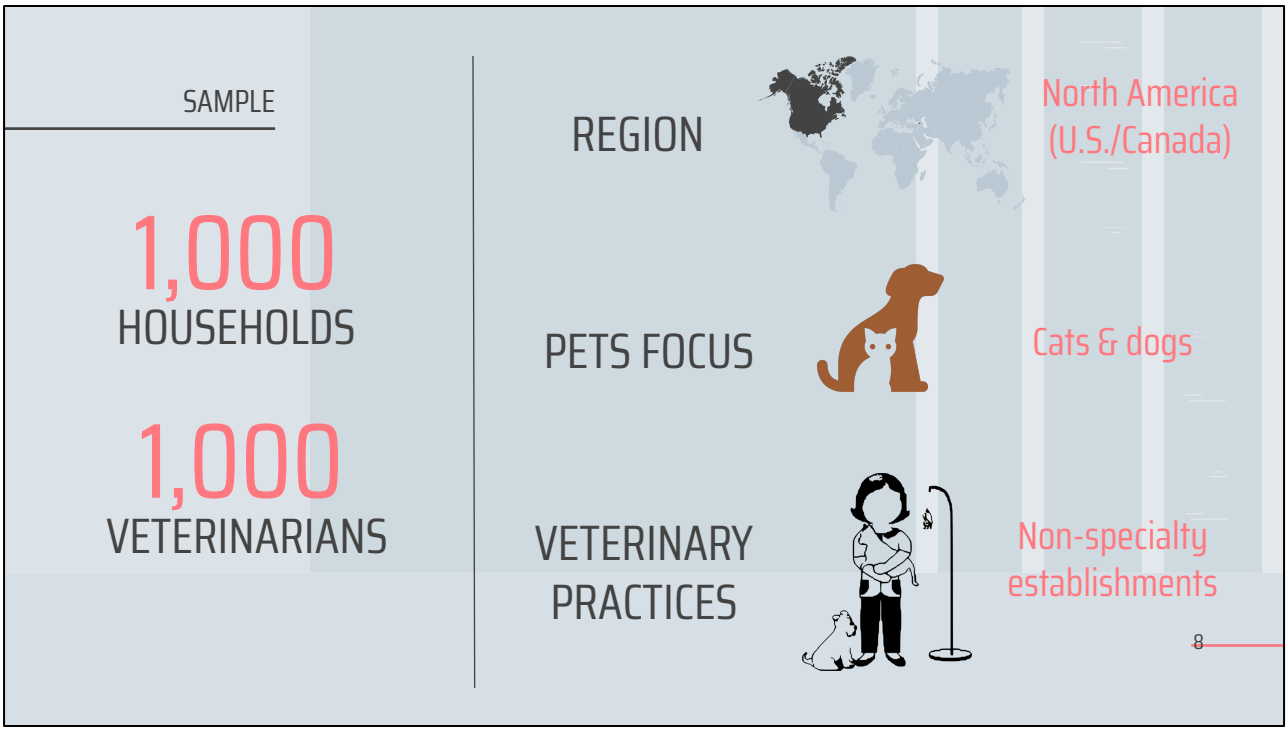
- These surveys will be aimed to gather quantitative and qualitative information
- The overall aim is to gather financial expenditures from households and businesses, as well as gather interest in the telehealth veterinary platform
- We need to ensure that the questions are balanced between being concise for they surveyees and informative for the surveyors
- Go through the survey
    - For the household survey, in addition to standard demographic questions regarding age, household income, and highest degree attained, the questions specific to this research are shown here.
    - For the household survey, we are interested in understanding what type of pets they have, how many total pets they have, what their annual veterinary expenses are, and their interest in veterinary telehealth services
    - For the clinics and veterinarians, we are interested in understanding the financial size of the practices and to see if they have any expenditures or planned investments in telehealth



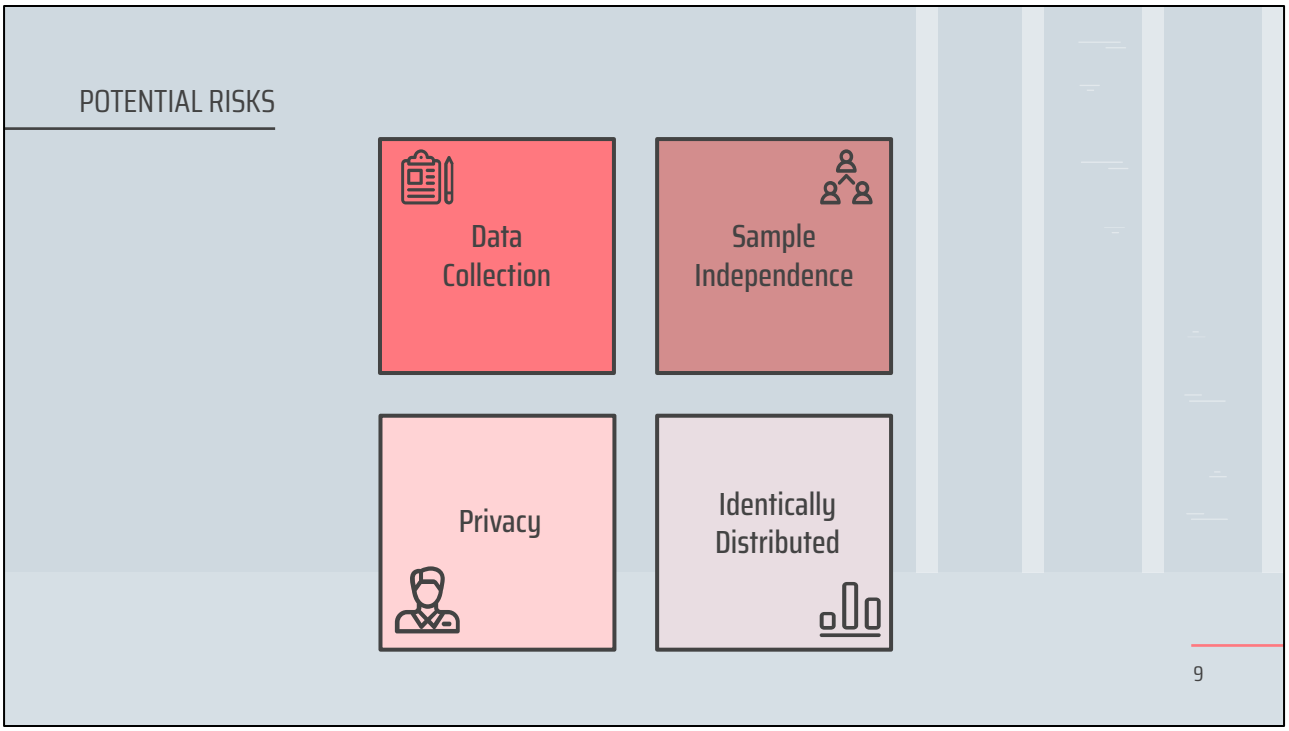
Ideally, these surveys will be primarily distributed through as many outlets as our budget allows. The three main outlets we are looking into:

- Social Media
  - Such as Instagram, Facebook, TikTok, LinkedIn
  - Paid Advertising Surveys
  - This reaches a lot of tech savvy surveyees
- Veterinary Practices
  - Two-fold approach: Surveying both the clinics themselves as well as the owners of the pets that enter the practice
  - We would incentivize veterinarians to give these surveys to their clientele to reach those who would not be on social media
- Physical Mail
  - For the rural areas where veterinary practices are more on a specialized basis or for those who do not have access to clinics
  - Send a physical copy with return service of the survey to reach this final demographic of people who are not technically savvy and who do not have access to veterinary practices

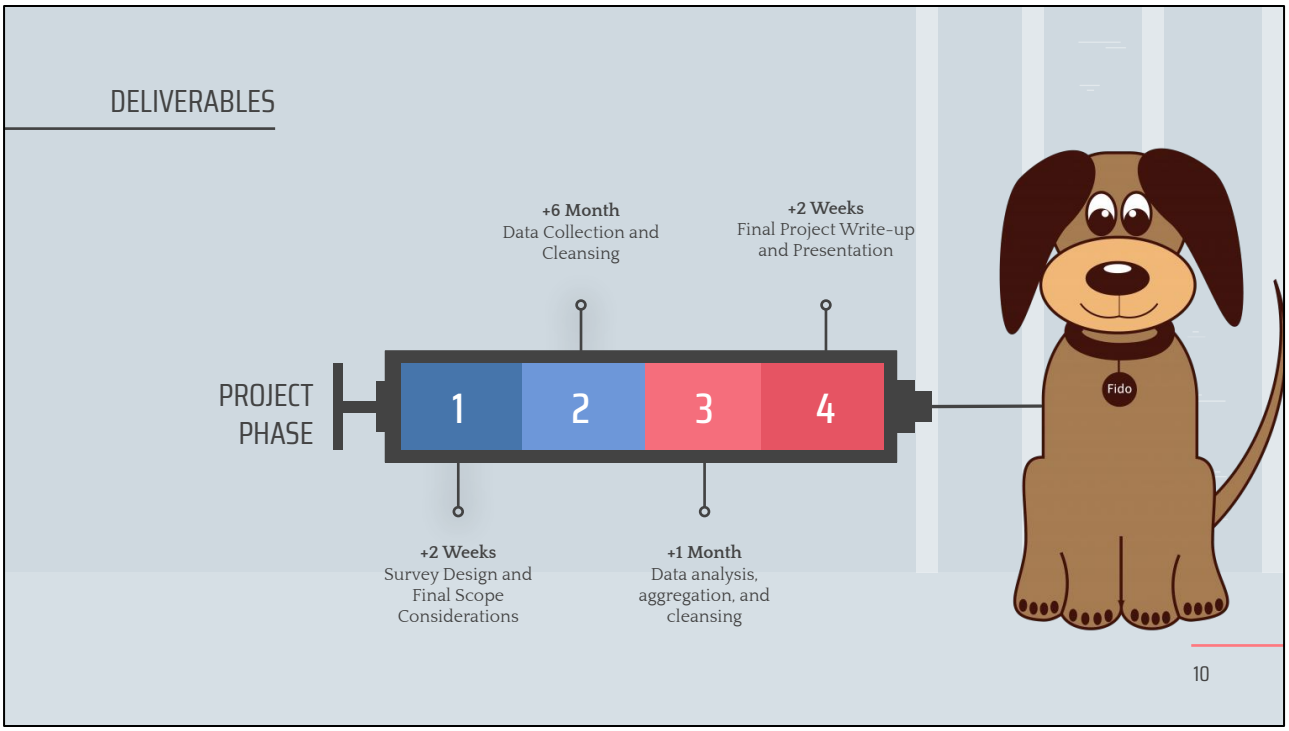
Following the collection of all of this data, we will aggregate everything and prepare it for data analysis.



- For this research, will be survey 1000 households, and 1000 veterinarians using the survey that Matt just outlined.
    - For our findings to have a 95% confidence level and a 3% margin of error, 1,000 samples should be sufficient. (using Cochran's formula for sample size)
    - This amount is also inline with our budget for conducting a total of 2000 (successful) surveys.
- To control for some potential unwanted variations in our dataset, we will be refining our collection as follows:
    - Firstly, we will only be looking a the **USA** and **Canada** for our investigation. The
    - Secondly, we will focus on **cats and dogs** only. This will allow us to control for some potential variation in the datasets
    - Finally, only **non-specialty veterinarian establishments** will be looked at. This is inline with only looking at cats and dogs.



- There are several potential risks to this project that we will need to consider. These are not insurmountable, but they include (in no particular order):
    - **Data Collection:** It is possible that we may be unable to canvas 1000 veterinarians and/or households from different clinics within our timeline and budget.
    - **Sample Independence:** We must make sure that we do not survey the same household and/or clinic twice. (e.g., same house, different people - same clinic, different veterinarian). This would lead to unsound statistical conclusions during our analysis
    - **Privacy:** Given that we are collecting some variables from individuals and business that are sensitive in nature, we will need to anonymize all information. This is somewhat related to point one: “why should I share my salary with you?”
    - **Identically Distributed:** In the same vein as the sample independence risk, given that their are so many different types of households and clinics, despite our sample exclusions/inclusions, it is possible that not all of our samples will be comparable. Though we feel our sampling will be sufficient to overcome this to start, we are keeping this in the back of our minds for potential future iterations of this work.



- So, what will this investigation into telehealth for pets look like?
- Our timeline will be spread out over a rough 8 month period comprised of 4 main phases
    1. We will spend 2 weeks at the start refining our research scope and design and accommodating any final considerations
    2. Then, we will start collecting the data from the clinics and the pet owners. We expect this phase to take up to 6 months. Note that a large portion of this time will be spent cleansing the data collected.
    3. Once we have collected and cleaned the data, we will then perform our analysis using the best practices for this kind of statistical analysis. We expect this to take about a month.
    4. Finally, we will summarize our findings in write-up and present them back to the same audience of veterinary professionals here today for peer review.

THANKS

Does anyone have any questions?

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