Doctor of Public Health in Leadership Program

Exploring the Impact of Video Visits in Mental Health From a Provider Lens in the Pacific Northwest

By
Lisa Mei-Hwa MacDonald
B.Sc. University of British Columbia, 2011
M.H.A., University of British Columbia, 2014

DISSERTATION

Submitted as partial fulfillment of the requirements for the degree of Doctor of Public Health in Leadership in the School of Public Health of the University of Illinois at Chicago
Chicago, Illinois. USA
August/2020

Dissertation Committee:

Alina Flores, Chair, Community Health Sciences, UIC
Steve Seweryn, Epidemiology and Biostatistics, UIC
Ed Mensah, Health Economics and Informatics, UIC
Karen Peters, Community Health Sciences, UIC
Sarah Minor, Kaiser Permanente Washington (KPWA)

ACKNOWLEDGEMENTS

Thank you foremost to my dear husband and love of my life, Chris, for supporting me wholeheartedly throughout the mad journey of the last four years. Deciding to add baby Liliana to the mix, mid-way through the program in 2018 was the best decision we have ever made. Liliana, thank you for the gum smiles, contagious laughter, dance moves and pure joy that you radiate on a daily basis. Your hugs and happiness were what got me through, truly.

Thank you to my parents, Ron and Adela, for the emotional support and countless days babysitting our Liliana. Truly could not have done it without you.

Dr. Alina Flores- I could not have asked for a better committee chair and advisor, and a mentor above all. It is so incredibly rare in life to find someone who is talented in endless ways, from research knowledge, to emotional intelligence. You have a truly incredible work ethic. I find you inspiring in so many ways. I am so incredibly grateful for your support and am truly a better researcher for having known you and been under your wing during this process.

Dr. Rob Penfold- Thank you for being my KPWA Research Institute mentor. I truly appreciate your patience and guidance through a system that was foreign to me. Your support is invaluable.

To my committee members Drs. Steve Seweryn, Ed Mensah, Sarah Minor and Karen Peters: I appreciate you being in the trenches with me and help to develop a methodology and protocol to tackle wicked huge problems that require innovative solutions.

To KPWA leaders Janet O'Hollaren, Dr. Chris Cable, Dr. Sarah Levy, Dr. Han Liang and Chris Carlyle. I am so incredibly appreciative of your early support of this work and I look forward to partnering with you to make KP a leader in telehealth and transformative change.

To Trina Cooprider and Jonny English. Your steadfast support and shoulders to lean on and vent to have been crucial to help me get through the doctoral and dissertation process. I am so grateful to call you colleagues and friends.

To all MHW providers for your willingness to be interviewed, your candor and willingness to help improve the system. I appreciate your partnership in creating transformative change.

And last but absolutely not least, thank you to Kyla Del Rosario, my friend and honorary baby sister for your support and help with the graphics included in this dissertation. You are so talented and will go so far in life.

DISCLAIMER

The findings and conclusion(s) in this report are those of the author and do not necessarily represent the official position of Kaiser Permanente.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

KEYWORDS /ABBREVIATIONS

DrPH	Doctor of Public Health
EDS	External Delivery System
EHR	Electronic Health Record
IDS	Internal Delivery System
KP	Kaiser Permanente
KPNW	Kaiser Permanente Northwest
KPWA	Kaiser Permanente Washington
MLT	Masters Level Therapist
SPH	School of Public Health

SUMMARY

Mental health has the highest disease burden of any disease and impacts about 44 million adults in the United States. Video visits have been introduced as a means to lower access barriers to mental health services. Systematic workforce challenges in mental health, including a shortage of mental health providers and high rates of burnout and turnover, further impede access to mental health services.

Video visits are an emerging innovation that have been minimally evaluated. Existing mental health video visit studies primarily focus on the patient perspective. There is little evidence on the impact of video visits on providers, particularly the ability of providers to conduct video visits from home and how this affects their work-life balance. An exhaustive literature review found no studies on the impact of video visits on mental health providers and their satisfaction, burnout and turnover.

An exploratory, sequential mixed methods approach was used to assess the impact of mental health video visits on providers in two Kaiser Permanente regions- Kaiser Permanente Washington (KPWA) and Kaiser Permanente Northwest (KPNW). Methods included statistical analysis, semi-structured interviews, thematic coding, document review and secondary data analysis.

Evaluating the impact of video visits on efficiency, provider burnout, work-life balance may allow the expansion of mental health care and reduce health inequities. The findings from this research will allow Kaiser Permanente to act as a telehealth leader and inform the development of telehealth programs in other organizations, service areas and geographical locations.

CHAPTER I: BACKGROUND AND PROBLEM STATEMENT

A. Study Objectives:

The objectives of this research study are to:

i. Determine the factors that contribute to provider burnout and turnover in mental health.

ii. Evaluate the impact of the "provider at home" initiative on provider satisfaction, burnout and turnover.

iii. Determine the impact of video visits on workflow and efficiency.

iv. Identify opportunities and next steps to improve video visits in Kaiser Permanente.

As the first health informatics student in the DrPH program at UIC, and also the Telehealth Program Manager at Kaiser Permanente Washington (KPWA), I have chosen to focus my dissertation on exploring the role and value of video visits on mental health providers' satisfaction, burnout and turnover. As the bulk of the literature is focused on patient perceptions in mental health, I have actively chosen to focus on the provider perspective and will utilize the perspectives of mental health providers to help improve both the provider and patient experience with video visits.

B. Background and Context

i. Mental Health

Mental health impacts how a person thinks, feels and acts and includes one's overall well-being, including emotional, psychological and social components (Healthy People 2020; CDC 2019). Good mental health is when a person has a high level of mental function, resulting in their ability to maintain fulfilling relationships with other people, adapt to change, cope with challenges and engage in productive, healthful behaviors (Healthy People 2020). On the other hand, poor mental health, or a

diagnosed mental disorder, is characterized by changes in a person's mental function, mood and/or behavior that impairs their ability to function and may cause distress (Healthy People 2020; CDC 2019). A person's state of mental health can vary during the course of their lifetime in response to events or stressors and changes to a person's mental health can be occasional or chronic/long-lasting (CDC 2019).

While the term mental health refers to a person's overall mental well-being and may or may not refer to mental illness, the terms "mental illness" and "mental health disorders" indicate that a person has been diagnosed with a mental illness by a mental health professional; the terms mental illness and mental health disorders are often used interchangeably (Healthy People 2020; CDC 2019).

Each year in the United States, mental illness impacts 18.1% of adults and 20% of children and adolescents. It is the most common cause of disability, has among the highest disease burdens of any disease and leads to an estimated $193.2 billion in lost earnings (Center for Behavioral Health Statistics and Quality, 2015; Reeves, 2011; Substance Abuse and Mental Health Services Administration, 2018; CDC, 2014; Insel, 2008). Adults with serious mental illness die, on average, 25 years earlier than their counterparts, despite their medical conditions being treatable (National Association of State Mental Health Program Directors Council, 2006). The most common mental disorders are depression and anxiety (SAMHSA 2013; National Institute of Mental Health 2008).

Mental health disorders also negatively impact physical health, further exacerbating chronic diseases and health conditions, and can lead to suicide, the second leading cause of death among people age 25 to 34, and 11th leading cause of death for all age groups in the United States (Jonas, 1997; Jonas 2000; Division of Adult and Community Health 2011-2015; Chapman 2005; Healthy People 2020; Lando, 2006). Despite the burden of mental illness on society, mental health is considered to be

not only treatable but preventable, with access to appropriate and quality mental health services (CDC, 2019; Owens, 2017; National Research Council and Institute of Medicine, 2006).

While mental illness carries a significant burden to individuals and communities across the United States and the world, the Pacific Northwest, in particular Oregon and Washington state, have among the highest prevalence of mental illness in the country. According to Mental Health America (2018), Oregon ranks as having the highest prevalence of mental illness of any state for adults and youth while Washington has the 11th highest mental illness prevalence.

A) Barriers to Access to Mental Health Services

Access to mental health services is crucial to improving the mental health of Americans through treatment and prevention (SAMHSA, 2019; CDC, 2019). Despite the need for mental health services, the impact on physical health, productivity, disability and communities, mental health services are insufficient with only 41% of adults and 50.6% of children aged 8 to 15 years old with a mental health condition receiving mental health services in the past year (SAMHSA, 2019).

i. Structural and Attitudinal Barriers

Mojtabai (2011) notes that mental illness is treatable and individuals with a mental disorder would often benefit from a full course of treatment; therefore, the gap between the prevalence of mental illness and usage of mental health services elucidates an access issue and an unmet need for mental healthcare. Less than half of individuals with a mental illness seek or receive treatment, and many who initiate treatment drop out or decline to continue treatment, commonly citing barriers that fall into two categories: attitudinal and structural (Mojtabai, 2011; Titov, 2019). Attitudinal barriers include stigma, a lack of perceived need for treatment and the desire to handle problems on their own,

without intervention from others (Mojtabai, 2011; Titov, 2019). Structural barriers include inconvenience, inability to obtain an appointment, financial barriers, treatment availability, and transportation (Mojtabai, 2011; Titov, 2019).

ii. Workforce Challenges in Mental Health

In addition to the attitudinal and structural barriers, workforce challenges further exacerbate access to mental health services. Many reports cite that one major contributor to access issues in mental health is the shortage of mental health providers, which is further intensified by the mal-distribution of providers, leaving 50% of counties with zero mental health providers (HRSA, 2016; Merritt Hawkins, 2018; Rural Health Research & Policy Centers, 2016; The Urban Institute, 2013; Kepley, 2018).

High burnout and turnover rates further exacerbate the shortage of mental health providers and contribute to access challenges in mental health (HRSA 2016; Merritt Hawkins, 2018). In turn, the shortage of mental health providers creates recruitment challenges for healthcare organizations, while burnout and turnover issues create retention challenges. The shortage of mental health providers, and high rates of burnout and turnover, speak to the need for healthcare organizations to develop innovative recruitment and retention strategies in order be competitive and attract and retain a limited pool of skilled mental health providers to their organizations above other organizations.

a) Shortage of Mental Health Providers

A shortage of mental health providers, particularly in rural areas, exists across job classes, including psychiatrists, psychologists, social workers, and therapists (Ryan, Murphy & Krom, 2012; Kadis, 2001). Merritt Hawkins, a physician recruitment firm, cites in a 2017 report that “the shortage

of psychiatrists is an escalating crisis of more severity than shortages faced in virtually any other specialty." Contributing factors to the shortage of mental health providers are an aging workforce, low pay, and perceived lower status; these factors commonly cause medical residents to seek other medical specialties or potential employees to seek other occupations altogether (Merritt Hawkins, 2017; Milliman, 2017).

The shortage of mental health providers is compounded in rural areas due to mental health providers more often choosing to practice in urban, city environments rather than rural areas (Rural Health Research & Policy Centers 2016; The Urban Institute, 2013). In addition, rural areas often lack the healthcare infrastructure and large patient population to offer sustainable specialty mental health services (Rural Health Research & Policy Centers 2016; The Urban Institute, 2013).

b) Burnout and Turnover

As stated above, burnout and turnover issues with mental health providers create retention issues in healthcare organizations. Burnout ranges from 21-67% for mental health providers while turnover averages 20-30% (Aarons & Sawitzky, 2006; Morse et al., 2012). Turnover causes disruption in therapeutic relationships, the delivery of care, and carries costs and burdens due to new employee recruitment and orientation (Kadis, 2001). Therefore, the impacts of burnout and turnover affect not only the provider, but their patients, their colleagues and healthcare organizations (Shanafelt & Noseworthy, 2017).

Common contributors to burnout and turnover in mental health providers include a high number of hours worked, high workload, high caseload and compassion fatigue, where providers empathize and display emotion with their patients, therefore increasing their stress levels further (Shanafelt & Noseworthy, 2017). Shanafelt and Noseworthy (2017) note that mental health providers

are also dissatisfied with work-life balance, which contributes to high burnout rates. Work-life balance has been shown to have a calming effect on burnout and is linked to the overall well-being of the employee (Shanafelt & Noseworth, 2017; Royal Society for Public Health, 2016; Trockel et al, 2018). Work-life balance is defined as the ability for someone to manage both their work and life responsibilities, which often includes responsibilities to their family (Royal Society for Public Health, 2016; Trockel et al, 2018).

c) Approaches to Reducing Burnout and Turnover at the Individual, Organizational and National/Systems Levels

Workforce challenges in mental health create the need to develop solutions to ameliorate burnout and turnover, which are systems issues that require solutions that are implemented at the individual, work unit, organizational and national, or systems, levels. For example, when working to improve work-life integration in order to reduce burnout, at a national or systems level regulations, such as licensing, meaningful use of EHR and medication reconciliation often increase the administrative burden of a provider, thus negatively impacting burnout and work-life balance (Shanafelt and Noseworthy, 2017; Shanafelt,, Mungo & Schmitgen, 2016; Shanafelt, 2009; Konrad et al, 1999). At the organizational level, vacation and sick leave policies, flexible schedules, productivity measures and the level of integration and efficiency appointing and ordering systems impact the work-life balance of employees (Shanafelt and Noseworthy, 2017). At the individual level, factors impacting work-life balance include the provider's organizational skills, willingness to delegate tasks, ability to prioritize tasks and amount of professional experience (Shanafelt and Noseworthy, 2017).

d) Recruitment and Retention Strategies in Clinical and Non-Clinical Environments

Many institutions, including SAMHSA, have proposed recruitment and retention strategies aimed at reducing burnout and improving the work-life balance of mental health providers. The literature on recruitment strategies for mental health providers focus largely on financial incentives, including increased compensation, offering loan repayment plans, tuition assistance, referral bonuses and increased benefits, such as retirement plans, paid vacation and paid sick leave (Ryan, Murph & Krom, 2012; Watanabe-Galloway et al, 2015; SAMHSA-HRSA, 2017; Kadis, 2001).

Kadis (2001) notes that some non-healthcare organizations deploy recruitment strategies that promote the work-life balance of their employees; these incentives include flexible schedules, onsite daycare and free, or low-cost, exercise programs. In fact, non-healthcare organizations more commonly allow for telecommuting and other flexible workplace solutions and have realized substantial benefits such as the improved mental and physical health of their employees, increased loyalty to the organization, improved employee satisfaction, and improved employee engagement and productivity (Royal Society for Public Health, 2016; Trockel et al, 2018).

Across the literature, the retention strategies to reduce the burnout and turnover of mental health providers focus on offering staff development and training opportunities, and creating opportunities for advancement (Kadis, 2001; Butcher, 2018). The sole mention of improving the work-life balance of mental health providers comes from Shanafelt and Noseworthy (2017) who recommend that healthcare organizations allow their physicians to reduce their working hours in order to improve their work-life balance.

While the literature identifies many recruitment and retention strategies that focus on financial incentives, training opportunities and creating plans for career advancement, there is a major

gap in the literature on promoting the work-life balance and potentially reducing the burnout of mental health providers.

One possible reason for the lack of literature in this area could be that telehealth, the virtual provision of healthcare, has only recently created the capability and infrastructure for direct care providers to practice medicine remotely. Prior to telehealth, direct care providers would need to be on site to provide care to their patients. One possible way to promote work-life balance for mental health providers is by allowing for telecommuting via telehealth solutions, such as video visits; this may reduce provider burnout by reducing the stressors associated with commuting and promoting work-life balance.

Video visits have already been implemented at Kaiser Permanente and provide the infrastructure that would allow for mental health providers to telecommute. However, the utility of these visits on addressing Kaiser mental health providers' satisfaction, burnout and turnover has not been evaluated.

B) Telehealth

Telehealth was first used in the 1960s by NASA to monitor the vital signs of astronauts in space and was soon adopted by the U.S. Indian Health Service to remotely deliver care to rural patients residing in an area with a shortage of medical personnel (Basher, Armstrong, & Youssef, 1975; Freiburger, Holcomb, & Piper, 2007; Vernig, 2016). Today, there are three categories of telehealth: 1) virtual, real-time provision of care, 2) remote monitoring and 3) "store and forward" care. Providing mental health services via videoconferencing technology would fit into the first category of live, interactive two-way care provision and is the modality that is most applicable to the provision of mental health services as it mimics the face to face, traditional method of providing therapy to

patients. Examples of remote monitoring include a patient using a glucometer or heart monitor at home and their results being sent to their physician for review, thus mitigating the need for the patient to travel to their physician's office for routine vital sign monitoring. "Store and forward" care is asynchronous; an example of "store and forward" care is a physician and patient communicating via virtual messaging within an electronic health record (EHR) about the patient's care plan.

Telehealth evaluations have shown that telehealth visits are comparable to in-person care with regards to patient satisfaction, provider satisfaction, health outcomes and cost (Backhaus et. Al, 2012; Fortney, 2007; Fortney, 2013; Smucker et. Al, 2012; Grady, 2002). Some studies have shown increased benefits to delivering care via telehealth, including reduced costs, increased adherence, improved patient engagement and better health outcomes (Pruitt, Luxton & Johnson, 2015; Tang et al., 2001). Moreover, both patients and providers see telehealth as an acceptable way to seek healthcare (Hilty et al., 2004; O'Reilly et al., 2007; Ruskin et al., 2004; Frueh et al., 2007).

In addition, patients have expressed interest in obtaining healthcare via telehealth. In a survey of 5,000 patients conducted by the Cohen Veterans Network, 65% of survey respondents were aware that telehealth was an option for accessing mental health services, and 45% of respondents who had not already tried telehealth services said they would be open to trying telehealth (Cohen Veterans Network, 2018).

Telehealth, such as video visits, therefore, have a degree of patient acceptability. However, little is known about how telehealth may benefit providers. One example is that telehealth may ameliorate workforce challenges in mental health caused by a shortage of providers and high rates of burnout and turnover. In essence, telehealth extends care to patients by removing potential access barriers, including distance; Telehealth thus reaches a larger patient population, particularly patients

that are based in a rural area. Telehealth may reduce burnout/turnover in mental health providers by providing a telecommuting option, thus reducing stressors associated with commuting and improving work-life balance. Therefore, by reducing the impact of the provider shortage and burnout/turnover, video visits may improve access to care.

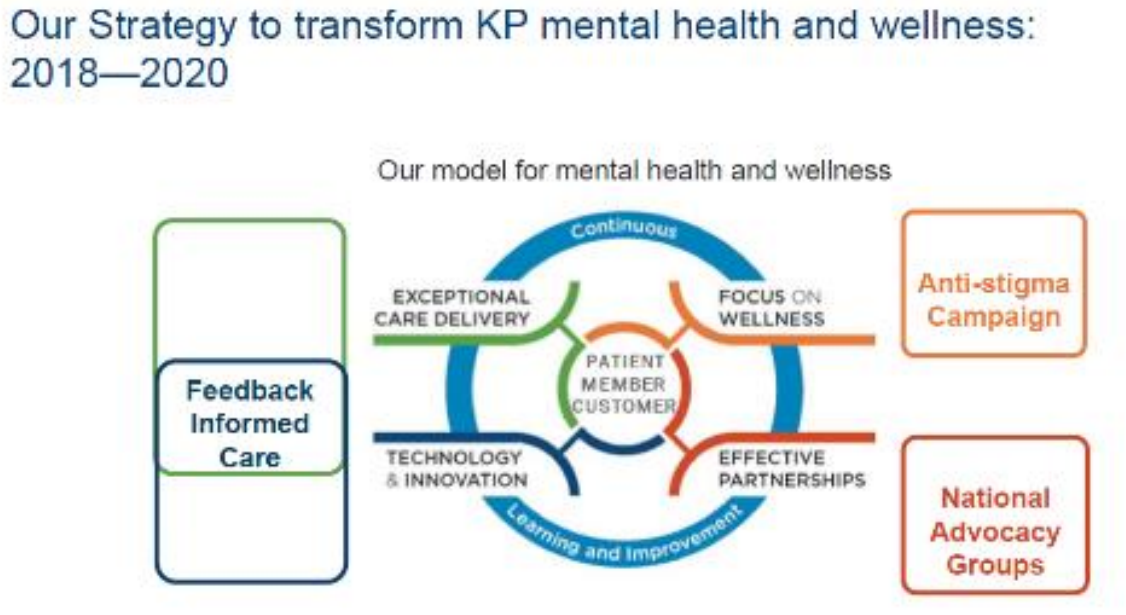
B. Context: Kaiser Permanente

Founded in 1945, Kaiser Permanente is a managed care organization in the United States that provides both health insurance and healthcare services to 12.3 million patients across 8 states, including Washington state and Oregon (Kaiser Permanente, 2019). Kaiser Permanente employs 22,914 physicians and operates in 29 hospitals and 701 medical offices (Kaiser Permanente, 2019).

With a public health-oriented mission to "provide high-quality, affordable health care services and to improve the health of our members and the communities we serve" and a "care anywhere" philosophy to transform care delivery with technology, Kaiser Permanente has pledged to invest $400 million in telehealth innovations over the next few years (Kaiser Permanente, 2019). The vision of Kaiser Permanente's "care anywhere" program is to "enable real-time, personalized care resulting in improved wellness and affordability for our members" (Kaiser Permanente, 2019).

Mental health is also a key area of focus for Kaiser Permanente and is part of Kaiser Permanente's strategic plan. Kaiser Permanente has created a strategy to improve mental health and wellness which is being carried out from 2018 to 2020. As noted in the graphic below, technology and innovation, including telehealth and video visits, are a key part of Kaiser Permanente's strategy to improve access to mental health services and the health outcomes of mental health patients.

FIGURE 1. Kaiser Permanente Mental Health Strategy: 2018-2020



Due to Kaiser Permanente's dominant position in the U.S. healthcare market, the organization's reputation for being a leader in telehealth innovation, and its commitment to research, Kaiser Permanente is strategically and uniquely positioned to act as a model to other healthcare organizations on how to implement video visits to expand access to mental health care.

i. Specialty Mental Health at Kaiser Permanente

a) Staffing of Specialty Mental Health

Specialty mental health care at Kaiser Permanente regions KPWA and KPNW is primarily provided by psychiatrists, Masters Level Therapists (MLTs), psychologists and social workers. While other licensures such as Registered Nurses (RNs) and Medical Assistants (MAs) are an important part of the care team, this study focuses on providers, which includes the psychiatrists, MLTs, psychologists and social workers mentioned above. The scope of the study

also focuses only on outpatient care, meaning that the patient is not admitted to a hospital or residential program.

i. Staffing at KPWA

Mental health providers at KPWA include 3 child psychiatrists, 40 adult psychiatrists, 17 psychologists, 168 Masters Level Therapists, and 20 social workers in the Access unit.

ii. Staffing at KPNW

KPNW offers mental health care on both an outpatient and residential basis. The scope of this study focuses only on outpatient care. Outpatient mental health care at KPNW is provided by 51 MLTs, 27 psychiatrists and 12 social workers in the virtual care unit.

b) Access Challenges in Specialty Mental Health

In 2019, KPWA providers provided a total of 253,381 visits of which only 2,184 were video visits. In 2019, KPNW providers provided a total of 173,146 visits of which 11,938 were video visits. Due to wait times often lasting 6 weeks or longer, many patients are referred to the External Delivery System (EDS), as described in the next section.

c) Process of Referring Patients to Specialty Mental Health

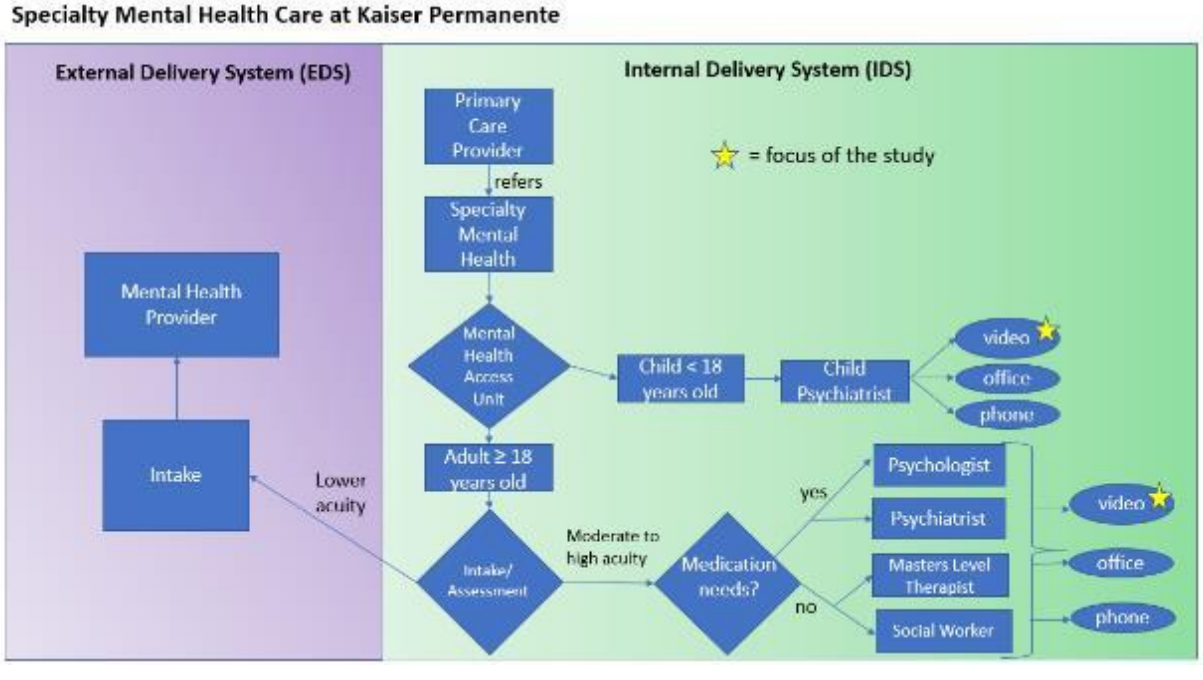
When assessing a patient's state of mental health, a Kaiser Permanente primary care provider may decide to refer the patient to specialty mental health. Once the referral to specialty mental health has been submitted, the referral is reviewed by the Mental Health Access Unit, which is staffed by Kaiser Permanente social workers. The social workers in the Access Unit triage the referral based on the patient's acuity, treatment needs and medication needs.

If the patient is under 18 years old, the child will be referred to a child psychiatrist who works for Kaiser Permanente. If the patient is an adult, the social worker will assess the acuity of the patient

during an intake/assessment session. Low acuity patients will be referred to contracted mental health providers in the External Delivery System (EDS); this is because the demand for mental health services far exceeds the capacity of Kaiser Permanente mental health staff. Moderate to high acuity patients will be referred and seen in the Internal Delivery System by Kaiser Permanente mental health providers. The scope of this research study includes only patients within the Internal Delivery System who are seen by Kaiser Permanente mental health providers via video visits (see stars).

If the patient has medication needs, the social worker will refer the patient to a psychiatrist, who have prescribing authority. If the patient does not have medication needs, the social worker may continue to see the patient or refer the patient to a Masters Level Therapist (MLT), who see patients in an in-person office visit, by phone or by video.

FIGURE 2. Specialty Mental Health Care at Kaiser Permanente



iii. Video Visits in Specialty Mental Health

a) Background

Kaiser Permanente has allocated $400 million for investment in telehealth initiatives over the next few years. Video visits are viewed as a key organizational strategy to lower the cost of care while expanding access to care, particularly to KP's rural patients. Video visits are viewed by KP as a substitute for office visits, as patients can "see" their provider and therefore carries additional benefits over phone visits.

i. KPWA

Video visits at KPWA were launched in 2018, with mental health chosen as the first specialty for implementation. Video visits were rolled out amongst all mental health providers at the same time.

As the newest KP region, KPWA was the last region to implement video visits and is amongst the lowest utilizers of video visits. Currently, approximately 65 video visits per week are being scheduled in specialty mental health.

ii. KPNW

Video visits at KPNW were launched in mental health in 2015, beginning with psychiatrists and later being adopted by other licensures.

KPNW providers have the highest video visit utilization with approximately 160 scheduled video visits per week in specialty mental health.

b) Video Visit Process

When a patient is scheduling their mental health appointment, they will be offered a video visit if they have: 1) Kaiser Permanente insurance and 2) seen a mental health provider in the past year. This policy allows patients to build a rapport with their mental health provider in-person prior to continuing the therapeutic relationship virtually. Patients will most often schedule their next appointment with their provider at the end of their visit. Patients also have the option of scheduling their next appointment with a Patient Access Representative (PAR) at the front desk within the clinic or over the phone. If they are scheduling their follow-up visit in-person, patients scheduling a video visit are given a paper copy of a Quick Guide which explains how to download the KPWA mobile application and technical tips on how to ensure a successful visit.

Fifteen minutes prior to their video visit, the patient can log into their Electronic Health Record (EHR) via desktop or the KPWA mobile application. Patients can review an electronic copy of the Quick Guide once logged into their account. The patient can also complete pre-visit documentation, such as a depression survey and check their audio and video connections. The patient can then check into the visit by selecting “begin video visit” and enter the virtual room.

After the patient checks into the visit, the provider will see the video icon on their schedule change color from grey to green. After reviewing the patient’s chart and/or preparing for the visit, the provider will then select the video icon to join the patient in the virtual room. The patient and provider will then conduct the video visit for the allotted duration, which is the same length as a face-to-face office visit. At the end of the visit, the provider will schedule the next appointment with the patient by video, phone or office visit.

Upon completing the visit, both the patient and provider will leave the virtual room by selecting the "x" on the video visit window, which closes the window and ends the visit. The provider can then complete and send the After Visit Summary (AVS), which contains notes, advice and next steps, to the patient via a secure message and/or add the AVS to the patient's chart.

c) "Provider at Home" Initiative

Across regions, Kaiser Permanente has implemented a "provider at home" initiative, allowing for providers to work from home on a part- or full-time basis while conducting video visits with patients. In order to qualify for the "provider at home" initiative, video visits must compromise at least 10% of a provider's total visit volume. Upon approval for the initiative by their service line leader, a provider will order a workstation and relevant equipment, allowing them to set up a home office with KP-approved equipment. Currently only four providers across both regions- KPWA and KPNW- qualify for the "provider at home" initiative.

While anecdotal evidence and conversations with mental health providers supports that the "provider at home" initiative positively impacts satisfaction, burnout and turnover, this initiative has not been evaluated so the true impact is unknown.

D) Problem Statement and Research Questions:

i. Statement of the Problem

Approximately 1 in 5 adults in the United States, or 44 million people, have been diagnosed with a mental illness yet, due to access barriers, fewer than half of these patients receive treatment.

While mental health has the highest disease burden of any disease, has significant impacts on physical health, and is linked with lost wages, suicide and early death, mental illness is preventable and treatable with access to appropriate and quality mental health services. As stated in the literature, primary contributors to access challenges in mental health are systematic workforce challenges, which include a shortage of mental health providers and high rates of burnout and turnover.

Telehealth, including video visits, have been introduced in large organizations such as Kaiser Permanente to address access barriers in mental health. While telehealth has been proposed as a solution to improve access to care for patients, the implementation of video visits in mental health is an emerging innovation that has been minimally evaluated. Existing telehealth evaluations primarily focus on the impact of video visits on patients, with a dearth of literature on provider impact. As video visits allow providers to offer direct care to patients from home thus allowing providers to work from home on a part- or full-time basis, video visits have the potential to reduce burnout and promote the work-life balance of mental health providers therefore enhancing the capacity of the mental health workforce to provide much needed care to patients. An exhaustive literature review found no evidence on the impact of video visits on mental health provider satisfaction, burnout and turnover.

By examining the impact of video visits on mental health access from a provider experience and systems perspective, we can gain an understanding of the role and value of video visits in addressing mental health workforce challenges. This evaluation will provide healthcare systems utilizing video visit technology with a source of evidence to ascertain the utility and value of video visits in mental health and facilitate provider use and promotion in order to increase access to and quality of care.

ii. Research Questions

1) What issues and factors contribute to provider burnout and turnover in mental health?
    a) What is the role and value of telehealth in addressing provider burnout and turnover in mental health?
2) What are provider perceptions of video visits in mental health?
    a) In what ways do video visits affect patient care? (role and value)
        i. How do video visits support the provision of effective care?
        ii. How do video visits enhance the efficiency of care delivery?
    b) In what ways do video visits affect patient access? (role and value)
        i. In what ways do video visits affect provider burnout and retention?
    c) What factors support and inhibit video visit delivery in mental health?
3) What are provider perceptions of the "provider at home" initiative?
    a) How does the "provider at home" initiative affect work-life balance?
    b) How does the "provider at home" initiative affect burnout?
    c) How does the "provider at home" initiative affect turnover?

d) How does the “provider at home” initiative affect provider satisfaction?

e) What factors support or inhibit the delivery of the “provider at home” initiative?

4) What are the opportunities and next steps to enhance video visit services for both mental health care providers and patients?

E. Leadership Implications and Relevance

Now more than ever, adaptive leadership and evidence-based practice in healthcare are needed in order to expand access to affordable healthcare across the country. The Affordable Care Act (ACA) has caused pressure on healthcare organizations to expand access to care while lowering costs. Emerging threats such as the Amazon/Berkshire Hathaway/JP Morgan partnership aim to upend the healthcare industry through disruptive technology and innovation.

While the leaders of large healthcare organizations, such as Kaiser Permanente, are spending hundreds of millions of dollars investing in telehealth initiatives in order to be competitive, expand access and lower the cost of care, there is a dearth of literature and evidence on the true efficacy and benefit of such initiatives. In order to make decisions, healthcare leaders need to have a deeper understanding on telehealth and how it impacts access to care, provider satisfaction, retention and turnover. While it is easy to make quick, decisive actions particularly in this competitive environment, the wrong action will cost the organization millions of dollars and may steer them off course from achieving their intended objectives. Therefore, there is a need for leaders to prioritize the evaluation of telehealth

initiatives prior to investment and implementation in order to achieve their objectives of being competitive, improving access and lowering the cost of healthcare.

These research study also has adaptive leadership implications beyond the guidance provided by a cost benefit analysis, evaluation and impact analysis. In addition to these benefits, this study will inform systems development on how to provide care in innovative ways, and how access to care can be expanded to underserved populations via telehealth products.

With the growing need for mental health services across the nation, telehealth applications such as video visits have grown in popularity within the past 5 years. However, video visit applications in mental health have been minimally evaluated. More importantly, an exhaustive literature review found no studies on the impact of video visits on mental health provider satisfaction, burnout and turnover. The findings from this research will help determine the role and value of telehealth in providing mental healthcare services. This, in turn, will help to inform leaders on how to improve the efficiency of healthcare delivery and access to mental health care services for patients with limited access due to geographical location, limited provider base or other factors.

By evaluating the ability for video visits to achieve these objectives, Kaiser Permanente can act as leader and model to other healthcare organizations on how to efficiently expand access to much needed mental health care across the country to all patients. The findings from this research will also inform the development of broader uses of telehealth in other service areas and geographical locations.

CHAPTER II: CONCEPTUAL AND ANALYTICAL FRAMEWORK

A. Literature Review:

As stated in Chapter 1, the burden of mental health is immense and has a significant impact on individuals, families and their communities.

i. Impact of Mental Health throughout Stages of Life

Mental health impacts a person's mood and behavior throughout every stage of life, from childhood to adulthood, and affects their ability to function, relate to others and have healthy interpersonal relationships, therefore also impacting their communities and society (CDC, 2019). The burden and impact of mental health throughout an individual's stages of life speaks to the importance of early diagnosis and treatment to improve mental health through prevention and by ensuring access to appropriate, quality mental health services (Healthy People, 2020; CDC, 2019).

Approximately 20% of children and adolescents are impacted by mental illness, with symptoms of anxiety disorders often emerging by the age of 6 and symptoms of mood disorders emerging by age 13 (Merikangas, 2010). Mental illness is a burden among children and adolescents, and can lead to substance misuse, school failure, discord with family members and others, violence and suicide (CDC, 2019; Eaton, 2008). Fifteen percent of high school students have seriously considered suicide and 7% have attempted to take their own life (CDC, 2019; Eaton, 2008).

An estimated 46% of U.S. adults, between age 18 and 65, will have a mental illness in their lifetime, while an estimated 18.1% are impacted in any given year, 4.2% (9.8 million) of whom have a seriously debilitating mental illness (Center for Behavioral Health Statistics and Quality, 2015; Reeves, 2011). In fact, only about 17% of adults in the United States are considered to be in a "state of optimal mental health" (Reeves, 2011). Prevalence of mental illness is higher among women (22.3%) than men

(15.1%) (SAMHSA, 2018). Rates of mental illness also vary amongst age groups; Young adults, aged 18-25 years, have the highest prevalence of mental illness at 25.8%, as compared to 22.2% of adults aged 26-49 years and 13.8% of adults aged 50 years and older (SAMHSA, 2018). Sixteen million American adults affected by depression each year and 31.1% of U.S. adults experiencing an anxiety disorder at some point in their lives (SAMHSA 2013; National Institute of Mental Health 2008).

Mental illness is also common among older adults, with 18.7% of people age 65 to 74 and 23.5% of people age 85 and older having reported mental illness (Reeves, 2011). Alzheimer's disease is the 5th leading cause of death for U.S. adults age 65 years and older and the 10th leading cause of death across age groups (Healthy Aging Program, 2011).

ii. Mental Health as Key to Overall Health

Mental health and physical health are equally important components of a person's overall health (CDC 2019). While mental health is typically seen as affecting a person's mood and behavior, mental health and physical health are closely interrelated and poor mental health can cause or intensify a person's health issues thereby creating a cycle of poor health (Healthy People 2020; CDC 2019; Lando, 2006; Colton & Manderscheild, 2006). There is a strong association between mental health disorders, especially depression, and chronic diseases, including diabetes, heart disease, HIV, hypertension, stroke and cancer (Jonas, 1997; Jonas 2000; Lando, 2006; Division of Adult and Community Health 2011-2015; Chapman, 2005). When a mental health disorder precedes the onset of a chronic disease, the chronic disease can further intensify the symptoms of the mental illness thereby creating a cycle of poor health (Chapman, 2005). Mental illness can also play a role in a person's ability to seek treatment, participate in treatment and improve their health, thereby negatively impacting their ability to recover from the mental health disorder and chronic disease (Healthy People 2020;

CDC, 2019). Therefore, improving the mental health of Americans is crucial to improving the physical health of Americans, ultimately reducing the burden of chronic disease- related death and disability across the country (Chapman, 2005; Healthy People 2020). Also crucial to improving the overall health of Americans is ensuring access to quality mental health services to promote the early detection, prevention and treatment of mental health disorders (Healthy People 2020).

iii. Cost of Mental Health Services

In addition to impacting physical health, chronic disease, productivity and interpersonal relationships throughout a person's lifetime, mental health is associated with significant healthcare spending. As of 2013, when including institutionalized populations, the largest share of healthcare spending, $201 billion/year, is on mental health disorders, outspending treatment cost for conditions such as heart disease, trauma, cancer and pulmonary conditions (Roehrig 2016). When excluding institutionalized populations, mental health and substance abuse orders rank fourth in healthcare spending (Dieleman, 2016).

National spending on mental health disorders increased by 3.7% per year between 1996 and 2013, which is higher than the 1.2% annual rate of increase for cardiovascular disorders but lower than the 5.1% annual rate of increase for diabetes and related disorders (Dieleman, 2016). Depressive disorders are the most costly mental health condition to treat and the sixth most expensive overall health condition overall, behind conditions such as diabetes, ischemic heart disease and hypertension (Dieleman, 2016).

At the individual level, having health insurance is a major determinant of access to mental health services. Although access to mental health care has been improved through mental health provisions in Medicaid and the Affordable Care Act, many insurance plans have copays and other

associated costs, preventing patients from being able to afford needed mental health care (Mojtabai 2012; Olfson 2018).

iv. Access to Mental Health Services as Key to Prevention and Treatment

With the significant burden of mental health on society, both from the standpoint of healthcare services and economic costs to the individual and society, it is important to note that mental illness can not only be treated but also prevented, by ensuring a person has access to appropriate and high-quality mental health services (Healthy People 2020; CDC 2019; National Research Council and Institute of Medicine, 2006). Over the past 20 years, mental health researchers have identified risk factors, which predispose individuals to a mental disorder and protective factors, which protect a person from developing a mental illness (Healthy People 2020). Researchers have gained knowledge on how the brain develops over time in response to normal conditions and stressors and note that the greatest opportunity for prevention is among children and adolescents (Healthy People 2020). Opportunities for the treatment of mental illness exist for both children/adolescents and adults, including psychotherapy and medication, with advancements being made in the development of treatment options and evidence-based practices (Healthy People 2020).

While effective treatments to mental illness are available, significant barriers prevent patients from accessing mental health services. The most common barriers impeding a patient's ability to access mental health services are stigma, a patient's proximity to a clinic, ability to take time away from work, and a shortage of mental health providers, which impacts wait times and overall patient access to care (SAMHSA 2019: Cohen Veterans Network 2018; Mojtabai 2011; Titov 2010; HRSA 2016; Merritt Hawkins, 2018; Rural Health Research & Policy Centers 2016; The Urban Institute, 2013; Kepley, 2018).

a) Attitudinal Barriers

Stigma is one of the most common types of attitudinal barriers and exists when prejudicial attitudes toward mental illness cause people to be deterred from seeking treatment (Mojtabai 2011; Titov 2019). The stigma of mental illness can often manifest itself in judgement from others or the patient judging themselves. Stigma can lead to self-doubt and shame and cause the patient to further isolate themselves (Mojtabai 2011). Stigma can also cause the patient to see their mental health condition as a weakness that they should attempt to control without outside assistance; this can make the patient more reluctant to seek help or treatment (Mojtabai 2011).

Therefore, the stigma surrounding mental illness can lead a patient to prefer to handle their mental health issues on their own; in a survey regarding barriers to mental health care, having a desire to handle their mental health issues on their own was the most common response, selected by 72.6% of respondents (Mojtabai, 2011). Another common theme was low perceived need for treatment; 44.8% respondents with a diagnosed mental health disorder cited this as their main reason for not seeking treatment (Mojtabai, 2011). All of these attitudinal barriers to receiving mental health care are related; as patients exhibiting symptoms of mental illness are often reluctant to discuss their issues and seek treatment, partially due to the stigma associated with mental illness and also because symptoms of mental illness are often not as readily apparent as physiological problems such as heart and lung issues (Merritt Hawkins, 2018).

b. Structural Barriers

Structural barriers also prevent access to mental health services (Mojtabai, 2011; Titov, 2019). Barriers such as inconvenience, inability to obtain an appointment and treatment availability speak to the overall shortage of mental health providers particularly in rural and low-income areas as well as

the fragmentation of mental health services across primary care, specialty mental health care, emergency departments and school-based mental health programs (Mojtabai, 2011; Titov, 2019). Many systems-level barriers further impede access to mental health care (Mojtabai, 2011; Titov, 2019; Cohens Veterans Network, 2018).

From a systems-level healthcare policy perspective, insurance coverage for mental health is often inadequate; health insurance plans often offer more comprehensive coverage for physical illness than mental illness (Mojtabai, 2011; Titov, 2019, Cohen Veterans Network, 2018). Due to inadequate insurance coverage for mental illness, patients with mental health issues often find there are limited options to obtaining mental health care, with fragmented mental health services further challenging their ability to obtain care (Mojtabai, 2011; Titov, 2019, Cohen Veterans Network, 2018). Frustration with navigating a "maze" of mental health services can lead to a patient dropping out of care, particularly for patients with mild mental health disorders (Mojtabai, 2011). These access issues are often compounded by the lack of specialty mental health infrastructure in rural areas (Rural Health Research & Policy Centers 2016, The Urban Institute, 2013).

Similarly, a patient survey of 5,000 Americans conducted by the Cohen Veterans Network (2018) concluded that mental health services in the US are insufficient despite high demand, with 56% of respondents stating they have sought mental health treatment for themselves of others and 21% of respondents stating they wanted to see a mental health professional for themselves at some point but were unable to for reasons outside of their control, with the most common hurdle being their inability to obtain a mental health appointment due to limited options to access care and long wait times. 38% of survey respondents reported they had to wait longer than one week for mental health services (Cohen Veterans Network, 2018). Another issue cited was the proximity of mental health services,

with 26% of respondents stating they had to or knew someone who had to travel more than 1-hour roundtrip to their most recent healthcare appointment.

Limited care options, long wait times and travel time act as barriers to care and speak to a need to innovate mental health care delivery models in order to expand access to much needed care. While 65% of survey respondents were aware that telehealth was an option for accessing mental health services, and 10% reported having utilized telehealth to obtain mental health services, 45% of respondents who had not already tried telehealth services said they would be open to trying telehealth (Cohen Veterans Network, 2018).

Significant barriers that impede mental health patients from accessing treatment highlight how existing models of care and treatment approaches are failing to adequately address the mental health crisis.

a. Workforce Challenges in Mental Health

As noted in chapter 1, a major barrier to mental health care is a shortage of mental health providers which is exacerbated by unequal geographic distribution. The high burnout and turnover rates of mental health providers further limit patient access to care.

i. Shortage of Mental Health Providers

Merritt Hawkins, a physician recruitment firm, terms the shortage of mental health providers a "silent shortage;" despite a crisis in the supply of mental health providers, there is little to no public outcry despite the burden of mental illness on individuals and society (Merritt Hawkins, 2018). Dr. Ratzliff, a psychiatrist and associate professor of psychiatry at the University of Washington School of Medicine, notes that while all of society is harmed by untreated mental illness, there is insufficient

attention to mental illness due to stigma and misunderstanding; she adds, “I don’t think we’d ever say to someone ‘I’m sorry, but only one in 10 people with cancer will be able to see a cancer specialist.’ I don’t think people would tolerate that” (AAMC 2018). Adding to access challenges in mental health, hospitals and clinics are typically structured to be “procedure-oriented,” where a procedure such as a surgery or intervention is performed on a patient and then they are discharged, allowing space for the next patient. In contrast, psychiatry is not procedure-oriented and mental illness is typically managed with long-term therapy and/or medication therefore requiring more intensive resources (Merritt Hawkins 2018). Therefore, provider caseloads remain high for long periods of time and provider caseload burden limits access to care.

While there is a general shortage of mental health providers, access issues are intensified in rural areas, which have even fewer mental health providers than urban areas. Dr. Richard Cooper, an expert on physician supply, demand and distribution notes that a population of 100,000 can support 14.7 psychiatrists, or one provider per 6,800 people; all but six states fall below this guideline for mental health provider supply (Merritt Hawkins, 2018). Such access challenges are further exacerbated in rural-based and impoverished areas, with 50% of U.S. counties having zero mental health providers, including psychiatrists, psychologists, social workers, school counselors and marriage and family therapists to service the population (Rural Health Research & Policy Centers 2016, The Urban Institute, 2013).

Reasons for a rural shortage of mental health providers include providers self-selecting to urban environments and the need for scalability and a large patient population in order for an organization to offer expensive specialty mental health services (Rural Health Research & Policy Centers 2016; The Urban Institute, 2013). Therefore, rural-based patients wanting access to mental health services

contend with higher access barriers due to an even greater mental health provider shortage in rural areas, limited availability of appointments, and greater travel distance to available mental health care facilities (Rural Health Research & Policy Centers 2016; The Urban Institute, 2013). These issues of rural areas having even lower coverage and greater travel distance to appointments are what telehealth applications hope to address.

Washington state, which is served by Kaiser Permanente Washington (KPWA) and whose providers are the subject of this research study, has a significant urban/rural divide. The western part of the state is more urbanized and includes the greater Seattle area. The eastern part of the state is more rural, with its largest city being Spokane. Access challenges, particularly to specialty care, including mental health services, is exacerbated in rural, eastern Washington.

a) An Aging Workforce Amidst Increasing Demand

Of notable concern is that the existing supply of mental health providers will soon diminish greatly, as 59% of psychiatrists are 55 years old or older and on the verge of retirement (Merritt Hawkins, 2017). Fewer medical students are selecting psychiatry as a specialty, thus increasing the shortfall of psychiatrists (Merritt Hawkins, 2017; Milliman, 2017). A major reason for this is that medical/surgical providers receive higher reimbursement rates than mental health providers, leading medical residents to often choose specialties with higher rates of compensation (Milliman, 2017). From 2013 to 2015, compared to mental health providers, primary care providers were paid 20.7 to 22% higher rates and medical/surgical specialty providers were paid 17.1 to 19.1% higher rates for office visits (Milliman, 2017). Another contributing factor to medical students choosing a specialty other than mental health is that psychiatry is typically perceived as having a lower status, or rank, compared with other medical specialties, particularly surgical specialties; students may therefore self-select to another specialty to

increase their future salary and perceived status amongst other medical professionals (Merritt Hawkins, 2018).

The diminishing supply of mental health providers is especially troubling considering a trend in increased mental health utilization due to increased demand and a reduction in stigma (Kessler et al., 2005; Olfson et al., 2018). This increase in mental health utilization follows past trends, including the percentage of patients aged 18-54 years receiving treatment rising from 12.2% to 20.1% from 1990-2 and 2001-3, independent of socio demographics or disorder severity (Kessler et al., 2005). Olfson et al. (2018) similarly found an increase in mental health utilization from 19.08 to 23% in adult patients from 2004-2005 and 2014-2015. HRSA (2016) also predicts that demand for mental health services will increase by 7% by 2030 due to population growth and aging, resulting in a shortage of between 14,300 FTE psychologists and 17,990 FTE psychiatrists by 2030.

This study proposes to explore the impact of video visits on provider burnout and turnover. Therefore, while the supply of mental health providers is decreasing, reducing burnout and turnover may allow mental health providers to work more efficiently and effectively. Also, the new generation of mental health providers may be more attracted to a workplace that promotes multiple care options, flexibility and work-life balance.

ii. Burnout and Turnover in Mental Health Providers

The shortage of mental health providers contributes to high rates of burnout and turnover amongst providers and creates recruitment and retention challenges for organizations and further restrict patient access to care. Due to the complex interplay of factors that contribute to provider burnout and turnover and the immense cost, including both indirect and direct costs, to organizations

and their staff, burnout is a systems issue that needs to be addressed at the individual, work unit, organizational and national levels.

Burnout is extremely prevalent amongst mental health providers, impacting between 21 to 67% of mental health workers across job classes and facilities (Morse et al., 2012; Stalker, 2002). Burnout is a "stress-related psychological condition that arises within the workplace" and is "characterized by exhaustion, cynicism and reduced effectiveness (Shanafelt & Noseworthy, 2017; Morse et al., 2012; Stalker, 2002). Exhaustion is defined as work fatigue, cynicism is an indifference about work while ineffectiveness regards how well one feels they can do their job (Garcia, 2015). A commonly accepted definition of burnout, the Maslach Burnout Inventory (MBI) has three dimensions: emotional exhaustion, depersonalization and reduced personal accomplishment; while mental health workers most commonly cite high emotional exhaustion as contributing to their high levels of burnout, they also report high levels of personal accomplishment related to their work (Stalker, 2002). Burnout is largely driven by external factors rather than individual characteristics; external factors that commonly impact burnout include workflow inefficiencies, burgeoning workloads and hours worked, and a lack of work-life balance (Shanafelt & Noseworthy, 2017).

Common contributors to burnout and turnover in mental health providers include a high patient caseload, a high number of hours worked, and compassion fatigue, where providers empathize and display emotion with their patients, therefore increasing their own stress levels further (Shanafelt & Noseworthy, 2017). Shanafelt and Noseworthy (2017) note that dissatisfaction with work-life balance further contributes to high burnout rates in providers, including mental health providers.

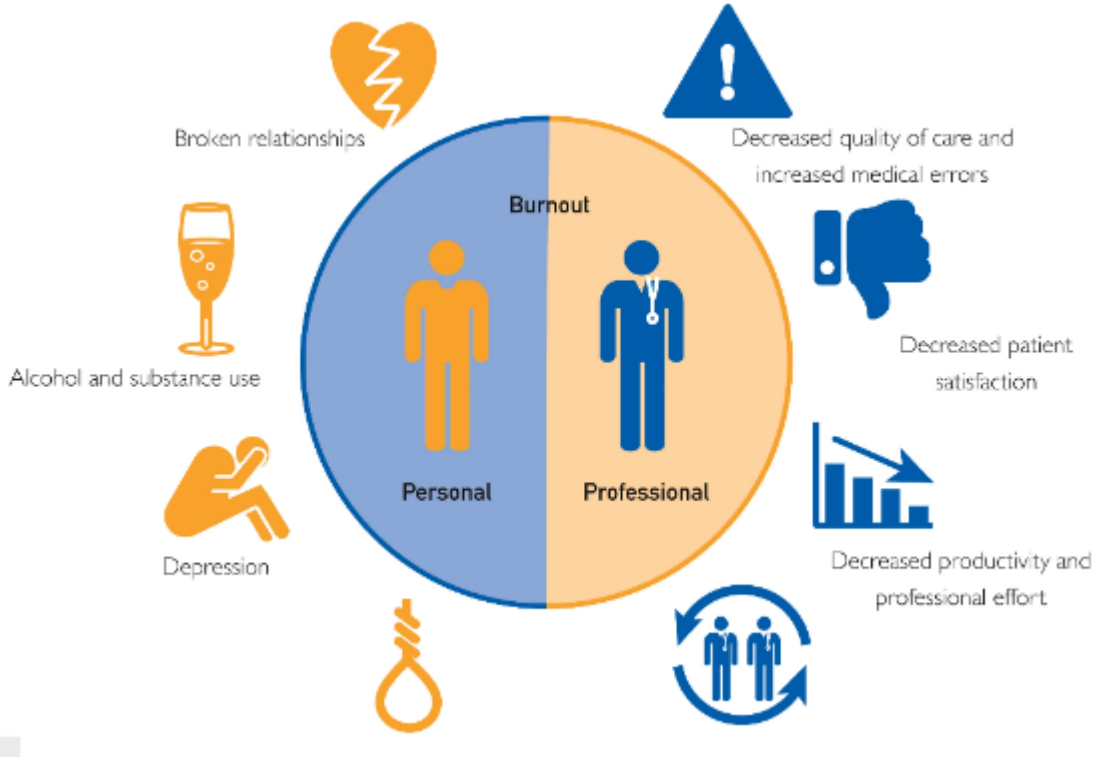
Provider well-being impacts not only themselves but members of their healthcare team, healthcare organizations and patients (Bodenheimer & Sinsky, 2014; Wallace, Lemaire & Ghai, 2009;

Shanafelt, Sloan & Habermann 2003). Providers with high burnout rates and low satisfaction are more likely to reduce their hours of work, retire early, leave their organization, and are associated with a lower quality of care; these providers are also at higher risk for substance misuse and suicide (Dyrbye, Varkey, Boone, Satele, Sloan & Shanafelt, 2013; Buchbinder, Wilson, Melikc & Powe, 2001; Williams & Skinner, 2003; Spinelli, 2013). These providers are also more likely to have poor patient outcomes, make medical errors and have lower patient satisfaction, with fewer patients adhering to their recommendations (Scheepers et al., 2015; Linzer, Poplau et al. 2017; Shanafelt et al. 2002; Linzer et al. 2009; An et al. 2013; Melville 1980; Grol et al. 1985; DiMatteo et al. 1993; Linn et al. 1985; Haas et al. 2000).

Relationships between poor provider well-being and poor patient outcomes have been well established, as detailed above, across research studies which have utilized a number of study designs and methodologies including systematic reviews, observational studies, survey data, cluster randomized controlled trials (Scheepers et al. 2015; Shanafelt et al., 2002; DiMatteo 1993). For example, in a 2 year longitudinal study utilizing data gathered via surveys and phone interviews across 3 cities (Los Angeles, Boston and Chicago), physicians who worked more hours per week reported higher job dissatisfaction (DiMatteo, 1993). The patients of these dissatisfied providers had reduced adherence to their treatment plans and worse clinical outcomes (DiMatteo, 1993). On the other hand, physicians who reported they were “very or extremely satisfied” with their work, in turn, had patients who also reported high levels of satisfaction with their care (Haas et al, 2000). In fact, of all physician characteristics examined in the study, including demographic variables and work status (full-time or part-time), only provider satisfaction was correlated with patient satisfaction (Hass et al, 2000).

Therefore, burnout carries significant impacts on a provider's personal and work life (Shanafelt & Noseworthy, 2017). On the personal side, burnout is associated with alcohol and substance use, poor relationships, increased risk of suicide, and depression. On the business side, burnout is correlated with turnover, reduced productivity, lower patient satisfaction, and increased risk of medical errors (Shanafelt & Noseworthy, 2017).

FIGURE 3. Impact of Provider Burnout (Shanafelt and Noseworthy, 2017)



Burnout and turnover are linked, as employees experiencing high levels of burnout more likely to leave their organization and search for new jobs (Morse et al., 2012; Stalker 2002). Han and Shanafelt

(2017) estimate that physician burnout costs organizations in the United States $3.4 billion annually, 79% of which is attributable to costs related to physicians leaving the medical profession.

Employee turnover in mental health is also substantial and estimated to be 20-30% across job classes and facilities (Aarons and Sawitzky, 2006). Mental health employees who intend to leave their position or have recently left their position commonly cite the following reasons: poor compensation, burnout, a lack of advancement potential and a lack of administrative support (Kadis, 2001). Turnover is costly to organizations, with the cost to replace a physician estimated to be between $268,000 to $957,000 depending on the specialty; this estimate includes both direct and indirect costs, including recruitment, onboarding, lost patient care revenue during the transitional period and the costs of training the new provider (Hamidi, Boyman & Sandborg 2017; Shanafelt & Noseworthy, 2017). Moreover, turnover is thought to be contagious in that when one staff member leaves an organization, it increases the likelihood that others will also leave (Hamidi, Boyman & Sandborg, 2017).

Turnover creates many direct and indirect costs to an organization, its providers and its patients (Kadis, 2001). At the organizational level, costs include a loss of efficiency and productivity, separation costs, fill-in costs and replacement costs (Kadis, 2001). The efficiency and productivity of an organization decreases as the employee prepares to leave the organization and also due to training the new replacement employee (Kadis, 2001). Separation costs include staffing and the time spent on exit interviews and administrative workload, such as completing separation paperwork (Kadis, 2001). Fill-in costs are due to the need to hire temporary workers to fill the vacant position or to pay overtime wages to staff members to fill the gap in staffing (Kadis, 2001). Last, replacement costs are

costs associated with advertising, interviewing and training the newly recruited employee (Kadis, 2001).

At the provider level, turnover has significant negative impacts as well. Providers may feel overwhelmed from an increased workload, time worked and responsibilities to bridge the gap in insufficient staffing, leading to high rates of stress and burnout and reducing the provider's ability to provide quality care to patients (Kadis, 2001). Insufficient staffing may also impact interpersonal relationships between mental health providers, between providers and management and between providers and patients (Kadis, 2001).

Turnover also carries a cost to patients, who receive a lower quality of care from over-burdened mental health providers (Kadis, 2001). Further, a frequent change in providers creates a lack of stability for patients and can negatively impact their relationship with their provider (Kadis, 2001). Staffing issues with mental health providers also increases wait times, causing patients to be more likely to drop out of treatment (Kadis, 2001). Therefore, high burnout is linked to provider dissatisfaction and turnover, which negatively impacts the quality of patient care and access to care (Haas et al., 2000; Kadis, 2001).

iii. Wellness and Work-Life Balance for Mental Health Providers

The importance of provider well-being has been gaining recognition as providers have increasingly lower rates of satisfaction, particularly with work-life balance, and higher rates of burnout as compared to the general population (Shanafelt, Boone, Tan, Dyrbye, Sotile & Satele, 2012; Shanafelt, Hasan, Dyrbye, Sinsky, Satele & Sloan, 2015). In the United States, physicians are almost twice as likely to be dissatisfied with work-life balance as workers in other fields (Shanafelt & Noseworthy, 2017).

Work-life balance refers to the ease with which an employee can manage their job and personal duties, including family responsibilities.

Bodenheimer and Sinsky (2014) suggest that reducing burnout and improving work-life balance for providers is so crucial to organizational performance that they should be added as a fourth aim, thus expanding the Triple Aim to become the Quadruple Aim (Bodenheimer and Sinsky, 2014). The Triple Aim, of better care, better health and lower costs, are widely accepted goals for organizations working to optimize their performance (Bodenheimer and Sinsky, 2014). However, when organizations attempt to improve their Triple Aim performance, an unintended consequence is often increasing provider burnout, thus increasing costs and reducing the quality of care.

For example, when Group Health Cooperative, an organization that eventually became Kaiser Permanente Washington (KPWA), implemented primary care reforms to improve their Triple Aim performance, they found that physician burnout increased, quality of care decreased and costs increased (Bodenheimer & Sinsky, 2014; Reid, et al., 2010). In 2006, Group Health piloted the medical home model at one moderately sized clinic in the Seattle area and prioritized physician wellness by focusing on improving coordination of care (Bodenheimer & Sinsky, 2014; Reid, et al., 2010). By reducing panel sizes, or the number of patients assigned to each provider, hiring additional support staff, and allocating time each day for team meetings and coordination activities, Group Health saw a substantial drop in burnout and increases in quality of care, cost reduction and improved patient experience (Bodenheimer & Sinsky, 2014; Reid, et al., 2010). Bodenheimer and Sinsky (2014) argue that prioritizing the wellness of providers will, in turn, result in an improved Triple Aim performance and ultimately higher quality patient care; on the other hand, failing to address physician burnout as a

key part of implementing a Triple Aim initiative is likely to ultimately reduce the Triple Aim performance of an organization.

Work-life balance is the ability for someone to manage both their work and life responsibilities and is linked to the overall well-being of the employee (Royal Society for Public Health, 2016; Trockel et al, 2018). Work-life balance can be particularly difficult to establish for providers because of the high number of hours they work when compared to the general population. Approximately 45% of physicians work more than 60 hours per week; less than 10% of employees in other fields work comparable hours (Shanafelt et al., 2012; Shanafelt et al., 2015). On the other hand, in a workforce survey of 15,181 physicians administered by Medscape, approximately 50% of physicians reported they would accept a reduction in salary in order to improve their work-life balance; this included 47% of male respondents and 53% of female respondents (Kane, 2020).

Flexibility in the workplace is one strategy more commonly utilized in non-healthcare corporations that promotes the work-life balance of employees. Flexibility allows for employees to better balance their work duties and other demands in life, such as family responsibilities, therefore contributing to overall employee well-being (Royal Society for Public Health, 2016; Trockel et al, 2018). Examples of flexible work arrangements include allowing employees to work from home part- or full-time, commute into the workplace outside of rush hours to limit time spent commuting, and compressing their work schedule from, for example, 5 days to 4 days. Flexibility in the workplace has positive effects on physical and mental health, productivity and employee satisfaction, as well as enhanced productivity and engagement (Trockel et al, 2018). Employees who have flexibility in their workplaces report better work-life balance, higher loyalty to their employer and lower rates of negative spillover from work that reduce the quality of their personal and family life (Trockel et al, 2018).

The negative impact of commuting on physical and mental health has also been established, with longer commute times being associated with lower levels of health status, level of happiness and satisfaction, higher healthcare utilization and a reduction in time for health promoting activities such as physical activity (Royal Society for Public Health, 2016).

While the impact of flexible workplaces on employee well-being have been well-established, there is a gap in the literature on how flexible workplaces can be established in clinical environments, particularly for direct care providers working in areas such as mental health. Telehealth, such as video visits, have only recently been implemented and create the infrastructure to allow for flexible work arrangements, such as the ability to work from home. The existing high rates of burnout and turnover in mental health providers demonstrate a need for flexible workplaces in order to improve provider satisfaction and overall well-being. Telehealth is one approach and mechanism by which improved provider work-life balance may be achieved (Shanafelt & Noseworthy, 2017).

Therefore, with increasing mental health utilization, an imminent wave of psychiatrist retirements, and medical residents often choosing other specialties with higher rates of compensation, access challenges in mental health will only escalate without innovative solutions that can help the existing pool of mental health providers reach a greater number of patients in need of care. Key to implementing and establishing new care delivery systems to expand access to mental health services is enhancing flexibility in workplaces in order to protect mental health providers from burnout and turnover, thus further enhancing access for patients.

While telehealth provides an opportunity to address recruitment and retention issues, telehealth has not been examined in terms of its capacity to or in what ways it: 1) increases provider

satisfaction; 2) improves retention; 3) impacts the quality of care; and 4) helps assure access when needed.

iv. Recruitment and Retention Strategies

Due to the shortage of mental health providers, and high rates of burnout and turnover further impacting patient access to care, there is a need for organizations to develop recruitment and retention strategies in order to attract skilled mental health providers to the organization and retain them. Developing policies focused on addressing recruitment and retention barriers will allow healthcare organizations to be competitive, attracting skilled mental health providers to their organization above other organizations, therefore enhancing the capacity of their workforce to care for patients with mental health needs. This will ultimately allow organizations to take better care of their providers, who will in turn take better care of their patients.

A review of the literature on recruitment strategies for mental health providers found a focus on financial incentives, such as increasing compensation, offering loan repayment plans, referral bonuses and better benefits, including retirement plans, paid vacation, paid sick leave and tuition assistance (Ryan, Murph & Krom, 2012; Watanabe-Galloway et al, 2015; SAMHSA-HRSA, 2017; Kadis, 2001) SAMHSA recommends these strategies in addition to recruitment strategies that focus on attracting mental health providers that interested in working as part of a team; SAHMSA's additional recruitment strategies include ideas such as interviewing a new potential team member as a group in order to assess fit (SAMHSA-HRSA, 2017).

An important note is that a review of the literature found only one brief mention of incorporating work-life balance as a recruitment strategy to attract mental health providers. Traditionally, direct care providers had to be on site, at a medical facility, during regular clinical hours

to provide care to patients; telehealth has only recently provided the infrastructure for allowing providers to work remotely and administer care. Kadis (2001) mentioned that non-healthcare corporations often promote a work-life balance of their employees by offering flexible schedules, on site daycare and free or low cost exercise programs; she recommends that similar strategies be utilized when healthcare organizations seek to recruit mental health providers. However, an exhaustive review of the literature found no mention of developing a recruitment incentive that would allow mental health providers to work from home part-time, or telecommute, in order to improve their work-life balance.

The objectives of retention strategies in mental health focus on reducing burnout and turnover; these include offering staff development and training opportunities, particularly for core competencies and the creation of career ladders and opportunities for advancement, particularly for mental health workers without advanced degrees (Kadis, 2001; Butcher, 2018). Other strategies include promoting physician efficiency and workflows by having the healthcare team co-located and staff assisting with tasks that can be delegated, such as documentation into the EHR and healthcare coaching for patients (Bodenheimer & Sinsky, 2014; Butcher, 2018). As with recruitment strategies, there is little mention of promoting the work-life balance of mental health providers. While Shanafelt and Noseworthy (2017) recommend that organizations allow physicians to reduce their working hours to achieve better work-life balance, there is no mention in the literature of allowing for telecommuting, or providers to work from home on a part- or full-time basis.

Therefore, there is a significant gap in the literature with regards to recruitment and retention strategies for mental health providers around promoting work-life balance and thereby reducing burnout and turnover rates. Video visits provide a mechanism to help promote a work-life balance by

allowing providers to work from home on a part- or full-time basis, therefore reducing the stressors associated with commuting and travel time. Video visits also allow mental health providers the flexibility to change their work hours to better fit their personal needs, particularly if they are offering video visits from home and do not need support staff to be present. This research study will explore how video visits can be used to address the shortage of mental health providers and help an organization attract and retain skilled mental health providers.

d) Telemental Health

Telehealth is a recommended solution by many institutions, including HRSA, AAMC, Merritt Hawkins and the National Council for Behavioral Health, to improve the efficiency of mental health care delivery to patients in areas of high need and low availability, thus mitigating the mental health provider shortage challenge (HRSA, 2016; AAMC, 2018; Merritt Hawkins 2018; National Council for Behavioral Health, 2017). Dr. James Shore, a Colorado-based psychiatrist and expert in telemedicine, predicts that telemedicine expands the workplace by allowing providers the flexibility to work from home or expanding access to areas where providers may not otherwise be available, in addition to providing variety in clinical practice which may protect against burnout and improve retention (AAMC, 2018).

Providing mental health treatment via video visits, or telemental health, minimizes many common barriers to care. Mental health differs from other procedure-based specialties as mental illness requires treatment, via therapy and/or medication, over a longer duration of time, with follow-up visits scheduled at weekly or other intervals. Therefore, common barriers to care such as travel time, cost and requiring time from work are exacerbated for mental health patients as they may require prolonged and frequent treatment to properly manage their condition and improve their

health. Further, patients with depression or other mental illness may lack the motivation to travel to an appointment (Strachan et al., 2012). Providing mental health treatment via video visits to patients in their home minimizes many of these barriers such as stigma, due to receiving care in the privacy of their own home, travel time, and reducing time from work and dependent care (Strachan et al., 2012; Myers, Valentine & Melzer 2008).

Video visits are more commonly used in mental health as compared to other specialties as providing therapy and treatment to a patient over live, interactive video can often substitute for an in-person visit when taking vital signs or performing a procedures is not necessary, as is common in mental health treatment; over 50% of video visits at VA were for mental health from 2009-2015 (Adams, 2019; Abel, 2018; Interian, 2018). Compared with in-person encounters, a larger percentage of video visit encounters were for PTSD, depression and anxiety, potentially indicating that providers and patients may feel more comfortable treating emotional disorders over video as compared to substance use or psychosis (Grubbs, 2015).

It is well established in the literature that providing mental health care via video visits is similar to in-person care with regards to patient satisfaction, provider satisfaction, health outcomes, and cost and that telehealth-enabled care is well accepted by both patients and clinicians; further, some studies demonstrated increased benefits to care delivery via telehealth such as reduced costs, increased adherence, increased patient engagement and improved health outcomes when compared to in-person treatment (Backhaus et. Al, 2012; Fortney, 2007; Fortney, 2013; Smucker et. Al, 2012; Grady, 2002; Jenkins-Guarnieri et al., 2015; Hilty et al., 2004; O'Reilly et al., 2007; Ruskin et al., 2004; Frueh et al., 2007; Hilty et al., 2015; Morland et al., 2010; Tang, Chiu, Woo, Hjelm & Hui 2001; Modai, 2006; Seidel & Kilgus, 2014; Cochrane, 2015; Gloff, 2015; Jenkins-Guarnieri et al., 2015; Tonnies, 2019; McCall 2019; Veazie 2019; Myers, Valentine & Melzer, 2008). One study cited that patients seeking

mental health services via videoconferencing were less likely to be transferred to another facility, thus reducing costs and satisfying the preference of patients to remain in their own community while retaining the ability to access mental health services (Buckley & Weisser 2012).

Studies have demonstrated the efficacy of telemental video visits delivered to diverse and varied groups of patients, including VA patients, African American women, homebound, older adults over the age of 50 and rural residents who may otherwise have not had access to mental health services (McCall, Schwartz & Khairat, 2019; Barton, Morris, Rothlind & Yafe 2011; Choi, Marti, Bruce, Hegel, Wilson & Kunik, 2014; Morland, 2015).

Providing telemental health care via video has many use cases including prolonged exposure therapy, neuropsychological assessment, acceptance and commitment therapy, chronic pain management, PTSD management and even more unique use cases such as using exposure therapy to mitigate an online gambling addiction, using video to conduct family mental health sessions and facilitate social support when a military service member is deployed, and consultation with a mariner who was expressing suicidal ideation while out at sea (Pelton, Wangelin, & Tuerk, 2015; Harrell, Wilkins, Connor, & Chodosh, 2014; Herbert, 2017; Vahia et al., 2015; Singh, Social Worker 5 & Peters 2007; Oakes, Battersby, Pols & Cromanty 2008; Lee 2015; Mochari-Greenberger 2017). A study suggested that a patient who has used telehealth services shows an increased willingness to use telehealth services again (Gros, Lancaster, Lopez & Acierno, 2018).

An exhaustive review of the literature found no similar research studies on the impact of video visits on mental health provider satisfaction, burnout and turnover and overall workflow and efficiency.

e) Conceptual Framework

The conceptual framework shown in Figure 3 depicts how video visits may address common barriers to mental health and therefore impact access to mental health treatment and health outcomes. The conceptual framework highlights that this research study focuses on provider perceptions of video visits by exploring how video visits impact a primary barrier to mental health, the shortage of mental health providers.

The specific constructs that will be studied include the impact of video visits on provider burnout, provider satisfaction, provider turnover and the workflow and efficiency of providers. Specifically, the study will focus on the impact of video visits allowing providers to work from home on a part- or full-time basis, and the resulting impact on provider work-life balance due to increased workplace flexibility.

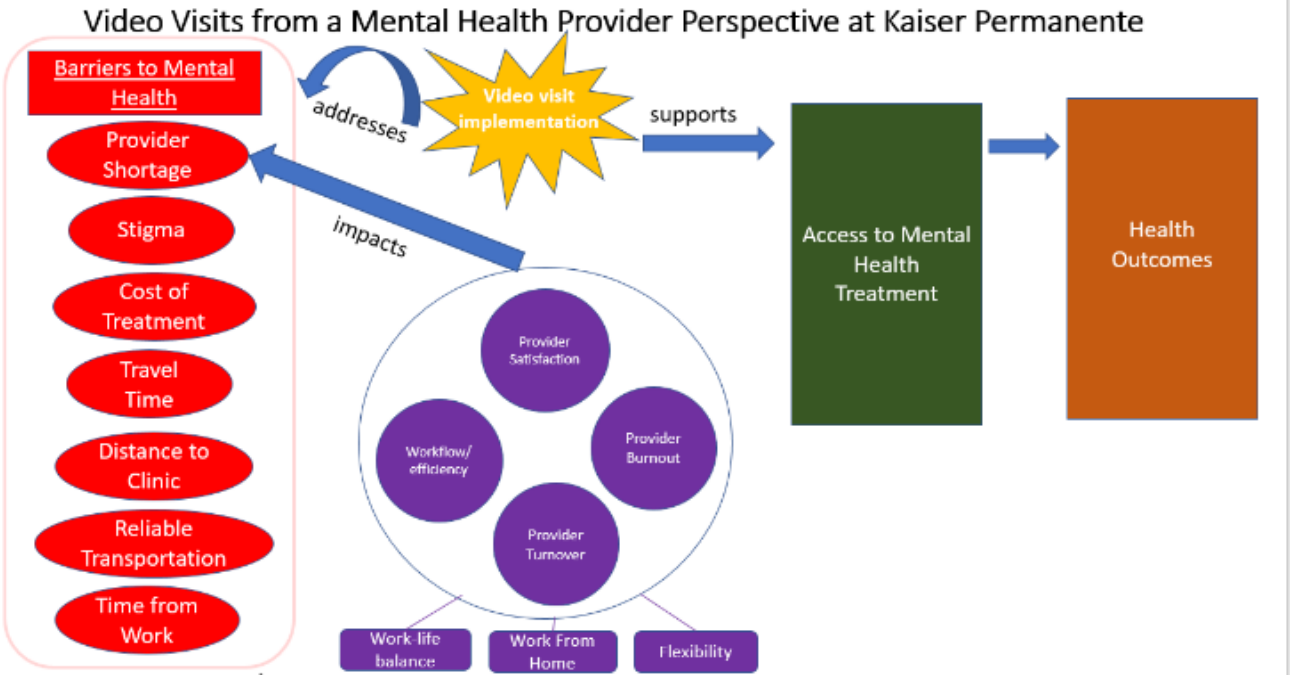
Other barriers to mental health care, including stigma, cost of treatment, travel time, distance to clinic, reliable transportation, and time from work, are focused on patient perceptions of video visits and the impact of video visits on the patient. Because providers are the focus of this research study and only providers will be interviewed during the course of the study, questions regarding patient perceptions and patient engagement will be directed toward providers and therefore filtered through a provider lens. Therefore, determining the impact of video visits on patients will be a secondary objective of the study.

Lewin's change theory (1947) is relevant to this conceptual framework as it provides guidelines for organizational change via three steps: unfreeze, change and refreeze. The benefits of utilizing the Lewin model include the ability of leaders to innovate and make a radical change, minimize the disruption to organizational operations, and ensure the innovation is implemented in a sustainable manner (Lewin, 1947). In stage one, existing organizational processes and perceptions are unfrozen, analyzed and examined for areas of improvement (Lewin, 1947). This allows leaders the time to

prepare their teams about the upcoming change and communicate the "why" of the change and the benefits the change will bring; in addition, this approach allows for the elimination of biases, mistakes that are commonly accepted across the organization and prevailing attitudes about the innovation (Lewin, 1947).

In stage two of Lewin's change theory, organizational change is implemented, with organization-wide communication, support and training to minimize difficulties related to the transition (Lewin, 1947). Providing a communication forum through meetings, email and other mechanisms allows for issues to be quickly identified, discussed and resolved (Lewin, 1947). In stage three, the new status quo is refrozen to ensure long term, sustainable change (Lewin, 1947). Crucial to stage 3 is the measurement and reinforcement of the change (Lewin, 1947). This can be accomplished via regular check-ins with team members to determine whether new processes are being followed (Lewin, 1947). While the Lewin model can be time-consuming to enact, the process increases the likelihood of sustainable, long term change (Lewin, 1947).

FIGURE 4: Conceptual Framework



CHAPTER III. STUDY DESIGN, DATA, AND METHODS

I. Study Design

i. Rationale for Use of a Mixed-Methods Approach

This research study utilizes an exploratory, sequential mixed methods approach to explore the impact of video visits on mental health care within two Kaiser Permanente regions- Kaiser Permanente Washington (KPWA) and Kaiser Permanente Northwest (KPNW), the latter of which includes Oregon and a southern portion of Washington state. Quantitative analysis will be conducted first, and quantitative findings will inform the development of the interview guide questions. Overall, this mixed methods approach includes the use of quantitative and qualitative research methods, including statistical analysis, semi-structured interviews, document review, secondary data analysis and thematic coding.

Quantitative data will be used to determine the impact of video visits on workflow/efficiency and access, including the impact of video visits on no show rates, and a comparison of the length of video visits with the length of in-person visits. These data on appointment durations may guide leadership decision-making regarding the length of mental health appointments which may improve access to care. For example, there have been many anecdotes that video visits tend to be much shorter than office visits. This may lead to leaders shortening the length of video visits which allows more patients to be seen in one day thereby leading to a tangible increase in access to care. These data on no show rates may help leaders determine whether video visits improve access, perhaps due to decreasing access barriers; this may be true if the data shows that no show rates are lower for video visits than office visits.

Qualitative data will be used to determine provider perceptions of video visits, including the impacts of video visits on workflow and efficiency, the factors that impact video visit implementation in mental health and the impact of video visits on access in mental health. Qualitative data will also be used to assess provider satisfaction, burnout and turnover. Qualitative data will also be used to determine the existing gaps in video visit implementation, including the opportunities and next steps to enhance video visit services in mental health.

Secondary data analysis on a previously administered (Oct 2019) burnout survey will be conducted to assess provider burnout and turnover. In addition, I will conduct a document review on meeting notes from a strategic planning meeting on mental health provider burnout at KPWA.

A mixed methods approach was selected for this research study as mixed methods can strengthen the findings of the research study by validating research findings across multiple data sources (Creswell, 2003). Creswell (2003) describes mixed methods approaches as being either sequential or concurrent in nature; sequential approaches employ qualitative and quantitative methods in phases to explore or explain findings while a concurrent approach deploys qualitative and quantitative methods simultaneously to corroborate findings.

This study employs a sequential triangulation strategy where quantitative data is first collected to inform the development of the interview guide and qualitative analysis; findings are iteratively integrated during the analysis phase, allowing the researcher to “confirm, cross-validate, or corroborate findings within a single study” (Creswell, 2003). Specifically, quantitative findings from the analytic database and qualitative interviews will be evaluated and compared to develop a more robust understanding of the impact of video visits in mental health on access to care, as depicted in my

conceptual framework. In addition, qualitative findings could help to explain the story and provide a deeper understanding regarding quantitative findings, in addition to triangulation and cross-validation.

a. Data Sources, Data collection and Management:

i. Data Sources

i. Quantitative Data

i. Automated Data from Organizational Databases

Automated data from the Enterprise Data Warehouse (EDW) was pulled to create an analytic database. These data include:

- Member demographics (age, sex, race, census tract)
- Diagnosis group (depression, anxiety, bipolar disorder, psychotic disorder, other)
- No show rates (office visits, video visits)
- Appointment lengths (office visits, video visits)
- Volume of video visits (provider level and clinic level)

ii. Burnout Data

Data from a burnout survey will be analyzed using secondary data analysis. The burnout survey was administered in October 2019 to all mental health providers in KPWA, including psychiatrists, MLTs and social workers by a mental health leader to ascertain the amount of burnout experienced by providers and factors contributing to burnout.

ii. Qualitative Data

i. Semi-Structured Interviews

Qualitative interviews with mental health providers served as primary sources of data and allowed for the exploration of a-priori and emergent themes. An interview guide was utilized to structure and focus the inquiry to explore and gain a deeper understanding regarding the interviewee's perceptions and experiences (Patton, 2015). The interview guide contained primary research questions, sub-questions as well as prompts to structure each interview. A semi-structured approach promoted the inductive and exploratory nature of the study by allowing the flexibility for the interviewer to probe further via follow-up questions in response to an intriguing comment by the interviewee (Patton, 2015).

The interview guide was informed by an Appreciative Inquiry approach, which is "a positive, strength-based, participatory methodology that seeks to discover the best in people and their organizations" (Stratton, 2010). Appreciative Inquiry departs from traditional gap- or deficit-focused change by providing a methodology that is focused on a positive, strengths-based change and allowing organizations to redesign systems to achieve a future state that is more effective and sustainable (Cooperrider & Whitney, 2005). Appreciative Inquiry is a strengths-based approach that encourages employee engagement by asking interviewees to recall previous experiences therefore allowing for a deeper understanding as to how a successful event or behavior occurred (Burkus, 2011; Hammond, 2013). Overall, Appreciative Inquiry serves to develop an organizational culture that appreciates strengths (Rath & Conchie, 2008).

The Appreciative Inquiry approach utilizes the 4-D model, which includes 4 constructs:

Discovery, *Dream*, *Design* and *Destiny* (Cooperrider & Whitney, 2005). Three constructs in the 4-D model, *Discovery*, *Dream* and *Design* were utilized in development of the interview guide. The *Discovery* construct focuses on "the best of what is" and encourages the interviewee to identify times of peak performance, allowing for greater understanding about the factors that lead to peak performance (Cooperrider & Whitney, 2005). An example of utilizing the Discovery construct in the interview guide is asking the interviewee to describe their favorite, or most successful, mental health video visit experience at Kaiser Permanente. The *Dream* construct focuses on "what might be" by discussing the interviewee's vision of how video visits could be effectively and sustainably implemented in mental health at Kaiser Permanente (Cooperrider & Whitney, 2005). The *Design* construct focuses on how to achieve the vision described in the *Dream* phase by identifying the processes and next steps that will help to achieve that vision (Cooperrider & Whitney, 2005).

The goals of the interviews with mental health providers were to: 1) determine provider perceptions of video visits in mental health; 2) assess how the "provider at home" initiative impacted provider satisfaction, burnout and turnover; and 3) identify opportunities to improve mental health video visit implementation in the organization.

Interview guides were reviewed and approved by dissertation committee members as well as mental health leaders in the organization to ensure alignment with the goals of the research study and KP's mental health department.

ii. Secondary Data Analysis

Secondary data analysis will be conducted on a burnout survey which was administered in October 2019 across all levels of licensure of mental health providers, including social workers, MLTs and psychiatrists.

iii. Document Review

Another data source that will be used for this DrPH research is a document review of pertinent mental health documents at KPWA; these include meeting notes from a strategic planning meeting where recruitment and retention strategies for mental health providers were discussed.

The strategic planning meeting occurred in May 2018. A key objective of the meeting was to gather stakeholder feedback and develop themes that would inform organizational recruitment and retention strategies for mental health providers.

Notes from the strategic planning meeting will be analyzed using thematic analysis.

b. Data management:

i. **Quantitative:**

Data were uploaded from the Enterprise Data Warehouse (EDW) onto a password-protected computer, into a password-protected Excel file. Protected Health Information (PHI) was removed from the data file. The file was backed up onto the UIC cloud. These data were only shared among the lead researcher (L. MacDonald) and an analyst. The laptop was stored in a locked cabinet within a

locked office.

ii. **Qualitative:**

All interviews will be recorded and transcribed. Audio files and interview transcripts will be saved to a password-protected computer. Hard copies of interview notes and transcripts will be scrubbed of names or personal identifiers and kept in a locked office. Audio files and transcripts will be destroyed after the completion of the study.

c. Analysis Plan

i. Quantitative Analysis:

Automated data from the Enterprise Data Warehouse (EDW) will be used to create an analytic database. Independent variables include member demographics (age, sex, race, census tract), clinic where the visit was scheduled, the provider who conducted the visit, and diagnosis group (depression, anxiety, bipolar disorder, psychotic disorder, other). The primary outcome is no show rates, a binary measure of whether a member failed to attend a scheduled appointment versus attending or rescheduling.

Logistic regression models will be fit with robust standard errors to model no-shows. Descriptive statistics will be calculated comparing no-show rates between the two encounter modalities. Separate models will be fit for scheduled video visits and scheduled office visits.

Descriptive statistics for all quantitative variables will be generated.

ii. **Qualitative Analysis:**

Interview transcripts were analyzed using qualitative content analysis. As noted in Chapter 2, this research topic has not been explored previously and the purpose of this study is

to fill a gap in the literature regarding mental health provider perceptions on the impact of video visits. A-priori and emergent codes were used in combination; a codebook of a-priori codes was developed prior to the commencement of the study to provide structure to the analysis process. A-priori codes were created based on the conceptual framework, literature review and research questions. After applying a-priori codes throughout all interviews, query reports were created for each a-priori code. Each query report contained all quotes assigned to the a-priori code. A review of query reports and inductive coding technique led to emergent codes and new themes being iteratively established throughout the qualitative coding process in order to enhance the exploratory nature of the research. Themes from the interview data were created and classified based on the research questions.

The qualitative data from each interview transcript were entered into Atlas.ti© 8 qualitative data analysis software. The lead researcher (L. MacDonald) will be the primary coder. A secondary coder also independently reviewed and coded the interview transcripts to promote reliability.

TABLE 1. Data Sources and Analysis Strategy

Research Question	**Data Source**	**Analysis Strategy**
1.What issues and factors contribute to provider burnout and turnover in mental health?	Semi-structured interviews Document Review Burnout Survey	Qualitative thematic coding Secondary Data Analysis
1A. What is the role and value of telehealth in addressing burnout and turnover?	Semi-structured interviews Document Review	Qualitative thematic coding
2.What are provider perceptions of video visits in mental health?	Semi-structured interviews	Qualitative thematic coding

2A. In what ways do video visits affect patient care? (role and value)	Semi-structured interviews	Qualitative thematic coding
2A i. How do video visits support the provision of effective care?	Semi-structured interviews	Qualitative thematic coding
2A ii. How do video visits enhance the efficiency of care delivery?	Semi-structured interviews Enterprise Data Warehouse (EDW)	Qualitative thematic coding Quantitative non-parametric statistics Triangulation of quantitative and qualitative data
2B. In what ways do video visits affect patient access? (role and value)	Semi-structured interviews Enterprise Data Warehouse (EDW)	Qualitative thematic coding Quantitative non-parametric statistics Triangulation of quantitative and qualitative data
2B i. In what ways do video visits affect provider burnout and retention?	Semi-structured interviews	Qualitative thematic coding
2C. What factors support and inhibit video visit delivery in mental health?	Semi-structured interviews	Qualitative thematic coding
3. What are provider perceptions of the "provider at home" initiative?	Semi-structured interviews Document Review	Qualitative thematic coding Triangulation of qualitative data sources
3A. How does the "provider at home" initiative affect work-life balance?	Semi-structured interviews Enterprise Data Warehouse (EDW)	Qualitative thematic coding Quantitative non-parametric statistics

		Triangulation of quantitative and qualitative data
3B. How does the "provider at home" initiative affect burnout?	Semi-structured interviews Enterprise Data Warehouse (EDW)	Qualitative thematic coding Quantitative non-parametric statistics Secondary Data Analysis Triangulation of quantitative and qualitative data
3C. How does the "provider at home" initiative affect turnover?	Semi-structured interviews Enterprise Data Warehouse (EDW)	Qualitative thematic coding Quantitative non-parametric statistics Triangulation of quantitative and qualitative data
3D. How does the "provider at home" initiative affect provider satisfaction?	Semi-structured interviews	Qualitative thematic coding Triangulation of qualitative data sources
3E. What factors support or inhibit the delivery of the "provider at home" initiative?	Semi-structured interviews	Qualitative thematic coding
4. What are the opportunities and next steps to enhance video visit services for both mental health providers and patients?	Semi-structured interviews	Qualitative thematic coding

TABLE 2. A priori and Inductive Codes

A priori and *Inductive* Codes	**Sub-Codes**
Role of Video Visits Value of Video Visits Benefits of Video Visits	Patient Benefits; Provider Benefits; Access Stigma *No Shows- Reasons*

	Patient Absenteeism *Throughput* *"Meet patients where they are"* *No copay* Convenience (Patient) Effectiveness *Patient Engagement in Care* *Patient Control** *Patient comfort in own environment* *Gain primary information to help inform care plan* *Snapshot of patient's home/life* *Meet family members/pets* *Visual/Ability to see patient* *Clinician/patient matching not limited by geography*
Limitations of video visits	Technology-Barrier Poor Rapport/*Limited Energy*
Conducting Video Visits	*Building rapport during a video visit* *Power dynamics during a video visit* *Setting boundaries with patients during a video visit* *Administrative Work/ Screening Questionnaires*
Efficiency	Appointment Length; No Show Rates; Charting; Beginning and Ending Video Visits
Burnout	Hours Worked; Compassion Fatigue; *Provider Absenteeism*
Retention/Turnover	Likelihood to Stay With Organization; Likelihood of Recommending Organization As Good Place To Work
Working From Home	*Benefits of Working From Home* Work Life Balance Commute Exercise *Sleep* *Mood* *Relationship with patients* *Relationship with family/spouse* *Flexibility* *Environmental impact* *Convenience (Provider)*

	Limitations of Working From Home *Boundaries between work and home life* *Provider preference to keep home private from patient* *Preference to work in clinic over home*
Provider Satisfaction	*Team-based work/collaboration with colleagues* *Provider Attitude Toward Technical Issues* *Presence of Window in Office* *Provider Autonomy*
Impact of Covid-19	*Willingness/Acceptance of technology by provider* *Willingness/Acceptance of technology by patient*
Spectrum of Care (Phone, Video, Office)	*Patient Preference for Care Modality*
Stories/Examples	
Strategy/Recommendations	Technology *Enhancements- screening questionnaires* *Commercial platforms* Training *Patient education* *Provider training* Access (Recommendation) *Health Equity* *Recruitment* *Flexibility (Recommendation)* *Hours worked/Part-Time* *Work From Home Option* *Retention* *Real Estate use*

D. Validity Considerations

i. Construct Validity

Constructs and a priori codes were selected from the literature and supported by theory in the literature. Therefore, the construct validity of the measures in this study correlate with a number of measures across studies in the literature.

ii. Internal Validity

Internal validity will be established using the following tools and processes:

a) Interview Guide

An interview guide was used during all provider interviews to increase reliability by ensuring that all providers were asked the same questions for consistency. The interview guide was developed to align with constructs and research questions, therefore helping to ensure construct validity and alignment with research questions.

b) Transcription Process

Audio recordings of the interviews were transcribed using a transcription software such as Temi© to ensure accuracy. Each interview was spot checked for errors to promote quality and accuracy.

c) Qualitative Thematic Coding

During qualitative coding, a secondary coder was used to ensure the reliability of interpretation. The secondary coder analyzed the interview transcripts independently. The primary and secondary coders then independently reviewed each other's qualitative analysis, discussed and ultimately resolved any interpretation differences.

iii. External Validity

As in most case study research, external validity is not as critical as establishing a level of transferability. Kaiser Permanente is a leading healthcare provider in telehealth in the United States. While true external validity is not possible because the sample of mental health providers interviewed is not representative of all U.S. mental health providers, lessons can be transferred to other healthcare organizations and mental health providers wishing to establish or improve video visit delivery.

iv. Reliability

In this study, reliability is promoted by utilizing consistent tools across methods, in order to promote the consistency of measurement. These tools include: an interview guide, a codebook with a priori codes and an analytic database.

v. Data Triangulation

In this mixed methods study, both quantitative and qualitative data will be collected and analyzed. By corroborating findings across multiple sources of data, including the analytic database and provider interviews, the findings have greater reliability as they have been independently validated from different data sources.

vi. Sampling

Kaiser Permanente (KP) was selected as a single rich case for this research. In particular, two sub-cases in the Pacific Northwest were selected- Kaiser Permanente Washington (KPWA) and Kaiser Permanente Northwest (KPNW)- in the larger case of Kaiser Permanente. This selection of KPWA and KPNW provides an opportunity because of the size and scope of KP's reach in the healthcare market particularly in the Western United States. KP also provides a rich case in the field of mental health which has a narrow niche and special considerations, as mental health is a key, strategic focus area for KP.

a) Interviews

In this study, I will interview mental health providers employed by Kaiser Permanente. Specifically, I will interview 4 levels of licensure: MDs (psychiatrists), social workers, psychologists and Masters Level Therapists (MLTs). I will interview a minimum of three interviews of each licensure across the 2 regions: KPWA and KPNW. No more than 2 employees

of the same licensure will be interviewed from the same practice to ensure a level of distribution.

Table 3. Interview Plan

KPWA			
MD (Psychiatrist)	Social Worker	Psychologist (PhD)	Masters Level Therapist (MLT)
3	3	3	3
KPNW			
MD (Psychiatrist)	Social Worker	Psychologist (PhD)	Masters Level Therapist (MLT)
3	3	3	3
TOTAL= 24 interviews			

Institutional Review Board (IRB) Approval

Approval for the study was sought from both Kaiser Permanente and UIC's respective IRBs. Approval was first obtained from Kaiser Permanente and then through UIC, via an IRB Authorization Agreement (IAA). Both IRBs approved the study; see Appendix C for the approval letter, signed by the heads of IRB from both institutions. The protocol for Kaiser Permanente dictates that a faculty member of the Research Institute must be identified as the PI on approval letters for studies such as student dissertations. Therefore, Dr. Rob Penfold, a mentor at the Kaiser Permanente Washington Health Research Institute, was cited as the PI for Kaiser Permanente for the purposes of administering the approval letter.

The study was approved for expedited review by Kaiser Permanente's IRB, due to the student being an employee of the institution. Several research documents were submitted for expedited review, including the interview guide, recruitment script, research proposal and information sheet, summarizing the purpose and procedures of the project for potential interview participants.

Interviews were conducted on a one on one basis to maintain privacy and maximize the comfort of individuals who were discussing potentially sensitive subject matter. A signed consent form was not required as the Kaiser Permanente IRB approved an exemption, allowing for oral consent. Interviewees were reminded that participation in the interview was voluntary and they could withdraw from participation in the study at any time, including after having completed the interview. Data obtained from interviews were kept on a password protected computer. The linking file, containing the names of the interviewees was kept separate from all other documentation to maximize the privacy of the interviewees.

CHAPTER IV: RESULTS

The results of the study are presented by research question. Sub-research questions are included, if applicable. The "Data Sources and Analysis Strategy" matrix (Table 1) includes all research questions, sub-research questions, data sources and corresponding methodology. Most research questions have more than one methodology e.g. qualitative coding and quantitative analysis. For such research questions, the results will be presented by methodology and summarized.

Table 2, "A priori and Emergent Codes," shows both the initial (a priori) and new (emergent) codes. Relevant a priori and emergent codes will be discussed in the context of each research question.

The target sample size for interviews conducted was 24 interviews, with three interviewees selected across the four job classes (MD/psychiatrist, social worker, psychologist/PhD, and Masters Level Therapist/MLT), across both regions: Kaiser Permanente Washington (KPWA) and Kaiser Permanente Northwest (KPNW). However, due to provider interest, 39 interviews were ultimately conducted. As represented in Figure 5, mental health providers were selected to broadly represent varied levels of video visit experience, across years of practice; Providers designated as beginners had no video visit experience prior to Covid-19, providers with "moderate" levels of video visit experience had conducted video visits prior to Covid-19 and "expert" providers regularly used video visits in their practice prior to Covid-19. To maintain the privacy of each provider, each provider was assigned a proxy name, which is also referenced in Figure 5.

Table 4. Actual Interviews Conducted

KPWA			
MD (Psychiatrist)	Social Worker	Psychologist (PhD)	Masters Level Therapist (MLT)
8	3	2	5
KPNW			
MD (Psychiatrist)	Social Worker	Psychologist (PhD)	Masters Level Therapist (MLT)
4	8	4	5
TOTAL= 39 interviews			

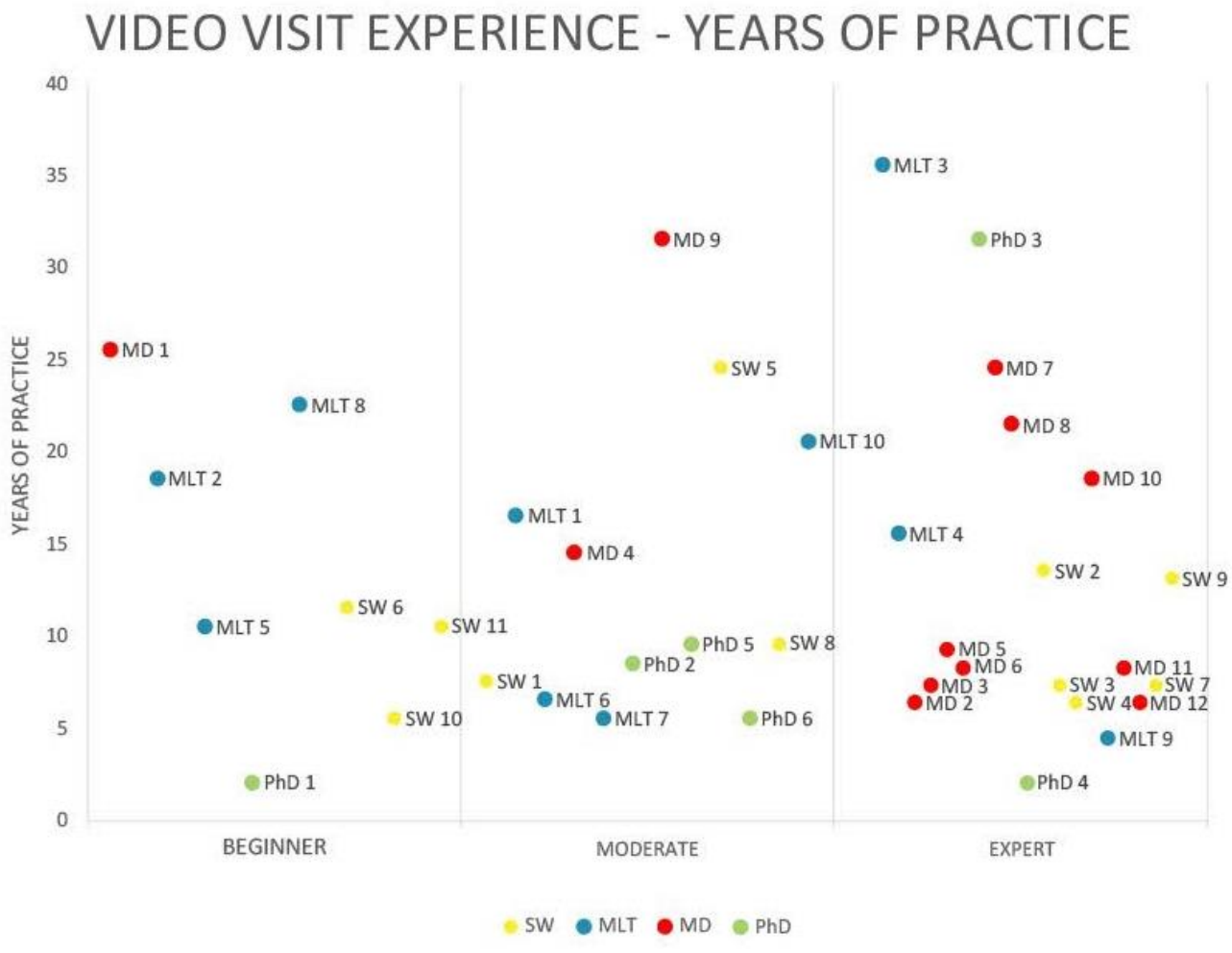
Impact of Covid-19

Beginning in early March 2020, numerous Covid-19 cases in the Pacific Northwest led to "stay at home" orders and the widespread shutdowns of businesses. Within the context of this research study, Covid-19 had two major impacts. The first is significantly increasing telehealth use. Due to "stay at home" orders, patients who had not previously used telehealth now had no other option, except in emergency cases. Therefore, telehealth, including video visit use, increased dramatically. The second impact is with regards to the "provider at home" initiative. Almost all KPNW mental health providers were moved to work from home full-time, by mid-March. Providers were given the option to remain working in the clinic, which very few chose.

In contrast, KPWA mental health providers largely remained working in the clinic. Due to limited IT equipment and the need to implement social distancing measures, KPWA mental health providers were not prioritized to work from home as they all had private offices. Hence, providers in other specialties, who shared offices and therefore would need to be moved, were prioritized to work from home.

Interviews were conducted in May, approximately two months after Covid-19 and many mental health providers moving to full-time work from home.

Figure 5. Mental Health Providers: Video Visit Experience- Years of Practice



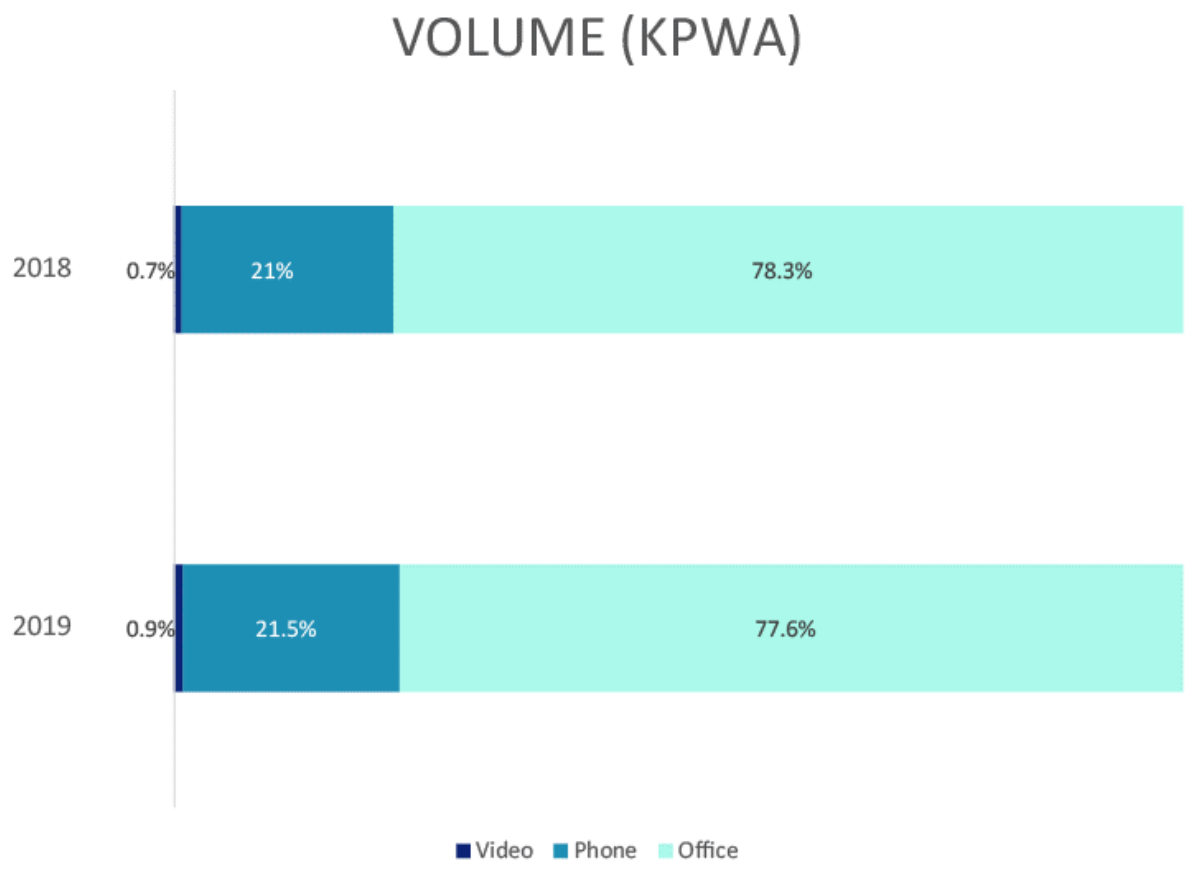
Context: Kaiser Permanente: WA and NW Regions

This study was conducted across two of Kaiser Permanente's seven regions: Kaiser Permanente Washington (KPWA) and Kaiser Permanente Northwest (KPNW). Both regions are located in the Pacific Northwest, which encompasses Washington state and Oregon. Quantitative data were collected across all regions from the time they first implemented video visits in mental health until December 2019.

As noted in Figure 6, KPWA began offering mental health video visits in March 2018; 0.7% of all visits in 2018 were video visits, while 21% were phone visits and 78.3% were office visits. In 2019,

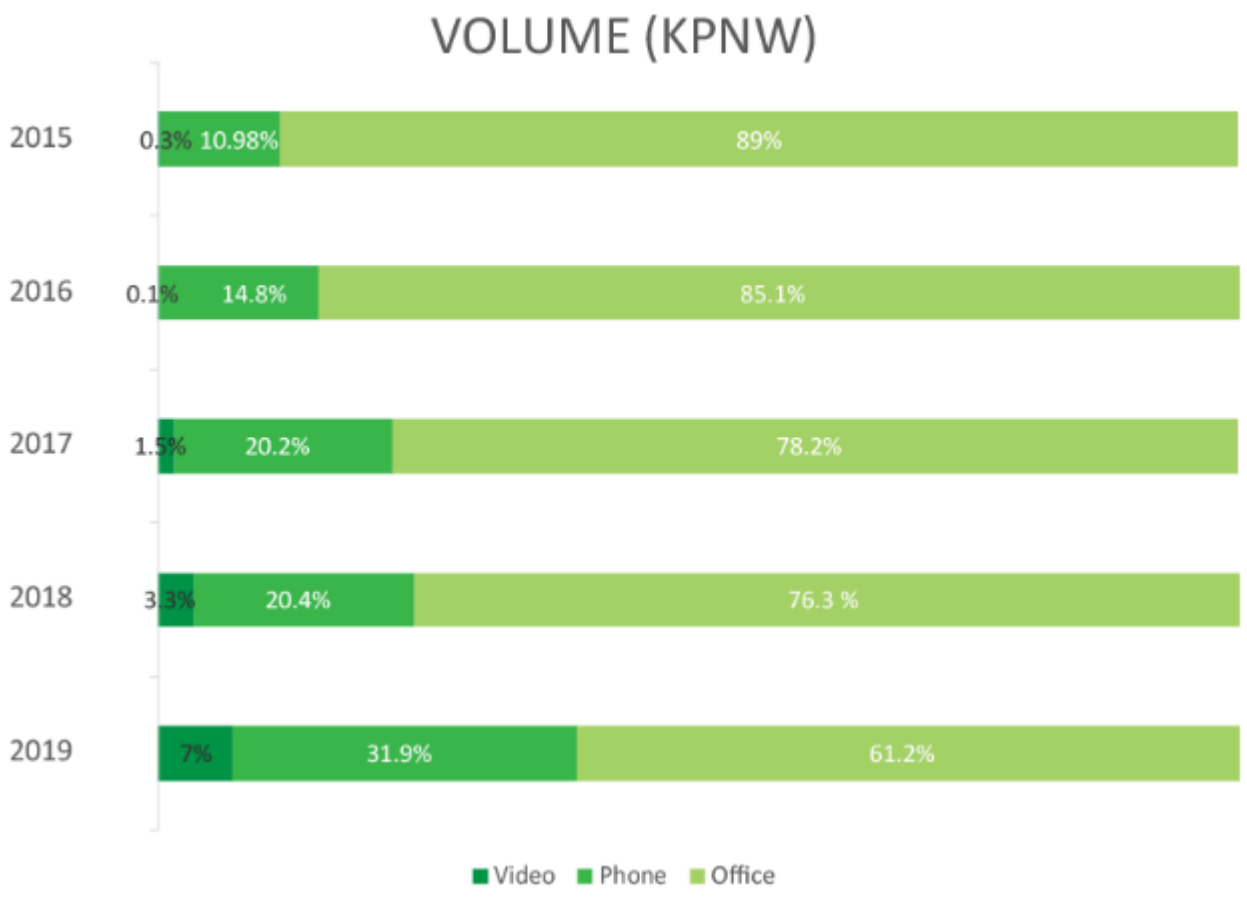
video and phone volumes increased slightly to 0.9% and 21.5% respectively, as compared to slightly decreasing office visit volumes of 77.6%.

Figure 6. KPWA: Relative Volume of Care Modality (Video, Phone and Office Visits)



As shown in Figure 7, KPNW launched video visits in mental health in 2015. From 2015 to 2019, video visit relative volumes increased from 0.3% to 7% of total care provided. During the same time period, phone relative volumes increased from 10.98% to 31.9% while relative office visit volumes decreased from 78.2% to 61.2%.

Figure 7: KPNW: Relative Volume of Care Modality (Video, Phone and Office Visits)



Patient Demographics

Demographic information for patients receiving mental health care was also obtained from both KPWA and KPNW during the same time period as described above; 2018-2019 for KPWA and 2015-2019 for KPNW. Average ages, as noted in Figures 8 and 9 were point estimates across the entire time span.

Across both regions, patients who used video visits to obtain care were, generally, younger than patients who attended office visits. As depicted in Figure 8, in KPWA, comparing patients aged 25 to 34 across office visits and video visits, 20.3% of all patients who had an office visit were in this age group as compared to 29.1% of patients who had a video visit. Similarly, 5.8% of patients who had a

video visit were over age 65, as compared to 15.5% of those in the same age category that had an office visit.

Findings were similar in KPNW, as depicted in Figure 9: KPNW: Patient Age- Office vs. Video Visits. Fifteen percent of patients who had an office visit were aged 25-34, compared to 24.4% of patients who had a video visit. Similarly, 17.3% of patients who had an office visit were over age 65 as compared to 6.7% of patients who had a video visit.

Patient sex data from KPWA were also obtained for the same time period. KPNW did not have such data available. As shown in Figure 10, there was no discernible difference related to sex, or gender, and use of office visits or video visits.

Figure 8. KPWA: Utilization of Office vs. Video Visits by Patient Age: 2018-2019

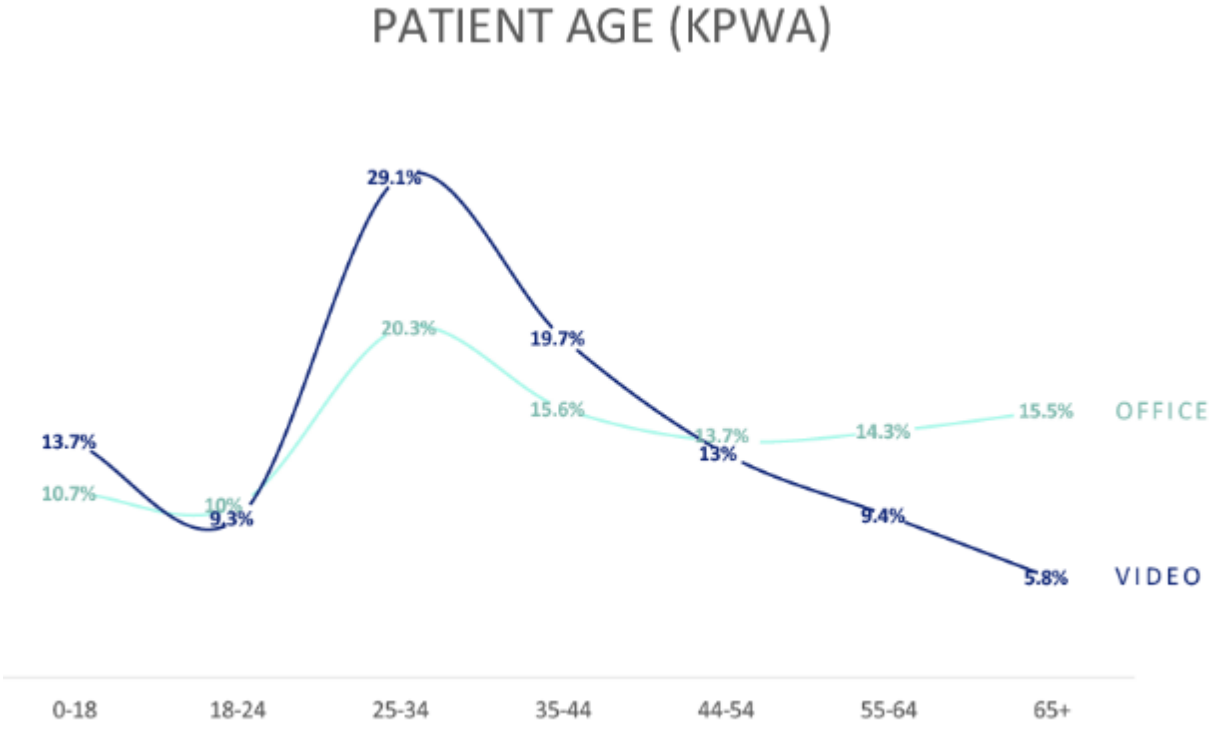


Figure 9. KPNW: Utilization of Office vs. Video Visits by Patient Age: 2015-2019

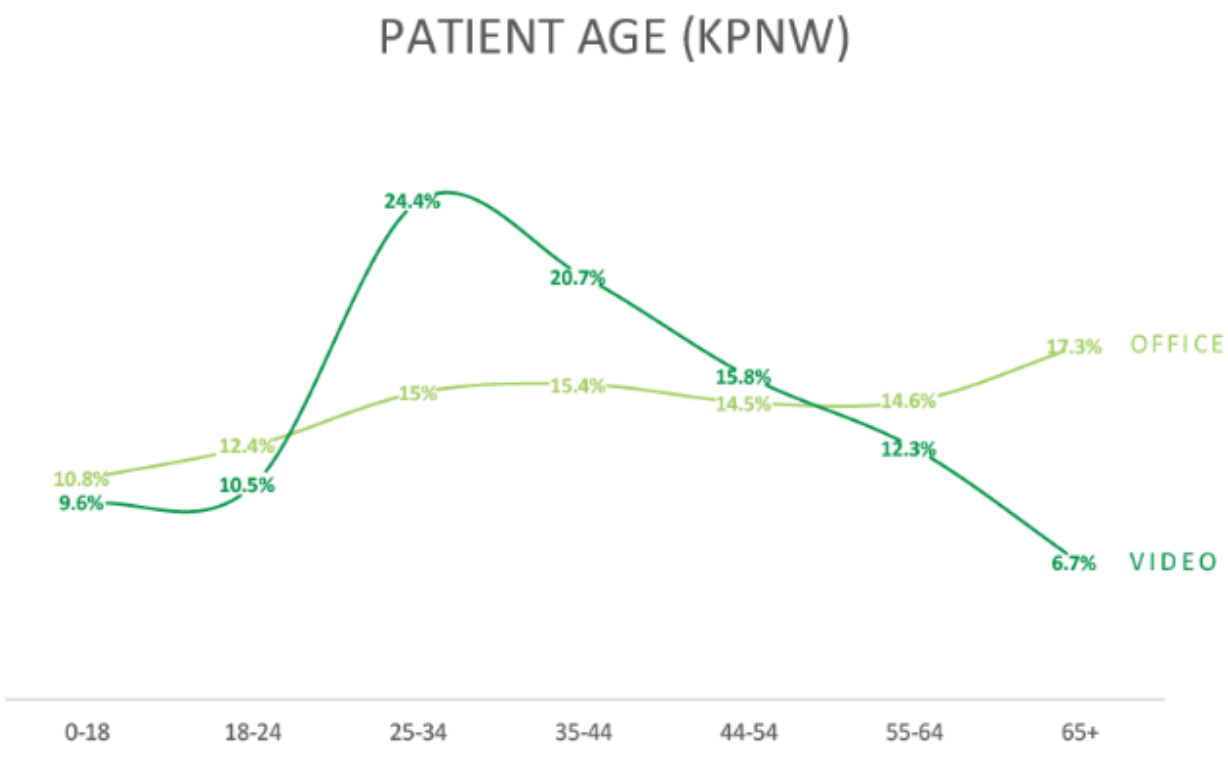
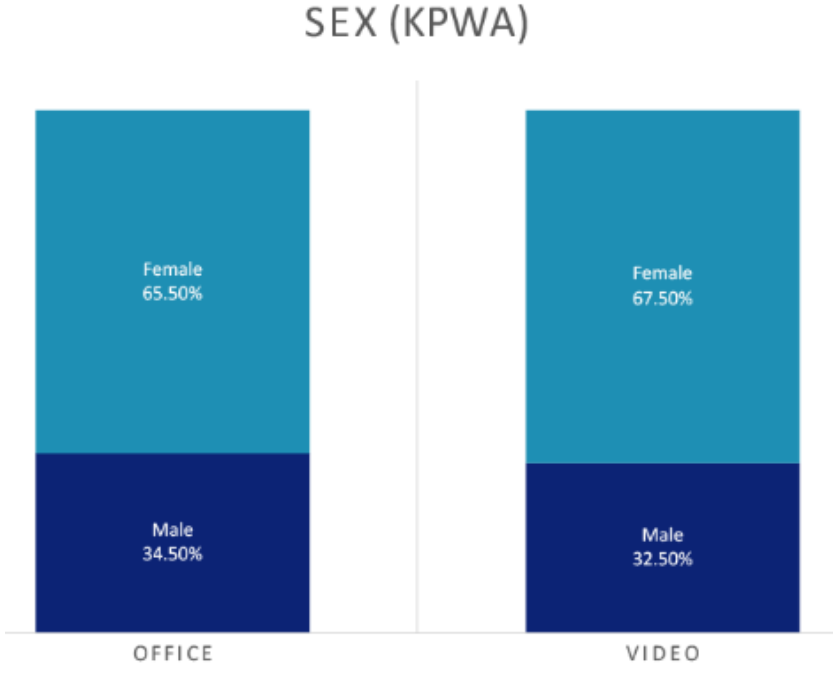


Figure 10. KPWA: Utilization of Office vs. Video Visits by Patient Sex: 2018-2019



Provider Burnout and Turnover in Mental Health

Research Question 1. What issues and factors contribute to provider burnout and turnover in mental health?

A. Document Review

Meeting notes from a KPWA Mental Health redesign meeting held in May 2018 were analyzed. The goal of the meeting was to reduce burnout and turnover in the organization by developing strategies to recruit and retain mental health providers in KPWA. Leaders and representatives from each clinic attended the meeting. Notes and decisions were recorded in the meeting notes and the resulting document was reviewed as part of this study.

Recruitment ideas included posting advertisements in specific publications such as Psychiatric Times, hosting recruitment dinners, offering opportunities to job shadow, and improving the turnaround time to make offers to interested candidates. Other recruitment ideas included offering part time work, making specific efforts to attract young and diverse candidates and offering virtual work options, including video visits and virtual coverage.

Meeting attendees also shared why they were attracted to Kaiser Permanente as an organization, and why they stay with the organization. Key themes include: their teams/colleagues, pay and benefits, ability to focus on care rather than running a business, providing integrated care, CME benefit, no inpatient responsibilities and belief in the KP mission/philosophy.

Retention ideas included making sabbatical more achievable, allowing providers to specialize, improving the triage process, and offering more benefits (loan repayment and childcare). Additional retention ideas included allowing for more flexibility, such as earlier

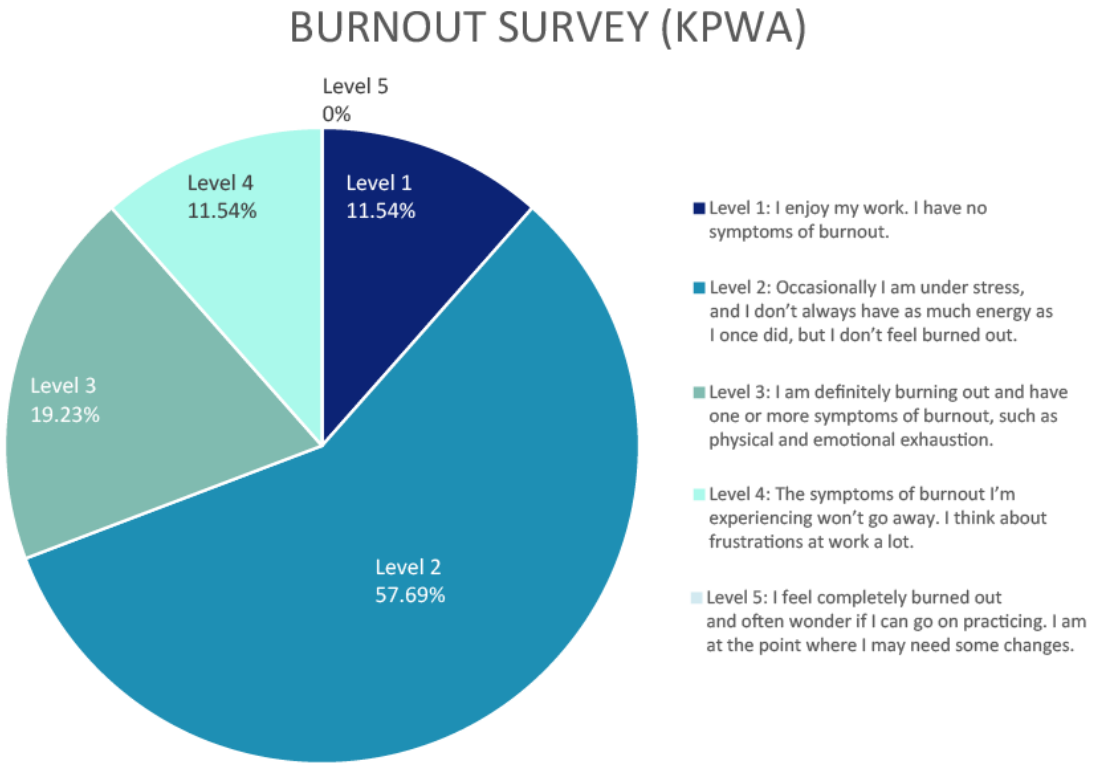
or later hours, flexibility in scheduling and work from home options. Other retention ideas included improving provider coverage and backup so providers can take vacations when wanted and having a housing stipend for more expensive areas.

B. Burnout Survey

A burnout survey was administered to KPWA mental health providers in October 2019. Twenty-six providers, across licensures and education levels, responded to the survey, which asked about the level of burnout or work stress the provider was experiencing. The response rate to the survey was approximately 12.3%. As shown in Figure 11, 11.54% of respondents stated they had the lowest level of burnout, or Level 1, and agreed with the statement "I enjoy my work. I have no symptoms of burnout." The majority of respondents, 57.69%, identified as having Level 2 burnout "Occasionally I am under stress, and I don't always have as much energy as I once did, but I don't feel burned out."

Approximately 19% of providers responded as having Level 3 burnout "I am definitely burning out and have one or more symptoms of burnout, such as physical and emotional exhaustion." In addition, 11.54% of respondents selected having burnout at level 4 "The symptoms of burnout I'm experiencing wont' go away. I think about frustrations at work a lot." No providers selected as having Level 5 Burnout: "I feel completely burned out and often wonder if I can go on practicing. I am at the point where I may need some changes."

Figure 11. Burnout Survey (KPWA; n=28)



C. Semi-structured interviews

Common issues and factors contributing to provider burnout and turnover included workload, hours worked, commute, prep time, as well as charting and documentation. Providers noted not only hours worked and workload as key factors, but also the difficulty and emotional toll of the work as well as compassion fatigue. Providers stated that these factors were contributing to burnout and impacting their sleep, work-life balance and relationship with their families and patients.

i. Hours and Workload

Many providers cited working additional hours outside of their set schedule.

"Because I already get to work early. I start at 7:30, and typically arrive by 7:10. Just to get settled in, get my head right, get my water, sitting there on my desk, get my coffee over here. And then I'm actually out by like 6:15 instead of quarter to seven. So that's the workload." (Social Worker 5, KPNW)

"Even tonight, I'll work until 6:30 now charting, you know, and I have no choice." (Social Worker 3, KPNW)

ii. Commute, Prep Time and Documentation/Charting

Providers cited commute, preparation time and documentation/charting as key contributors to workload.

"*When I was in the office I was probably working 45 hours just because of the commute and then just like documentation and all that."* (Social Worker 8, KPNW)

"On my 10 hour days, it turns out to be 12 hour days right because I'm there past my time." (PhD 5, KPNW)

One individual detailed the administrative burden of the role.

"*We have some inbox time but I spend it working on charting. I spend all of my inbox time charting, and don't have time to work on my caseload or to work on messages that need to go out to other members. I have limited time for that because there's so many back to back."* (PhD 5, KPNW)

Another provider discussed her workload and preparation efforts.

"*My schedule is that I am supposed to start working at eight o'clock in the morning, and I have no time to prepare unless I come in early so I'm coming in an extra half an hour to prepare for my day that can be quite full. And so, I'm coming in not just that half an hour early but that hour extra for the commute. And so, you know, you think about that and you*

think well gosh I would only be working maybe, you know, as much as I needed to that I wouldn't be feeling like I have to come in early. The other reason I come in 30 minutes early is because I never know if there's going to be an accident on the freeway. And truthfully, that appointment starts at eight o'clock whether I'm here or not and I don't want to show up late. So, that's important to me to set a good example that we care about people that are coming in and some of my intakes are at eight o'clock so that's a first impression. So it is important to me to be on time, with appointments and I think that I would be able to do that in both ways, it's just that I'm using my personal time to do that now." (MLT 5, KPWA)

iii. Intensity of Work

Providers also detailed the intensity of their workload.

"*We're here 40 hours a week and every minute of it is jam packed busy. There's not a lot of downtime, there's not a lot of just breathing. That's fine in a lot of jobs but no, we're doing therapy. We're doing highly emotional work with people, day in, day out, morning til night and so it's one of those jobs where it's not the hours, it's the like emotional investment that goes into doing the work and doing it well. Even though it's only 40 hours and I could do another job for 40 hours that emotional content is really takes a different toll on you, right*." (Social Worker 2, KPNW)

iv. Organizational Factors

In addition, providers discussed organizational pressures.

"*We also work in an organization that is patient driven. We have customers and so you want to have want to have your customers be happy with what they're getting and so you have to be on all of the time and you always have to be ready and you have to be at your best and that's a lot of work. It's exhausting and it's draining*." (Social Worker 2, KPNW)

Many providers cited the lack of administrative time given to providers to handle all the work they need to complete.

"*So the difficulty is that there's not time allocated if a patient calls and wants to talk to me. There's not time allocated if a patient messages me via kp.org, or other provider messages me. And so all those are done outside my work time because they have to be done. Or sometimes a patient will send paperwork that needs to be filled out for disability, and I have to fill it out. Those are all outside that need to be done outside the my work hours, because there's no time allocated for being able to do those things because my time is filled with just one patient after another*." (PhD 5, KPNW)

v. Impact on Relationships

Providers also noted the impact of burnout on their relationship with their families and patients. One provider discussed the impact of burnout on her relationship with her husband:

"*I was waking up at like 4:35 every morning and going to the gym three days a week. So what was happening before is because I was so frickin exhausted coming home, you know after those crazy hours and the commute and everything is I would get irritable and snippy. So my husband and I were bickering. We were eating dinner late at night. Sometimes at 9pm or later*." (Social Worker 8, KPNW)

Another provider similarly discussed how her relationship with patients has been impacted by burnout:

"*The time that it takes for me to be prepared and ready for work. Obviously the commute is a stressor and, and honestly something that makes me nervous sometimes like especially my route is dangerous- there's always an accident. So, that alone and then that*

also affecting patients too so if it affects me it also affects the patients coming in and for the rest of the day so it kind of offsets and it adds additional stress for me and for the patients coming in." (Social Worker 1, KPNW)

Telehealth: Role and Value in Addressing Burnout/Turnover

Research Question 1A. What is the role and value of telehealth in addressing burnout and turnover?

A. Document Review

As stated in the May 2018 meeting notes, telehealth was cited as a strategy to improve both recruitment and retention at KPWA. With regards to recruitment strategies, video visits were noted as having a valuable role in attracting young and diverse candidates and offering virtual work options, including video visits and virtual coverage.

Similarly, video visits were cited as having a role and value in KPWA's retention strategies. First, video visits were seen as having a role in allowing flexibility in hours worked, as well as allowing for work from home options. Video visits were also seen as having a potential role in allowing for cross coverage and backup when providers were out of office.

B. Semi-structured interviews

Providers most commonly cited the flexibility that telehealth provides in hours worked/ schedules and where they worked, whether that be in the clinic or at home. Providers noted the positive impacts of the flexibility of being able to work from home, including no commute, improved work-life balance and reduced absenteeism. Some providers noted providing after-hours care to patients via telehealth modalities, including video visits.

Providers had mixed perspectives on whether telehealth increased their administrative burden. The majority of providers cited that video visits allowed them to concurrently chart

during the visit, thereby improving their efficiency and reducing the number of hours worked. Some providers cited that concurrent documentation during a video visit impacted their ability to develop rapport with the patient and conduct an effective therapeutic session.

Several providers reported working 4 days per week, 10 hours per day. One respondent noted the positive impact of this flexibility:

"I like to work longer days, Monday through Thursday. So, I work a half day on Fridays because I'd like to have access ... especially being a care provider it's hard to book life things without moving patients, you know, and we don't ever like to do that here so when I can have the flexibility of a Friday afternoon free, I can book appointments there." (PhD 2, PhD, KPWA)

Another provider notes the positive impact of telehealth enabling her to work from home and reducing her need for time off:

"*In particular, it's reduced my need for FMLA leave because I you know I have something that comes up every month, and being able to manage it from home is a lot easier. So, I've had that happen ..I mean I've been home for about two months now and I noticed I'm like this would be a time that it would be difficult to go*." (Social Worker 1, KPNW)

While the majority of providers noted efficiencies gained with concurrent charting, some providers noted the limitations of doing so. Concurrent charting is when providers chart, or write notes about the visit, during the visit.

"I'm not a person who feels really comfortable documenting during business when I was doing face to face in person offices and then on the video is extremely easy. It doesn't feel like it takes away from the interaction at all. I'm documenting as I go." (MD 11, KPNW)

"I would say there's some efficiencies certainly with video visit. One is that I can do concurrent charting, and the patient doesn't.. they may notice I'm concurrently charting but it's

a different impact than if I was concurrently charting in the office. Right, so I'm in the office with someone trying to really fill up my note to the best of my ability. It's going to be much harder for me to do that and do that well so that they still feel like I'm with them and attending to them and I'm not just focused on my paperwork. During a video visit, it's more easy for me to do. And so that helps save me some time. generally speaking, I'm definitely shaving off some minutes. And honestly, some days those minutes are precious allows me to use the restroom and allows me to respond to an email you know things like that so I'll take it." (Social Worker 2, KPNW)

Another provider offers a different perspective on concurrent charting and prefers to chart after the visit:

"*If I'm charting [during a visit], I would say I'm only 70% involved. I'm not there. I can't ask that life changing question or the narrative changing question*." (Social Worker 3, KPNW)

Provider Perceptions of Mental Health Video Visits

Research Question 2. What are provider perceptions of video visits in mental health?

Research Question 2A. In what ways do video visits affect patient care? (role and value)

A. Provision of Effective Care

Research Question 2A i. How do video visits support the provision of effective care?

I. Semi-structured interviews

The majority of providers reported that video visits allowed them to conduct more effective sessions and provide more effective care. Common reasons included gaining primary information about the patient, rather than relying on the patient to self-report. With video visits, providers were now able to see (and assess) a patient's surroundings as well as meet additional family members. Providers also reported increased patient engagement in video visits, and patients

feeling more comfortable and opening up due to being in their own environment. Providers also noted that they found video visits allowed their patients to be more consistent in receiving care. Last, providers noted that they found the transfer of knowledge and skill-building to be more successful during video visits.

i. Viewing the Patient's Home and Environment

First, there was a consensus amongst providers that viewing the patient's home and environment and meeting their family members allowed the provider to gather primary information which helped to form more effective care plan. One provider explained how this view into the patient's life allowed him to join the patient in their world.

"*It increased my ability to give therapeutic advice. I mean I was kind of joining them in their system, versus them kind of meeting me in mine*." (MLT 6, KPNW)

Another provider stated the benefits of seeing the patient's environment.

"*You know the other thing that it might be helpful for us in mental health, we get the, we get individuals kind of for the snippet of time in our office that's not their natural environment. So being able to see a kid in their natural environment, who's around, like what parent is around, what siblings are there, who's the family pet, is there a family pet. Is the house really nice and organized or is it a bit more chaotic than we expected. I think that gives us a lot of, you know, factors that help us understand kind of where is this person coming from. And it gives us a more robust and more comprehensive picture of a patient in the family to try and help tailor our recommendations a bit more clearly*." (MD 2, KPWA)

Similarly, another provider explained:

"*Another benefit would be we have a little bit of a snapshot of the patient's life. I mean if they're doing the video visit at home, we can see a little bit of their surroundings at home, to kind*

of have an idea of the environment in which they are living in. If the patient is perhaps struggling with, you know, hoarding or living in unhealthy or unclean surroundings, we may get a taste of that in the video that said, if there are family members or significant others that for some other reason would love to accompany the patient to the visit but have not been able to, they would also be able to participate if the patient allows it. So there's an opportunity for a little bit more interaction and observation of the patient's slice of life and important people in their lives that you can observe in context. That would be not be possible in most offices visits." (MD 3, KPWA)

One provider detailed how learning more about the patient's environment is especially relevant in mental health care:

"*Well, part of it is probably the differences between the medical and mental health. Like I said many clients want to get to know me and want me to get to know them in their world. And this isn't their world, this office isn't their world. It's a place to touchdown but their world is home, or you know out the yard, I talk to people who are out in their yard which is wonderful. And they really want to say to therapists 'This is who I am. Here's my bed, my cat, my dog. Oh, there's my husband, he walked by' whatever it is. That has been good*." (MLT 8, KPWA)

ii. Family Engagement

Another provider explained how meeting family members helped inform his assessment:

"*I've had a number of occasions where the patient had their spouse in the background or at least available. So it's another opportunity to get other information about how they're doing. Often, if we're in a face to face, visit in the office and I asked patients how they're doing, you're getting their view, right. But in a video visit, if you have a spouse around patient is not doing very well and saying "I feel bad, I'm doing this," and you have a spouse right there says you know well "no that's not the case you know you did x y and z." Then you can, you know, modulate, or, look at*

the patient's response in a context where the patient has a certain, you know, distortion of how things are. Well, the spouse may be able to provide a more nuanced view of what's actually happening. So I think it helps to provide I think a better picture of balance of what's going on with a patient." Similarly, PhD 3 stated: "I can see how the interactions go rather than just how somebody says they go. I can bring in an extra resource and engage somebody that doesn't have time to fully commit to coming in, in-person." (MD 8, KPWA)

iii. Patient Comfort in Environment

Patients being comfortable in their environment, and thereby more open to sharing and engaging in care was also a common theme. One provider discussed the difference in power dynamic, the clinical nature of medical offices and benefits to patients receiving therapy while in their own environment:

"*I think there's a power dynamic already inherent in a therapeutic relationship. So if they're coming into my space, there's an awareness that they're in my space. Sometimes there's something kind of clinical about spaces that therapists work out of. So it kind of feels like you're going into a doctor's office, and you're coming to see me the expert, sort of talk to you about your mental health. But if you are logging into a video visit which is much different than a zoom call with your friends, maybe you're in your jammies, and you've got your own cup of tea and your dog is nearby. It's a little bit more relaxed*." (Social Worker 7, KPNW)

Three providers discussed patient comfort and openness with video visits and reduced access barriers.

"*I suppose because they can feel a little bit more in their own comfort zone. So that helps them feel a little bit less vulnerable. I think and there's a sense of almost safety behind the screen*." (MLT 1, KPNW)

"*I think there's such a huge value for them sitting in their place in their comfort and being able to have the opportunity to talk to somebody without having to go drive or to go get into a car figure out how to take in some cases that daycare or how to, you know, deal with the kids or whatever they're able to sit in their home, they're able to be in a comfortable place to be able to communicate with a therapist*." (Social Worker 3, KPNW)

"*I do think care is more effective. Frankly because it is in their world and there's no ceremony in getting care. Yeah, you get a massage and you feel fantastic and then the massage is over. And then you have suit up, walk out in public, look like crap. The only thing you want to do is curl up in a ball and go to sleep because you feel so fantastic but no, you gotta get in your car, gather yourself back up. And this is the same thing. It's like, right after therapy, you can turn off the session and just cry. You don't have to gather yourself back up to face the world. You don't have to do that. It's like, 'Oh, thank goodness*.'" (Social Worker 5, KPNW)

iv. Patient Engagement and Openness

A few providers noted their perception that patients were more willing to open up and share over a video visit.

"*Really people are willing to be really honest over video*." (MLT 9, KPNW)

"*I do think that sometimes people are actually comfortable sharing a bit more via video, because when they have that sort of social anxiety because not being in the, like, 3D presence of another person, is a little easier for them*." (PhD 2, KPWA)

"*I think there's something about the last video, being one removed that for some people just feel like a safer way of creating a relationship*." (Social Worker 7, KPNW)

Providers also discussed the increased effectiveness of knowledge transfer and skill building via video visits in the patient's home.

"*One thing that I think could be really, really beneficial for video visits is sort of like the generation of skills when they're at home. And so if I'm giving them recommendations to practice in their everyday lives, I'm telling them directly in one location where they're likely gonna be hopefully practicing most of the time. Right, so I'm sort of looking into their home and we're talking about skills, and so they can practice it in the place where they're going to be actually doing it so I feel like transition of those recommendations are smoother*." (PhD 4, KPNW)

"I've worked with a lot of people that very specific either phobias or OCD, or PTSD where I work with them in their natural environments so they can get. They can practice a skill that then they'll be able to use in that setting because it anchors it better for them in a natural setting for them, or we can do exposure right there in the home, and I'm right there with them and then making it concrete easier and easier to bridge to what they can do on their own." (PhD 3, KPNW)

v. Skill Building and Effective Knowledge Transfer

One provider gave a specific example on how skill building was more effective when the patient was practicing the new skill in their home environment.

"*I was able to help her with behavioral activation, to start practicing the skills that would have been hypothetical in a face to face session. She would have had to go home and try it, which would not have happened. I was able to walk her through in real time. She felt fantastic*." (PhD 3, KPNW)

Therefore, the majority of providers agreed that video visits facilitated the provision of more effective care, due to allowing the patient to be in the comfort of their own home or environment, allowing them to be more open. Providers also were able to view a snapshot of the patient's home, meet additional family members and gain additional primary information to inform their assessment and development of the patient's care plan.

B. Efficiency of Care Delivery

Research Question 2A ii. How do video visits enhance the efficiency of care delivery?

A. Enterprise Data Warehouse (EDW)

This study focused on two areas around efficiency, comparing the appointment lengths and no-show rates between video visits and office visits. One objective of the study was to determine whether video visits were shorter or longer than video visits. Another objective of the study was to determine if no show rates differ between video visits and office visits. In other words, are patients more likely to show up for a video visit than an office visit?

I. Appointment Lengths

Appointment length data was requested, received and assessed from both regions. Data were requested for the three most common appointment lengths in mental health: 30 minutes, 45 minutes and 60 minutes. In addition, data were requested throughout the period of time each respective region implemented video visits. Therefore, appointment length data were received from 2015 to 2019 for KPNW, and from March 2018 to 2019 for KPWA. Upon assessment, appointment length data from KPNW were incomplete and therefore could not be relied upon for analysis and findings. KPNW did not capture the "checkout times" of each patient. Instead, only a variable named "ARVL_LIST_DL_TIME" was included, which was defined as "the date and time the encounter was deleted from the arrival list." This variable reflected a wide diversity in practice, did not correlate with checkout time and therefore would not yield useful information. Therefore, the decision to exclude KPNW appointment length data from the study was made.

Furthermore, a key concern when analyzing KPWA appointment length data was accounting for failed video visits, or those that did not occur due to a technical reason.

Therefore, all failed visits were excluded from the appointment length assessment. These failed video visits were identified by billing information, as the provider billed for a phone visit rather than a video visit. This is due to providers calling patients if a video visit failed, in order to continue to provide care. Furthermore, to also exclude video visits of very poor quality, exclusion criteria for video visits, based on very short appointment lengths was developed. The goal of the exclusion criteria was to remove video visits that were very short, likely due to poor quality, and would therefore skew results. Therefore, the exclusion criteria were: 1) For 30 minute visits, exclude visits less than 5 minutes and 2) For 45-60 minute visits, exclude visits that were less than 10 minutes.

After applying these exclusion data to video visit appointment length data from KPWA, the percentage of video visits that fell below the appointment length, as well as the average duration of each visit length was determined.

As depicted in Figure 11 (n=3.560), for 30 minute visits in KPWA, 87% of visits fell below the 30 minute duration. For 45 minute visits, 80% of visits were shorter than the appointment duration. Sixty minute visits were the most likely to fall below the appointment duration, at 94%.

Figure 12 shows the average appointment duration of each appointment type: 30 minutes, 45 minutes and 60 minutes. Thirty-minute video visit appointments took, on average, 19 minutes. Forty-five minute appointments lasted an average of approximately 33 minutes. Last, sixty minute appointments lasted an average of approximately 29 minutes.

Figure 12. Appointment Lengths (KPWA): 2018- 2019

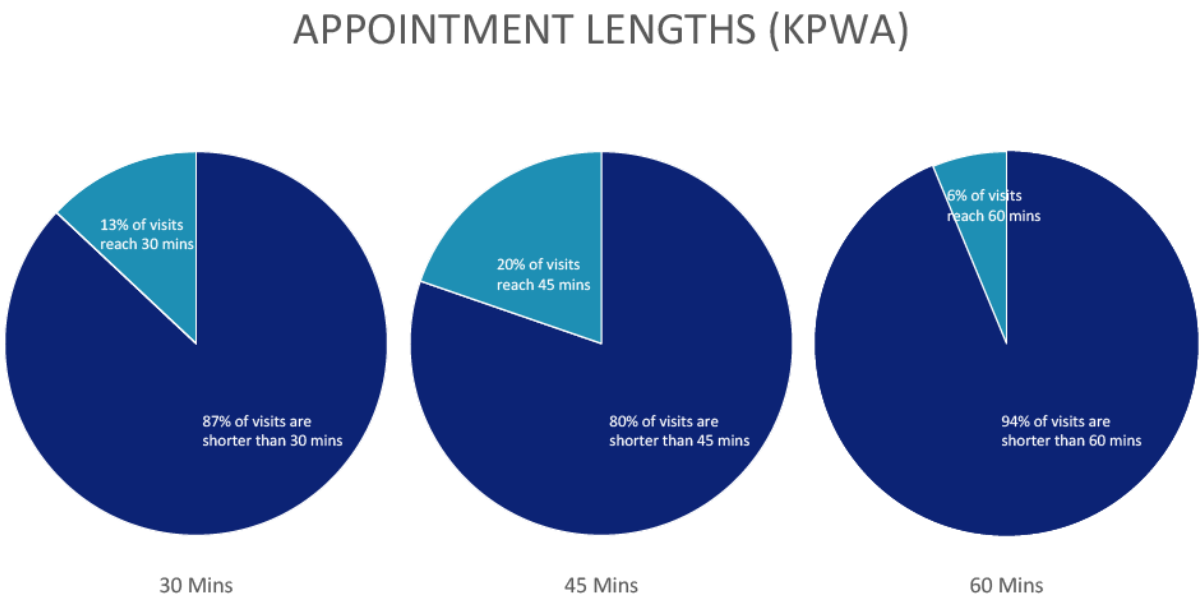
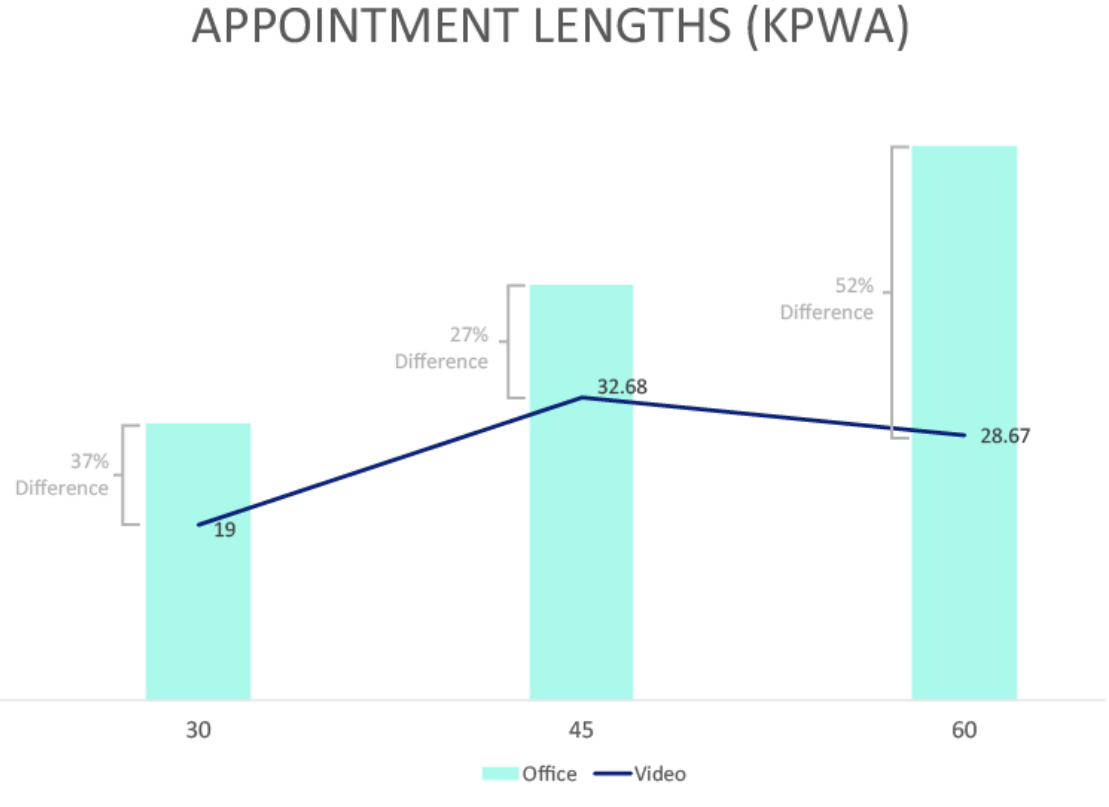


Figure 13. Appointment Length Difference (KPWA); n=3,560



II. No Show Rates

Similarly, no show rate data from both regions- KPWA and KPNW- were assessed throughout the period of time each respective region implemented video visits. Data for phone visits as well as data for office and video visits were requested from each region. The goal was to capture whether there were differences in no show rates across care modalities (phone, office and video). However, KPWA did not have accurate data to show no show rates for phone visits and therefore only no show data for office visits and video visits were captured.

As shown in Figures 13 and 14, the no show rate for video visits was substantively lower than office visits. Figure 14, depicting no show rates across all 3 care modalities (phone, office and video), indicates that no show rates for video visits were far lower than no show rates for office or phone visits.

In KPWA, from March 2018 to December 2019, no show rates for office visits ranged from 11.8% to 13.2%. No show rates for video visits ranged from 0.3 to 1.3%. In other words, in KPWA, patients were approximately 9 to 10 times more likely to attend a video visit than an office visit.

In KPNW, no show rates were highest for phone visits, moderate for office visits and lowest for video visits. No show rates varied widely throughout 2015 - 2019, mostly peaking in 2018 and decreasing in 2019. No show rates for phone visits varied from 10.5-18.3%. No show rates for office visits were more consistent, ranging from 8.1 to 9%. Video visit no show rates were more varied, ranging from 1.1-6.3%.

Figure 14. No Show Rate (KPWA), 2018-2019; n= 3,560

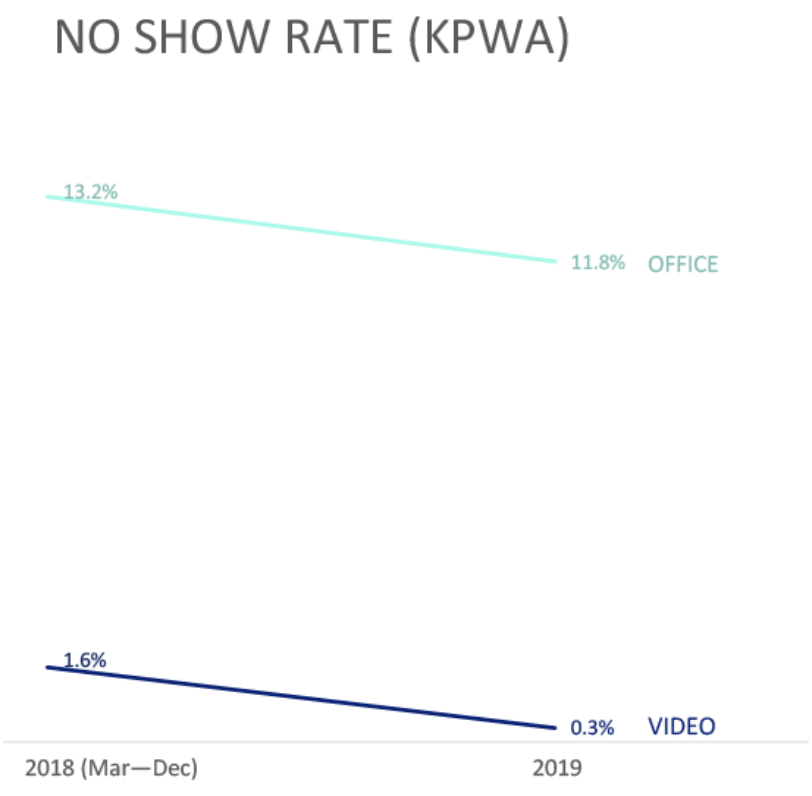
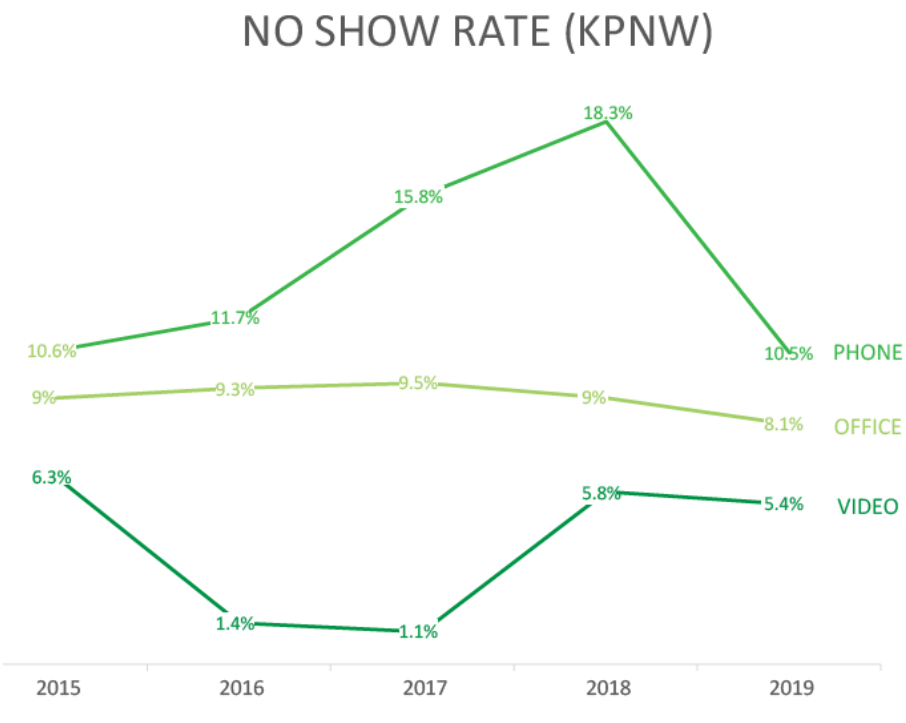


Figure 15. No Show Rate (KPNW), 2015-2019; n=19,849



B. Semi-structured interviews

I. Appointment Lengths

During the interview, all providers were asked whether they found video visits to be shorter, longer or the same length as office visits. The majority of providers (30/39) or 76.9% reported finding video visits being generally shorter than office visits. Two providers found video visits to be longer and seven providers did not notice a difference in the length of video visits as compared to office visits. Moreover, providers noted efficiencies with beginning and ending a video visit. Many providers the impact of video visits on throughput, or the rate at which patients move through treatment; providers generally found that patients being seen via video visits were able to move through care and be discharged more quickly.

A. Provider Perceptions on Appointment Lengths (Office vs. Video Visits)

Providers noted video visits as generally being shorter than office visits:

"I think we're able to get down to business and do better business. So it's naturally a better use of the same amount of time." (Social Worker 5, KPNW)

"Like if I were seeing them in the office, they would probably try to fill up their time maybe not necessarily with treatment oriented, maybe emotional and personal related things that they're working on. But people tend to be a little bit more sufficient or efficient and use their time a little bit differently I think with video visits." (Social Worker 2, KPNW)

B. Beginning and Ending Video Visits

Providers often discussed efficiencies around beginning and ending video visits. Almost all providers noted that patients tended to engage in less small talk during a video visit as compared to an office visit. Providers also noted the increased ease of ending a video visit as compared to an office visit.

"I think that it is more than housekeeping the issues surrounding check in and check out that actually lengthen the duration of the face to face visit." (MD 5, KPWA)

"*There's a bit of a difference because you're not having to walk a person from the, from the waiting room into your office there's not as much as a small talk going on. There's not that settling into the office to kind of figure things out you're cutting out two to three minutes on either end just right there. And I find that video visits, there's a little more matter of fact, nature about them, I think*." (MD 6, KPNW)

"*Video is right to business and it's efficient and tends to be more goal-oriented*." (PhD 2, KPWA)

Providers discussed efficiencies around ending a video visit as compared to an office visit. One provider explained how her experience with ending a video visit and preparing for the next visit differed from her experience with office visits.

"*It's a lot easier to end a video visit. I find with an in-person visit, you have to like tag on five to 10 minutes where you're like, stop talking, standing up, collecting their tea mug, walking into the door. Then coming back, cleaning up your office, you know, the whole process takes longer. if there's toys in your office ..I would always need at least 15 minutes in between clients to put my room back together. And I was just exhausted. I would lay on the floor for a couple of minutes and breathe, and I would maybe cry especially if I had been hit by a pool noodle for 20 minutes. Then, you go and get the next little kid who is going to destroy my room*." (Social Worker 7, KPNW)

C. Throughput

Several providers noted the impact of video visits on throughput, or the rate at which patients move through treatment. One provider described throughput with an airport analogy.

With this analogy, the provider describes how the goal of mental health treatment is to heal, improve and move on from treatment, rather than remain in treatment in perpetuity:

"*My metaphors I use when I usually talk about therapy is it's like going to an airport. You go to the airport to go someplace else. So coming into therapy in my office is the airport... you're going someplace else. You don't live in the airport, you don't stay in the airport, you move on*." (MLT 8, KPWA)

Another provider described the impact of video visits on throughput:

"*They're getting better, and they're moving through treatment quicker. They're not just pooling in this kind of recirculating churn of 'I'm still not getting better, I'm still not getting better.' They're getting better, they're getting out*." (Social Worker 5, KPNW)

i. Consistency

In addition, some providers noted that video visits helped their patients to more consistently attend video visits. One provider explained the benefits of consistent access to care for one of her patients:

"*And I think for her the video visit platform has been really really helpful to actually keep her consistent. There might be some other variables involved unrelated to the video visits, but I do think that consistency of showing up on the video as opposed to in an office is a big difference and I'm noticing that.. Her PHQ-9 [depression scores], and even her anxiety has gone down significantly in the last five or six weeks since we started doing video*." (MLT 7, KPWA)

ii. Comfort with Treatment

A provider described the impact of patients seeking treatment because of comfort rather than true medical need and how this may be reduced with video visits:

"*But also, [with video] we might reduce the amount people use therapy because it feels good, instead of it just helping them get better*." (PhD 2, KPWA)

iii. Virtual Treatment Options

Another provider discussed how she manages patients and gives options to patients in these situations when discussing pausing or ending treatment:

"*So sometimes people are wanting to have the security or comfort or knowing somebody is available but really they're done treatment with that episode of treatment. We will have a very good therapy conversation about, you know, maybe we should end the episode of care here. Maybe you're doing well but you just like the extra comfort. Maybe we can email back and forth instead well or maybe we can come up with something where I guarantee you that I'll do this or that so we at least have a little contact between appointments if you're scared it's going to take too long to set something and that's why you said it*." (PhD 3, KPNW)

One provider described the positive impacts of throughput in a patient story:

"*So, the background of the patient is that I've been working with her for over a year. I think we started working together in February of 2019 and her consistency, over the last year before going virtual was not that great. She would come for a few sessions, drop off for a while, come back when things got worse, come for like two sessions and then drop off again. And then right before we switched to virtual, she had an appointment with me where she was severely depressed and really anxious, having a lot of suicidal thoughts, and so I was able to meet with her that day. And so, we've been meeting weekly ever since. And I think for her the video visit platform has been really, really helpful to actually keep her consistent. The other thing for our work together is having a video, is it I think is really helpful, because you know I'm able to see her, she's able to see me. And we're able to really do some solid work. Her PHQ-9, and even her*

anxiety has gone down significantly in the last five or six weeks since we started doing video and it appears that just in general video visits, there's less of a no show rate. But I think that's kind of one of my favorite stories is that, you know, we're able to still do the work we were doing in the office and make progress in a short period of time." (MLT 7, KPWA)

II. No Show Rates

All providers were asked about their view on whether no show rates for video visits were generally lower, similar to, or higher than office visits. Amongst all 39 mental health providers interviewed, there was a consensus that no show rates for video visits were lower than office visits.

A few providers explained the difference in no show rates between office visits and video visits.

"*My no show rate for office visits was 11% and that dropped down to about 1% for video visits*." (MD 1, KPWA)

"*I would say generally speaking, there's a higher attendance with video visits than not. I mean, there's, there's just more flexibility with your video visit. You can take your phone with you, generally anywhere*." (MD 6, KPWA)

"*The other thing we've noticed is that appointments show rates are significantly higher. Those with phone and video. I think that our no show or cancellation rates are actually lower in this new reality*." (MD 4, KPWA)

Many providers mentioned the impact of Covid-19 on no show rates. Providers noted the transitional period, when Covid-19 was first declared as a worldwide pandemic, leading to the widespread cancellation of visits. Two providers explained the impact of Covid on no show rates:

"*When COVID started and we went to all virtual care there was a whole bunch of no shows and cancellations, and now, there's not*." (MLT 3, KPWA)

"*Well, mostly everybody is home. Those no show rates have gone generally to zero or almost zero, virtually zero. Many people will forget that they do have an appointment. Many people have this general disorientation of time for a lot of people. Mondays are like Fridays are like Tuesdays. 5 o'clock feels like 3 o'clock feels like 1 o'clock."* (MD 6, KPNW)

An important note is that the majority of providers, including MD 6, noted they would call patients who did not show up to a video visit, which further drove down no show rates.

Last, one provider noted that his workload increased due to patients being more likely to show up for the video visit.

"It is the fact that there were fewer no shows that impacts the work they do, because I'm actually finding I have to spend more time writing notes because more of my patients showed up. And so, I'm doing more cleanup work even after my work is out to finish on their documentation." (MD 4, KPWA)

Therefore, video visits may increase efficiency and throughput in some cases, while also increasing the options for patients to receive care via various virtual means. On the other hand, patients are also more likely to attend video visits, which increases the administrative burden and workload of providers, thus contributing to burnout.

D. Patient Access to Care

Research Question 2B. In what ways do video visits affect patient access? (role and value)

A. Semi-structured interviews

Providers discussed several ways that video visits improved access to mental health patients. First, many providers discussed how some patients were more willing to access

mental health services for the first time when video was an option. Another interesting concept mentioned by several providers was that video visits allowed them to “meet patients where they are;” in other words, video visits enabled providers to deliver care to patients who were otherwise reluctant or unable to leave their homes and to help bridge the gap in treatment.

In addition, providers commented that video visits appeared to reduce barriers to access and thereby decreasing the amount of reasons a patient would “no show” or not attend a video visit. Common reasons include financial barriers, including a copay and stigma, which causes patients to be less likely to seek mental health treatment. Providers further discussed the positive impact of video visits on patient absenteeism due to convenience and subsequent impacts on health equity.

i. Willingness to Access Mental Health Treatment

First, many providers discussed how video visits made some patients more willing to access mental health services, often for the first time.

“*New patients have popped up that may not have been drawn to therapy before, but were more willing to approach it because it was available virtually*.” (MLT 6, KPNW)

“*I get a decent amount of people who haven’t interacted with mental health before .. you know the hesitation to embark on that but if they have some control and some comfort with being in their own space*. (MD 11, KPNW)

ii. “Meet the Patient Where They Are”

The majority of providers also discussed how video visits allowed them to “meet the patient where they are." One provider succinctly explained the benefits.

"We want them leaving the house but if that's a barrier to getting care at all, then we can establish care via video and then start working on getting out of the house." (PhD 2, KPWA)

Another provider discussed the benefits of meeting patients "where they are:"

"*We certainly see a number of people that have anxiety disorder social phobia. And I think for them video is nicer. Obviously they don't have to confront that anxiety head on, just to come into the doctor's office. I know there are people that wouldn't come in otherwise. So, you know, not having to necessarily confront that anxiety just to get to see the provider, that's something we can start working on as part of the therapy. But, you know, it doesn't have to be a hurdle for them to get care, altogether*." (MLT 4, KPNW)

One provider described her experience with a specific patient:

"*If she had been leaving her home to do therapy like we would have had to work through the layers of anxiety, and the challenges of being able to leave in the first place. So I think it would have taken a lot longer to sort of get to the work that we've been able to get to*." (Social Worker 7, KPNW)

iii. Access Barriers

Almost all providers discussed how video visits reduce common barriers to accessing mental health care, including transportation, access to a vehicle and financial barriers, including copays. Providers also discussed how video visits improve access to mental health providers and specialists, particularly in areas with fewer mental health specialists.

One providers explained how video visits improve access.

"*With video, you take away about 20 things that can go wrong in a clinic day and only have the technical issues to deal with. Technical issues are a lot less than what can happen in a clinic visit*." (MD 12, KPWA)

Another provider discussed how video visits reduce access barriers:

"*So, for me, the major benefit of video is to be able to bring healthcare to places where it ordinarily wouldn't happen [such as rural areas]. this is a real bonus for patients is if you can't come in, or if you live too far or that just isn't good connection, or that you know like it maintains a relationship that's therapeutic right so I have patients who are college students who move away, and I can still continue to work with them, rather than them having to reestablish with a new doctor, or that sort of thing*." (MD 10, KPWA)

iv. Access to Specialists

Another provider cited the benefit of patients having access to specialists via video visits.

"*So I've actually had multiple video visits that have gone well, I would say, in general, the feedback that I've received from patients, has been really positive. They've liked the opportunity of being able to meet with a child and adolescent specialists. When you know if the opportunity for a video visit or telehealth was there, then, then they wouldn't have access to a specialist. So most of the feedback I've gotten from patients has been really positive*." (MD 5, KPWA)

One provider provided a patient story on how a patient was able to more easily access care due to video visits:

"I had another patient who was taking care of her elderly father, who had a pretty advanced dementia. She was his main caregiver, and it was a struggle for her to come through our appointments so having videos for her was like a complete game changer. Now she didn't have to deal with all of that, the two hour drive up here to the clinic. She can just have a video. So, for patients who may not have very much time in their schedule or may have competing priorities this enables them to not to not have to miss out, they can still connect and have their

visit at a time that works for them, and kind of fit into their lifestyle whereas versus the other way around trying to fit the clinic lifestyle." (MD 3, KPWA)

v. No Show Reasons

Providers also discussed common reasons that patients do not show to a visit and how video visits improve access by reducing barriers. One provider explained:

"*It also means that you're at home like you're already where you're supposed to be, so it makes it easier to kind of connect to a video, there's less likelihood of missing appointments, if a parent or a family can be at home, and just kind of log in as part of their day, as opposed to having to make a big effort to go somewhere and then connect*." (MD 2, KPWA)

The provider went on to explain common reasons for no shows and how video visits reduce access barriers:

"*There's a higher attendance with video visits than not. I mean, there's, there's just more flexibility with your video visit. You can take your phone with you, generally anywhere. So if your car breaks down, the video doesn't matter as much. There seems to be more variables involved when it comes to attending an office visit versus the video*." (MD 2, KPWA)

Another provider elaborated on why no show rates are long, as providers commonly will call patients who miss their video visit in order to provide care, thus further reducing no show rates.

"There are less no shows with the video although some of it is because I call the patient if they don't show for the video." (MD 7, KPNW)

One provider discussed how video visits may allow a patient to be more willing to access care.

"*I think sometimes that added time of like the added effort that you have to you know get yourself hyped and plan and actually transport yourself kind of can reduce the barrier when somebody might be like on the fence about it. So, you know, if they just have it readily accessible I think that that's been helpful*." (Social Worker 1, KPNW)

vi. Financial Barriers

Providers also discussed how financial barriers often limit patient access to care. Kaiser Permanente has waived the copay for video visits, therefore eliminating the cost for mental health video visits for almost all patients. One provider explained the benefit of no copays to mental health patients.

"*I have a woman that's got bipolar two that was recently diagnosed with bipolar two with suicidal ideations, and I've met with her for 18 months. It's been extraordinary for her because she's had the opportunity to be with me at no cost to her. Imagine how much she would have paid with private practice. Forget about it*." (Social Worker 3, KPNW)

One provider gave examples on how having no copay for mental health video visits improved access to care.

"*I think the value is extraordinary, too, for them. I've had a lot of members that don't have a lot of extra cash right and they can't afford to meet with a therapist right so having the no deductible for them is so encouraging. Some individuals are going through separation or divorce, and you know that somebody is manipulating money for them. Now they don't have to worry about that as part of their social support or part of their mental health support so that they can see us without, you know, spending any money or if they do spend money it's very limited. I think access is extraordinary*." (Social Worker 3, KPNW)

vii. Stigma

Stigma is another common barrier to mental health access that interviewees noted that video visits help to reduce. As one provider explained:

"*With families and kids, there is generally this sense of stigma with going, you know, up to the mental health floor going into a mental health building. And so there's always this bit of concern of, 'well I don't want people to recognize me I don't want others to see me.' So being able to do this in the privacy of their home can be beneficial because they'll be more likely potentially more likely to engage in care, because it's not necessarily something they have to go out publicly and kind of show themselves*." (MD 2, KPWA)

Another provider explained how patients feel stigma when accessing care in public area:

"*In my particular location, patients have to check in at one end of the building and then walk to the complete opposite end of the lobby. So now they're walking by all these other sitting areas like 'Hi everybody I'm mentally ill. What's up?!' And we're not dealing with people who maybe like are getting their stitches out today. I mean, they're sick*." (Social Worker 5, KPNW)

viii. Patient Absenteeism

Providers also discussed how video visits reduce patient absenteeism and improve health equity by improving access to patients of lower socioeconomic status. One provider explained: "Patients love video visits. Patients don't like coming to [clinic name]. The traffic and parking are terrible and the building is difficult to navigate. Patients have to take a full day off of work for 30 min visit. The convenience factor is big. Now patients can have a high quality visit at home." (MD 12, MD, KPWA)

Another provider described how video visits impact patients with hourly wages and of lower socioeconomic status:

"*I think right now, when you have people that are on an hourly wage, taking time off work, that's money you're not getting. So if they're able to do a video visit during their lunch time or some other time that's more convenient for them like after work, then that certainly helps even things out a little bit for them. Otherwise, if I'm choosing between mental health and whether I pay my rent or I'm going to pay my rent*." (MD 8, KPWA)

E. Impact on Provider Burnout and Retention

Research Question 2B i. In what ways do video visits affect provider burnout and retention?

A. Semi-structured interviews

Providers had a wide variety of perspectives on how video visits impacted their burnout and retention. Providers reported varying levels of satisfaction with conducting video visits. Almost all providers noted the importance of provider autonomy, and having control over their practice style, including how often they conduct video visits, as key to their satisfaction. Further, many providers noted the limited rapport during a video visits as compared to an office visit and noted other downsides of video visits, including limited mobility and increased eye strain.

i. Provider Satisfaction

First, providers had varying perspectives on whether video visits improved or reduced their satisfaction. Some providers discussed their desire to continue with virtual care and the provision of video visits.

"*With video visits, I find most of them to be very satisfying. I really like it. I mean I could see this being a biggest slice of my career, or even at some point being something that I can do full-time or close to full-time*." (MD 10, KPWA)

"*I'm really liking the video. I'm really liking the virtual work. And I, if we go and totally won't be doing it but if we did go back to hundred percent real [office-based] work, I don't think I would like that as much*." (MD 1, KPWA)

On the other hand, some providers found video visits and virtual care to be less satisfying. One provider stated:

"*it's a different experience on the provider end because this does not feel easier and actually, I would say a lot of providers, the vast majority of our team members actually find doing virtual work like this is less satisfying. And these are not the careers that we signed up for when we became therapists or psychiatrists, we didn't want to live behind a computer screen*." (MD 4, KPWA)

ii. Provider Autonomy

One provider stated that while he was satisfied with performing video visits and had a desire to perform more video visits, provider autonomy was very important to him:

"*One thing to worry about with Kaiser, is that Kaiser is, for better or worse, it's all in on the customer experience and customer satisfaction. And my worry as a psychiatrist, is that customer satisfaction may lead them to believe that me doing more video visits than I want to do... because I'm a professional, I feel like I want to do my job in a certain way, and to be told that you're going to do it a different way to me that would rub me the wrong way*." (MD 10, KPWA)

Another provider also discussed provider autonomy and wanting to have control over how many video visits he conducted within his practice moving forward.

"*I think that the ideal world if we did not have to worry about COVID, I would prefer if my video and phone visits for less than 10% of my total patient load. But I suspect that this experience is going to accelerate changes that we were not necessarily hoping we're planning for, and a lot of*

patients may not want to go back to the old normal. And so, you know, I think this is just what it is, and we have to adapt to kind of that changing landscape of different patient expectations and experiences." (MD 4, KPWA)

Some providers also expressed how their job satisfaction was tied to provider autonomy, specifically in the number of video visits they could offer patients. One provider explained:

"*And I think what's working to be honest with you, is the fact that I don't feel there's a limit to the number of sessions we can offer. You know what I mean. I never one time been told by Kaiser, that you cannot, you know, there's no more. They're timed out. It's nice to not have those parameters and you can just focus on the therapy. I can just be a therapist*." (Social Worker 3, KPNW)

iii. Rapport and Energy

Many providers discussed the limited rapport transmitted over video; many providers referred to this concept as "energy." One provider explained:

"*there's a lot more that I get from a client ..it's not just about their face, you know, it's their body and their soul to me. Skilled therapists are trained to notice what their body's saying ..they might be saying yes but their whole body is saying no. With video, sometimes you may miss that. And also, you can probably tell, I'm a person who likes the interaction. I have a lot of energy and I get a lot of energy from people. I pick up on what's happening and it's like a empathic kind of thing. And you don't get it so much, in a video where it's just a little more sterile. I have had some connections, but mostly it feels more mechanical than personal, if that makes sense*." (MLT 8, KPWA)

iv. Physical Impact

Some providers noted the additional eye strain from conducting video visits throughout the day. Two providers explained the physical impact of conducting video visits:

"*It's actually quite a bit of eyestrain, and I'm finding that is really hard to do this because my eyes are not what they were 10 or 20 years ago. And so that's an added dimension of difficulty*." (MD 4, KPWA)

"*This is really tough to have the camera right there and I can't really do anything and then I realized I can't see what I'm looking at what I'm doing is exhausting. This is why I have this picture is on my desk, because it is so hard on my eyes. Just so I can rest my eyes on something instead of the camera all the time. Because that's so difficult*." (MLT 8, KPWA)

F. Factors Impacting Video Visits in Mental Health

Research Question 2C. What factors support and inhibit video visit delivery in mental health?

A. Semi-structured interviews

As previously stated, Covid-19 had a significant and marked impact on video visit delivery and utilization, with both positive and negative factors. Covid-19 led to a substantial shift toward increased use of telehealth and video visits, causing providers and patients to quickly adapt to new technology. Positive factors included decreasing no show rates and increased patient engagement in mental health care. The most significant negative factor related to video visit delivery was the technology barrier, with many providers stating that their experience with the technology and Kaiser Permanente's video visit platform worsened due to Covid-19.

i. Covid-19 and No Show Rates

As previously stated, Covid-19 largely reduced no show rates due to patients being at home, and also gave many patients the time and space to devote to their mental health. Two providers explained:

"*So the thing that's really hit me since this whole coronavirus, and my no show rate I think is at an all-time low*." (MD 10, KPWA)

"*I think some people are engaging in care more, which could be a result of not having other things to do. Or, because they're ready to work on their mental health*." (MLT 7, KPWA)

ii. Covid-19 and Video Visit Volumes

Covid-19 also led to an extremely large shift toward increased video visit use in both the KPWA and KPNW regions, as patients were adhering to "stay at home" orders and thereby staying out of clinics. Between February and April, there was a greater than nine times increase in video visit use in KPNW, and over 37 times increase in KPWA. Many providers discussed how Covid-19 caused both themselves and patients to be more willing to use technology than prior to Covid-19. Prior to Covid-19, providers noted a strong preference for patients to come in for an office visit or a phone visit. Providers believed this was due to a lack of familiarity with video visit technology.

iii. Patient Preference for Care Modality (Office, Phone, Video)

Two providers explained how, when offered a video visit, patients would often decline, and choose an office or phone visit.

"*I was one of the early piloting people for doing the video visits I've been really excited about this from the get-go because I want this to be, you know, something that works for me and for my patients. But I was very underwhelmed by the number of patients that are actually interested in*

doing it. My impression from talking to patients is they actually just prefer to come in. Usually, it would be rare to have more than 25% of my visits as video visits." (MD 10, KPWA)

"*A lot of people didn't take me up on it, although it was offered, they would rather do a phone visit versus a video but I think that that is based out of unfamiliarity*." (MLT 1, KPNW)

One provider described the shift in telehealth use caused by Covid-19:

"*I think Covid-19 precipitated or took away the choice for people to do in-person visits and made them do video. And, really, that forced choice. I think allowed them to adapt to it a little bit better*." (PhD 5, KPNW)

All providers reported conducting a significantly greater number of video visits after Covid-19 than previously. Providers differed in how often they wished to conduct video visits. Three providers offered their differing perspectives:

"*I think that the ideal world, if we did not have to worry about Covid-19, I would prefer if my video and phone visits were less than 10% of my total patient load*." (MD 4, KPWA)

"In my experience, if I could do all virtual care I would love to do that. It's just been really enjoyable." (MD 5, KPWA)

"*Let's say this, if it was just ideally me, what it would look like? I would like a lot more virtual time. The more the merrier*." (MD 6, KPNW)

iv. Technology

Technology was the preeminent negative factor that acted as a barrier to video visit delivery in mental health. This was unilaterally stated by all interviewed providers. Providers commonly expressed frustration with the technology. Commonly reported issues were an audio lag and poor video resolution which impeded the provider's ability to provide care. As two providers explained:

"*I've had several occasions where somebody's been telling me something so intense and they, they freeze up, and I'm like "I'm so sorry. I lost you. I'm so sorry." I have to apologize. It is uncomfortable*." (MLT 8, KPWA)

"*What I mean by fail rate is, it doesn't work at all or is so choppy. That is painful to stay on video. And so a lot of times I have to switch to telephone, because it's, it's just more comfortable for everyone because we can actually hear each other without having to interpret through five second gaps that occur every 30 seconds, you know, that's really hard to endure*." (MD 4, KPWA)

Many providers agreed that Covid-19 worsened their experience with the technology. One provider explained:

"*Technology most the time works. Covid-19 has made technology worse. So that's kind of frustrating because I feel like we have significantly more technology problems. Now that everybody's using the system and the internet and stuff than we did before. Not that we didn't have tech issues but I feel like at least once a day we'll have some tech thing where it could have been like once a week before*." (Social Worker 4, KPNW)

A few providers noted the disparity in video visit technology used by platform, noting the higher quality of video in commercial platforms. Two providers explained this further.

"*I've been really dissatisfied with the quality of the technology we use here at Kaiser. It's just frustrating for everybody, whether the audio or video gets dropped or whatever. It just seems like so frustrating when I know I can pick up my iPhone do FaceTime and have it work like a charm*." (MD 10, KPWA)

"*Some people want to use a consumer grade video system. That would be helpful. Again, I know HIPAA stuff is there but I think they have over interpreted it. I mean, I think a patient could give consent to use FaceTime without that being an issue*." (MD 7, KPNW)

One provider further explained the benefits of commercial platforms:

"*The reason I think that would help is that the people that are older, I think they seem to have way less trouble with Skype, FaceTime consumer grade platforms and stuff where you have to check in. A lot of them don't have [Kaiser Permanente MyChart] accounts and they don't understand how to open accounts properly*." (MD 7, KPNW)

Provider Perceptions of the "Provider at Home" Initiative

Research Question 3. What are provider perceptions of the "provider at home" initiative?

A. Impact on Work-Life Balance

Research Question 3A. How does the "provider at home" initiative support work-life balance?

A. Document Review

As described in the meeting notes from the KPWA strategic planning session in May 2018, providers expressed interest in increased flexibility, including when and where they can work, including an at-home option. The "provider at home" initiative builds capacity and the ability for providers to work from home and provide video visits. Therefore, there was interest expressed in the "provider at home" initiative.

B. Semi-structured interviews

As previously stated, almost all KPNW mental health providers were deployed back to their homes due to Covid-19. Therefore, an important caveat is their work from home experience was limited due to being impacted by Covid-19, therefore resulting in them being in quarantine and limited socialization. All providers were interviewed in May, approximately 2 months after transitioning to full-time work from home, for those who chose to do so.

On the other hand, KPWA providers largely remained working in the clinic, in private offices due to other specialists being prioritized for social distancing and work from home measures.

Therefore, providers who solely worked in the clinic were asked what their ideal schedule would be, whether they had interest in working from home and how this would impact their work-life balance.

Overall, providers who had experienced working from home reported feeling higher levels of satisfaction and according to one provider "50% less stress." Providers reported feeling that working from home made their workload feel more sustainable and more likely to stay with the organization throughout their career. Providers enjoyed having no commute, being able to sleep and exercise more, improved mood and improved relationships with their families and patients. As one provider explained:

"*I'm 100% at home now. Like, I feel like my life is improved as well. So I still work 830- 5pm Monday through Friday, but I'm working 100% at home now. I'm doing a video or phone and I'm generally running on time. Like I started 8:30 and then at five, it's just, you know, my life. I have dinner on the table. I will do more personal care. I can do my chore on a break. My husband and I are getting along better. So I actually feel a huge difference in my life personally. Working less, it's less of a rat race*." (Social Worker 8, KPNW)

This provider further explained the positive benefits of working from home:

"*I'm getting more exercise and getting more sleep. I feel like we're getting healthier. I feel like my relationships improved. Maybe just like more time for just things I enjoy in general like I'm reading more. I'm watching more like shows in the evening*." (Social Worker 8, KPNW)

Providers commonly discussed how working from home would remove their need to commute and would improve work-life balance. Two providers elaborated on these benefits.

"*Now I don't have the commute. Obviously, in like, an hour to an hour and a half on each side which is not wasted, basically. Basically, I'm done with work and I'm already at home*." (MD 7, KPNW)

"*I would like to work from home also. I think that that would be great for me because I save like an hour each way. So, it saves me a big chunk of time that I'm spending and then going home and then, you know, feeling like I'm up late and not having a lot of personal time*." (MLT 5, KPWA)

i. Exercise

Providers also touted the ability to exercise more when working from home. Two providers explained how they can more easily fit exercise into their work schedules due to working from home:

"*Before working at home, I was waking up at 4:30 a.m. every day so that I could get my workout in. Working from home, I am able to fit that in. Like today, I went and took a run on my lunch break. Yeah, I'm able to do that right, because I could come home and shower and be ready for my 1pm appointment*." (MLT 1, KPNW)

"*Now get to run every morning, whereas [before working from home] I was trying to fit that in twice a week on my lunch break, which was it worked out but you know it was now I can run, you know, several days a week*." (MLT 4, KPNW)

ii. Sleep

Another common theme related to the benefits of working from home was sleep. Two providers explained how they get more sleep when working from home

"*I get to sleep in with virtual which is nice. I definitely sleep in an extra hour that's a big bonus*." (MLT 10, KPNW)

"*So I'm getting more sleep. So before, this is gonna sound totally crazy, but I'm a big proponent of exercise and so I was waking up at like 4:30 or 5 a.m. every morning and going to the gym three days a week. Then I was showering at the gym and going to work or I would run around my neighborhood and then shower and go to work. Now, every morning I'm waking up like 5:30/6am and I'm either running around my neighborhood, doing like home videos and you know an elliptical at home. So I'm getting more sleep. I do have more time I take a walk at lunch usually. I even take a walk sometimes after work. I was doing before honestly, we were walking at work. My coworkers will tell you that but the walks after work like I was doing like in the dark, you know exhausted but like just needed to do something. Because I couldn't just walk into the house and start cooking or doing chores. So I would like to, you know, like come in and change, go for a walk and then make dinner*." (Social Worker 8, KPNW)

iii. Mood

Providers also reported enhanced mood due to working from home. As one KPWA provider, who solely worked in the clinic, explained:

"*Being with my dog would be beneficial for my own mental health*." (PhD 1, KPNW)

Two providers explained how having a window in their home offices positively impacted her mood:

"*So, this may be like a silly thing to factor in, but I don't have a window in my clinic office. And, I mean, I'm there for like 10 hours and I'm not seeing a patient all day long. I do a lot of chart review, admin, report writing for hours. So I feel like I sort of like get stuck in this zone of like a place without a window. At home I do have a window and, like, and I've even personally felt like I've noticed kind of like a change of my mood because of that alone*." (PhD 4, KPNW)

"*I was working in a tall cubicle with no natural light and no window. And obviously I have chosen a spot [for my home office] with like a cheerful window, a beautiful window. I feel it has had a huge impact on my mental health, my energy levels. I have my dog and cat. So I feel like I get more of a break that I would never have in the clinic*." (Social Worker 7, KPNW)

iv. Relationships

Providers also reported positive impacts on their relationship with family and patients related to their ability to work from home. Both quotes are from KPNW providers who transitioned to 100% home-based work due to Covid-19 in March. The first provider discussed the impact from the stress from her commute.

"*[My commute] affects me it also affects the patients coming in and for the rest of the day so it kind of offsets and it adds additional stress for me and for the patients coming in*." (Social Worker 1, KPNW)

The second provider stated how working from home allowed him to spend more time with family:

"*So prior to Covid-19, I would leave before anybody is up. I would be out of the door and everyone else would be asleep. Very often I wouldn't see the family until evening time. Now I can spend a lot more time with family... getting kids ready, see spouse, those sorts of things. So, I think, with those virtual days those days tend to be, you know, better days for the family in general, including myself. I'm in better mood as well as my family. So, so there there's more of a benefit in work life balance for some of those virtual days versus not*." (MD 6, KPNW)

v. Environmental impact

A few providers also stated satisfaction with working from home due to decreasing their impact on the environment. As two providers explained:

"*for me it's not just about eliminating that time in the car, I'm thrilled, absolutely thrilled to limit my carbon footprint our way. I have not had to put gas in my car except for one time in six weeks. And so there's that that kind of environmental piece that really makes me super happy*." (MLT 4, KPNW)

The other provider agreed, adding the impact of transitioning from paper-based workflows to digital:

"*Obviously if I don't have to commute at all that's like a huge load off my shoulders, and also it saves on gas and, which has been really nice and I just feel like it's like also nicer to the environment like I'm not driving as much like my carbon footprints a little bit, you know, smaller these days. So if I can sort of contribute in that sense as well, you know, I'm also using lot less paper. Now I've learned to pretty much do everything digitally which has been amazing and I love it and yeah so that's been awesome like, I don't have the like thousands of papers that I've had to rely on before so it's been pretty nice*." (PhD 4, KPNW)

vi. Boundaries between work and life

Several providers discussed the importance of maintaining boundaries between their work and home lives, particularly due to the emotional toll of their work. Three providers stated they would not prefer to work from home, in order to keep their work and life separate. Two providers stated their concern about keeping their personal life private from patients. One provider explained the importance of work-life boundaries when practicing as a mental health provider:

"*Like for me it's always been important to me, especially as a psychiatrist to not take my work home. I never would never do charting at all I never do any of that kind of stuff that a lot of doctors do as I like to have that separation. When I leave the office, I know I'm leaving work behind and I go*

home and I'm with my family. Um, so I wouldn't like to have that. Even if I always did it in a little office room in my in my house, it still would just feel too close to my life." (MD 10, KPWA)

Social Worker 5, from KPNW, agreed about the importance of keeping work and life separate, and elaborated further: "mostly for self care, I just having like a nice, thick boundary between work and home. A thick, thick boundary."

Another provider explained his desire to keep his home private from patients:

"*The other thing with home based work that I was worried about is like how are we, you know, and I'm thinking in mental health in particular because we as providers try to keep our private life, private because of the patients and the population we sometimes can work with*." (MD 2, KPWA)

Two providers explained how working from home with young children during Covid was unique. Due to schools being closed, they had greater childcare duties than they typically would in a non-pandemic world.

> *"Now, there's no commute in the morning. As soon as the patient is done I'm able to come in the house on lunch or now just even having kind of a little touch-ins with my kids between sessions has felt, for the most part, really nice. For the most part. Even though the balance between work and life has felt a little bit nicer.. I mean, my life is work too, like so. You know, having 2 small kids. So you're making lunch, having lunch, changing a diaper. So I think at that level, like, I've been almost busier it feels like in some regards because when I was even though it was uncomfortable, mentally, to be away from the house for so long, like, you know, it's almost sort of a break from that when you go into work you're only interacting with adults and you've got your own space and whatnot and now it's like all kind of moved into one sort of fluid place but that's felt good and I've felt less disconnected, as I felt when I was gone for long stretches of time."* (MLT 6, KPNW)

"Childcare duty is now mixed into this and so I need to go meet my wife and relieve her right at four. So then there's this additional hour time that that maybe I would have had to have a better work life balance to complete the work but then that sort of spills over. Then I have to do that after they go to bed. So, there's, there's a little bit of a shift of my home demand that that's been here because of Covid. And I think that's probably more true for parents of younger children, having to give that educational coverage. If that were not there, it would be a more ideal work life balance." (MD 6, KPNW)

Research Question 3B. How does the "provider at home" initiative affect burnout?

I. Semi-structured interviews

As previously discussed, providers identified primary contributors to burnout as workload and hours worked. Also already discussed was how video visits were often shorter and providers were often able to concurrently chart, therefore working more efficiently and reducing total hours worked. Some providers discussed their preference to chart after the session as they found charting distracting and believed it reduced the effectiveness of the session.

With regards to the impact of the "provider at home" initiative on burnout, some providers noted that working from home, at times, caused the lines between work and life to blend, leading them to work longer hours. However, other stressors such as commute were minimized and providers reported significant more flexibility and improved work-life balance, which protect against burnout. One provider explained how working from home caused him to work more hours:

"I don't mind working from home. I don't want to work later but it does lend me to work more." (Social Worker 3, KPNW)

Providers commonly discussed the benefit of not having a commute when working from home:

"*I mean, certainly working at home has its advantages. Kind of get up and you've done your commute*." (MD 8, KPWA)

"*Now I don't have the commute. Obviously, in like, an hour to an hour and a half on each side which is not wasted, basically. Basically I'm done with work and I'm already at home*." (MD 7, KPNW)

Research Question 3C. How does the "provider at home" initiative affect turnover?

I. Semi-structured interviews

All providers were asked about their ideal work schedule, including the ability to work from home and hours worked, including part-time work as an option. These flexible options were enabled by Telehealth and video visits. Providers were asked whether they would be more likely to stay in the organization if they could work their ideal schedule. Thirty-seven out of 39 providers responded that they would be more likely to stay in the organization. The two providers who responded "no" stated they were just as likely to stay with the organization regardless of being able to work their ideal schedule.

Providers were also asked if working their ideal schedule would make them more likely to recommend the organization as a good place to work to family and friends. All providers responded that the ability to work their ideal schedule would make them more likely to recommend the organization to others.

Approximately 95% of providers responded that the ability to work from home and select their schedule would make them more likely to stay in the organization. Social Worker 1, a social worker from KPNW responded "Oh absolutely, I would have no reason to leave,

whatsoever." Almost all providers stated their appreciation of the organization's mission and desire to continue to working in the organization. One provider explained:

"*I mean I love working for Kaiser First of all, you know it's not like yeah, like you have to drag me away from that. I love my work I love the organization I think it stands for some really awesome stuff and I think they you know they compensate well. And I've been super happy with leadership so it's you know it's a good place to work, definitely. I think it would just sweeten the deal for me if I was given the opportunity to work from home*." (MLT 4, KPNW)

Further, all providers were more likely to recommend the organization as a good place to work if they were able to have their ideal schedule. Two providers explained:

"*Yeah. Because they work the therapist pretty hard. So, if there was any balance, I think that that would certainly, you know, improve our thoughts about, you know, recommending*." (MLT 6, KPNW)

"*Oh yeah, I think that happier that I am, the more likely I am to extend recommendations*." (MD 6, KPNW)

Research Question 3D. How does the "provider at home" initiative affect provider satisfaction?

I. Semi-structured interviews

In addition to the factors mentioned above around working from home, flexibility schedules and impacts on work-life balance, providers had several comments on factors that impacted their satisfaction. The most common factor was team-based work and collaboration with colleagues. Other factors included technical issues, and provider attitude toward technical issues. As mentioned earlier, the presence of a window in their work space was also correlated with provider satisfaction.

i. Teamwork/Collaboration

Team-based work and collaboration with colleagues was cited as key to provider satisfaction by several providers. Providers reported varying perspectives on whether working from home and collaborating with colleagues virtually improved or decreased their satisfaction. Some providers valued virtually connecting with colleagues:

"*I mean I just I think that you know the way that we're virtually connecting with our colleagues and able to do meetings like this one, I mean, to me it's ideal. It's the best of both worlds*." (MLT 4, KPNW)

"*I'm pretty independent. and I reach out if I need help and I'm still connected with my coworkers virtually so I feel like that hasn't been a difference for me. I know some people tend to be more social and they miss that. But for me, I'm able to get my work done more effectively, more efficiently with less distractions*." (Social Worker 1, KPNW)

On the other hand, some providers missed the in-person collaboration with their team. One provider stated:

"*With mental health care there is a need for being able to collaborate in-person with your colleagues. It's really valuable and necessary for good patient care so that's the part that I really miss. And it makes it a little harder virtually to connect with people. MD 9 also stated "what I miss are face to face interactions with colleagues and being able to consult very easily with someone. And just to maintain that kind of human warm contact with your colleagues. We use zoom meetings every day. as a group. And, and I can consult with people, chatting on zoom and that kind of thing not zoom but... it's one piece that I miss is having your colleagues, there. And being able to consult and be around like-minded individuals and get support from or give support*." (Social Worker 2, KPNW)

ii. Leadership roles

Two providers who were both lead physicians had differing perspectives on in-person collaboration with regards to their leadership positions. The latter physician discussed how working from home allowed him to work more efficiently without distractions.

"*I mean also you know as the clinic chief. I don't think it's good for team morale for the chief to not be in the clinic and to, you know, always be at home*." (MD 4, KPWA)

"*Being the lead physician, other physicians would come to my office, other therapists would come to the office. I think people will come to the office just about the day to day problems, the day to day issues that would come up. So, it may have made my personal efficiency a little bit slower because I'm addressing departmental needs that are there. Ultimately it probably is a net gain in resolving those issues on a department level. But my personal efficiency probably slows down every time that happens*." (MD 6, KPWA)

iii. Technical issues

The vast majority of providers reported experiencing technical issues. While some providers were very frustrated, even exhausted by dealing with technical issues, others saw the technical issues as a way to humanize themselves to patients and build rapport. Two providers described how they saw technical issues as a way to humanize them and build rapport with patients.

"*Their voice goes down the matrix hole pretty well sometimes and you have to say on it. think it's helpful because it normalizes us a little bit. I do think members have a tendency to think that you know it's the therapist, and they all know this stuff. When the video screws up and we're saying how frustrated we get with the video then I think it helps them to be*

like, 'Oh, this guy's a normal dude,' you know, it creates a bond over the technical difficulties." (Social Worker 3, KPNW)

"*You know there are challenges like the video quality isn't always awesome and sometimes there's a little bit of awkwardness where I'm like, I hear me, hear me yell, but I feel like that kind of, you know, I don't know that doesn't feel like a barrier, I believe we kind of bond over that a little bit, you know, we can kind of laugh over it, there's an informality. I'm in my home. So they're able to see a little bit of my space and hear my dog bark, and his collar rattle. Yeah, I think it kind of humanizes me a little bit*." (Social Worker 7, KPNW)

On the other hand, some providers found technical issues to be frustrating and lower their satisfaction. One provider described how her frustration regarding technical issues resulted in physical ailments:

"*The times when it's difficult because of the tech issues, it really takes away the joy of my job. And I can feel myself getting very frustrated achy. My neck hurts because I've just I could feel myself getting irritated. And when you have a whole day of time after time interactions of sessions not working because of all the different scenarios that I just named it takes away that joy of what I do*." (MLT 2, KPWA)

iv. Presence of window

Last, as previously discussed, the presence of a window in a workspace, whether that is at home or in the clinic was correlated with provider satisfaction. As one provider described:

"*Now at home, I get more breaks, I can take my dog out and go for a walk. I actually see a window, all day. And that makes a huge difference. Just seeing something because [my*

clinic workspace] doesn't have windows, it's like the middle of the building. And so, it's been very, very nice." (MLT 9, KPNW)

Research Question 3E. What factors support or inhibit the delivery of the "provider at home" initiative?

I. Semi-structured interviews

Key factors that support the delivery of the "provider at home" initiative include organizational support to help providers set up workstations at home that promote a professional image of the provider. Other factors include provider training for video visits and member education around video visits, to increase video visit use further.

i. Organization support and resources

Several providers expressed wanting more organizational support to set up professional workstations at home, particularly if the provider wanted to work from home full-time. Covid-19 prompted mental health leaders to send most KPNW mental health providers home exclusively, by mid-March. Due to the fast pace of implementing the "provider at home" initiative, providers noted being sent home with laptops, altering their workspace and workflow, in order to adjust to their new reality.

ii. Maintaining a professional image

Providers expressed factors around wanting to maintain a professional image required forethought and planning when setting up a private office. One provider stated:

"*I have dogs that bark. That's pretty much a distraction factor, and also having a setup in my home for a camera to be, you know, positioned the room to be prepared for it, privacy. I think for people that work from home I think it's important that you think about how you prepare for that in a way where you're presenting still a professional image, and*

you're still presenting herself as a therapist. So some of the personal things maybe that are in my den right now I might not want visible, I might have like a screen of privacy screen or something behind me for example to kind of cover that a little bit or, you know, just looking at the layout and the technology would be maybe a question mark because I'm not sure if I can do that from home currently so yeah bandwidth. Like all that stuff. And that wanting to have good connection for the internet to be functioning well enough to do a video visit with." (MLT 5, KPWA)

Another provider discussed the adjustment needed to work from home, particularly with young children.

"*For me, working from home was an adjustment. Because I had set up a home office, set up. I've got kids at home. And so there was just a couple logistical issues around just getting your space set up and figured out. You know, figuring what the flow looks like, the technology and so forth. But now having adjusted I'm really liked working from home*." (MLT 6, KPNW)

Research Question 4. **What are the opportunities and next steps to enhance video visit services for both mental health providers and patients?**

I. Semi-structured interviews

Providers had several recommendations for enhancing video visit services, ranging from enhancing the technology, particularly screening questionnaires, to provider training and member education on video visit use.

In addition, providers discussed how video visits could be enhanced to improve access to care. A few providers discussed the role of video visits and the "provider at home" initiative in reducing Kaiser Permanente's clinic/real estate footprint, thereby reducing the

cost of care. Providers also suggested that video visits could allow for clinician/patient matching not being limited by geography. They also discussed how video visits could improve recruitment, by offering potential providers flexible hours and a work from home option. These options would further improve access by increasing the supply of providers able to care for mental health patients.

i. Screening questionnaires

Several providers noted the current difficulty with having patients fill out screening questionnaires with video visits. Typically, in an office visit, patients would receive a paper questionnaire from the front desk and fill it out during the waiting room. The provider would then review the questionnaire to determine the patient's mental state prior to meeting the patient in the waiting room and walking them to their office. One provider discussed the importance of these questionnaires and the difficulty of administering them during a video visit:

"*It was universal. Everyone, including kids would fill out one of those. And I don't do them anymore. And when I asked how we can get a copy [of the screening questionnaires] for patients to fill out during the video visit, the answer was 'well, no one's doing it.' It struck me as being kind of extraordinary because we've become so habitually used to doing them for everybody [during office visits] and then relying on that data for the visit. So at the beginning of the visit, I go through and manually fill out the survey with the patient. Before I started doing that [checking if the patient had completed the survey] was a separate step, I'd have to click on the message and scroll down to see if they filled it out and on. And when so many people aren't filling out the questionnaires and they're skipping that step, you may forget, too, and realize suddenly you've missed a suicidal patient. So I just feel like it adds*

another level of complexity and risk of sort of missing something important. It's not an easy checkable thing." (MD 9, KPNW)

This provider suggested an enhancement that would allow providers to more easily determine if a patient had filled out a questionnaire:

"*What if there is just a when you when you start an appointment, you hit the plan button or you opened up the chart, there were a button that has had most recent Columbia scale and today's PHQ-9 if available there. So you press the button and it's there and if it's not there you know that you can do it*." (MD 9, KPNW)

ii. Patient support and education

Providers also had recommendations for educating patients on how to attend a video visit, including developing clearer instructions on how to join the visit and how to check their connectivity. Providers believed these steps were critical in improving patient willingness and comfort with video visit use, which would lead to greater adoption. Two providers explained the importance of clear, easy to read patient education materials on video visits

"*Just giving [patients] more clear directions because I think what happens is they just received the letter: here's the instructions for a video visit, but they might not read it or they have, I don't know, not very good reading comprehension, which happens, right? Medical literacy is a thing*." (PhD 4, KPNW)

"*Maybe the instructions to patients should be clear. I don't know how much clearer but a lot of people aren't getting it. Yeah. Yeah. So, if there's something maybe like a really old person who has no technology skills could look at it and if they can understand it, then*

maybe, I don't know, bragging actually going to try to do that like someone's gonna volunteer their dad who's like 80." (MLT 2, KPWA)

One provider explained how patient education could improve video visit adoption by patients:

"*Some of the people that would benefit the most don't understand how to get the video set up or they're scared of it or something."* (MD 7, KPNW)

Another provider agreed, stating *"I think a lot of patients don't feel technologically competent, or secure enough that they're going to be able to make it work. And even though I can see that they use our video, or our online platform, they just don't feel comfortable or confident enough to take it to the next step*." (MD 10, KPNW)

One provider had specific suggestions for how to prepare a patient for a video visit: "*maybe check their bandwidth and speed. Yeah, you know, who knows I'm sure there's all kinds of creative ways to like, maybe address some of that for our members*." (MLT 4, KPNW)

iii. Provider training

Providers also had suggestions on provider training on how to conduct video visits. Several providers cited the quick transition to video visits due to Covid-19 left a training gap that made them feel ill equipped to provide video visits to the best of their ability. One provider explained:

"*I think the biggest barrier for many people trying to do video visits and being comfortable with them is not knowing how to do them. And there's training sure on the Kaiser website, but it isn't enough. It isn't about just doing therapy in a video visit format. You do need to understand like how to set up your camera and how to make it a positive*

experience and how to adapt to different types of clients and also how to adapt your visits, you know, to those folks in a positive clinical way. I feel like there's a lot of information that I got outside of Kaiser that helped me to be able to do video visits that was not provided. And so, it's not a negative thing it's just the reality of the situation because it was very fast, it was very rushed." (MLT 5, KPWA)

Many providers also wanted to be trained on how patients access video visits. One provider explained:

"*I would like to be more educated, so that I could help walk the patient through more efficiently when we're having trouble connecting*." (MLT 1, KPNW)

iv. Access and cost of care

Further, many providers discussed the positive impact that video visits and working from home would have on patient access to care and reducing the cost of healthcare. One provider explained how the supply of therapists could be increased:

"*Well, I know that prior to the pandemic we were really struggling, as an organization with realistic. square footage and how many people can be fit into this clinic. In our mind, it's full. So if there were people who really want to work from home, and they could be properly supervised and that that can be a good thing that might be, you know, three out of our 10 therapists wanted to go work from home. You know, we can hire three more therapists. So there's that which I think is a positive*." (MD 10, KPWA)

Another provider echoed this notion of clinics operating at capacity, noting:

"*I know in [clinic name] we rotate through different clinical rooms so that's a little tight sometimes and it's difficult to kind of manage that, when everybody's there. So, not having*

to be a part of that or contribute to that with the ability to work from home I think is another plus to video visits and work from home schedules." (Social Worker 1, KPNW)

One provider described the impact of private offices on healthcare costs:

"*So here's the thing is I'm very driven by things that I think will serve society, and I genuinely think one way to help with healthcare costs, is to not have to have so many office space dynamics. I think there's also a weird dynamic that happens when people create ownership over an office space, and then they take it up for the whole time. And I genuinely love thinking of anything that I could participate in that would help with healthcare costs, both in terms of efficiency but also, you know, the use of space, the use of energy and electricity. So it makes me just feel good to be able to participate in something that I think also helped with that for everybody. And to make it more accessible*." (PhD 3, KPNW)

Another provider believed Covid-19 would have a lasting impact on office dynamics, stating:

"*But I think when I think the world is changing and I don't think we'll have offices forever and we'll have, you'll have more of a room you work in and then you'll go see people in an office*." (MLT 3, KPWA)

v. Recruitment/staffing

Most providers discussed the positive impact of video visits and the "provider at home" initiative allowing Kaiser Permanente to more effectively recruit new providers to the organization, thus improving access to care. Flexibility, including allowing for part-time work, and flexible hours, including 10 hour days, 4 days per week, as well as a work from home option were cited as key factors allowing for improved recruitment.

One provider noted the importance of allowing for part-time hours to bolster recruitment efforts:

"*Yes, so most of my friends like the idea of working for Kaiser. The benefits are so good. They get good like education dollars and you know I always like rant and rave about the care team approach here. There are just so many good things about working for the company. But, you know [my friends] have families and they don't want to work 40-50 hours a week. So, you know, I've tried to recruit people, it's really hard. They want a more balanced life. They want to work two, three days a week, not these schedules*." (Social Worker 8, KPNW)

Several providers discussed the relevance of offering a work from home option to not only recruit new providers but retain existing providers. Providers also discussed how working from home would have life-changing impacts for them, including the ability to start a family and purchase a home in a more affordable area. One provider explained:

"*This is where I'd like to retire from, but work life balance is probably the one thing that makes that that a challenge and potentially not doable right. It's like how can I maintain my emotional health and do this job and, you know, ideally, working it full time. I definitely think [working from home] would it would help my work life balance it would give me a sense of flexibility in my job and like I said it really helps the burnout to have just different places to work psychologically that just helps for some reason. And I think that most on my life and my work life balance*." (Social Worker 2, KPNW)

Another provider discussed how working from home would allow her to start a family.

"*And you know I'm starting to like enter the phase of, you know, of like thinking about having children and kind of planning for having kids. I have a 4/10 schedule so I get home,*

fairly late. And if at least one of those days I was working from home I would feel even like more comfortable with the thought of having a child." (PhD 4, KPNW)

One provider stated how working from home would allow her to purchase a more affordable home and would not limit her search to be close to her place of work.

"*I'm actually looking to buy a home so [working from home] would allow me to live in a more affordable part of the state. I mean I know that there's a need to go in for trainings and sometimes work meetings but reducing the frequency of that would be significantly helpful*." (Social Worker 1, KPNW)

With regard to retention, a few providers stated that additional workload, including shortening appointment lengths so they could see more patients in one day would likely cause them to leave the organization. When asked if he found video visits to be generally shorter or longer than office visits, one provider explained:

"*So I think that's a little bit of a radioactive question. I think providers do not like to say shorter and then find that we get three or four visits scheduled into an hour. And I think the danger in leadership, you know, getting this input or data and feedback, and then pressing, you know more patients into our schedules. I don't think that's a wise direction to move in*." (MD 4, KPWA)

CHAPTER V. DISCUSSION

A. General Discussion

I. Video Visit Volumes and Demographics

Video visit use increased in both KPWA and KPNW as time progressed, in that video visits represented a larger relative percentage of overall visits year over year. Patients who used video visits were generally younger, with higher usage amongst patients aged 25-34 and 35-44. Video visit use amongst females and males did not differ significantly compared to office visit use.

II. Mental Health Burnout and the Role/Value of Telehealth

Providers cited that major contributors to burnout included hours worked, workload, commute, and administrative workload, including time spent charting, completing documentation, and sending and reviewing screening questionnaires to patients. In addition, providers stated that the workload and emotional toll of the work were increasing their burnout, and impacting their sleep, work-life balance and relationship with their families and patients.

With regards to the role and value of telehealth in addressing burnout and turnover, providers discussed positive factors such as increased flexibility due to being able to work from home. These factors included no longer having a commute, improved work-life balance and reduce absenteeism. Some providers noted their ability to concurrently chart during a video visit, thus reducing their administrative burden, improving their efficiency. Concurrent charting allowed providers to reduce the number of hours worked, thus protecting against burnout. Other providers noted that concurrent charting reduced their rapport with patients and

therefore the effectiveness of the session. These providers preferred to chart after the visit and did not experience gains in administrative efficiency.

On the other hand, providers noted an increased workload with video visits. Because patients were more likely to attend a video visit, providers were seeing more patients, thereby increasing their administrative burden. Some providers noted working longer hours.

There was a consensus on the increased administrative burden and arduous nature around sending screening questionnaires and materials being more work with video visits. Some providers had developed workarounds, which involved scanning and emailing patients through Kaiser Permanente's secure network.

III. Effectiveness

Providers perceived that video visits may allow them to provide more effective care and conduct more effective sessions. Providers noted that with video visits, on one hand, they are receiving more information from the patient, as they can see the patient's home and safe spaces as well as meet family members. This allows providers to gather more primary information in order to more accurately assess and diagnose patients and inform the development of the care plan. In addition, providers discussed the benefit of meeting family members that would otherwise not have attended the visit, had the visit been in-person, including spouses, children and pets. Often, providers discussed incorporating additional factors into a video visit that they would not have been able to incorporate in an office visit. One example is including a spouse or another family member in the session that would otherwise not be available. This approach offers multiple benefits, including the provider's ability to observe the relationship firsthand and receive more information from the family

member. Thus, this allows a provider to build a more complete picture of the patient's mental state.

On the other hand, providers are receiving less information from video visits. Many providers noted that body language and rapport were limited in video visits. A few providers also mentioned the limitation that they were not able to detect the patient's hygiene (or "smell" them) through the video visit which would allow them to more accurately assess the patient's mental state.

Providers also discussed other ways in which video visits allowed for the provision of more effective care. Another major factor was patients feeling more comfortable in their own home and space, therefore opening up more, sharing more information and engaging in care in a more significant way. In addition, providers discussed that patients were more consistent in their attendance of appointments with video visits. Some patients who had previously been inconsistent with attendance with office visits would have long gaps in which they were not seen, therefore contributing to their poor mental state. Providers discussed how transitioning inconsistent patients to video visits increased their consistency and attendance thus improving their health outcomes. Further, providers discussed how skill-building with video visits was more effective, in that patients were able to practice skills during the visit where they would typically practice them during their day. Providers noted they believed this improved the transfer of knowledge and ability for patients to learn new skills.

IV. Appointment Lengths and No Show Rates

Overall, there was triangulation between quantitative and qualitative data that video visits tend to be shorter in duration and have higher show rates; in other words, patients are

more likely to attend a video visit. Providers noted the efficiencies with video visits, including the ease of beginning a video visit, where patients were less likely to engage in small talk and end a video visit, where office clean-up, and walking a patient to the reception area, were no longer needed. In addition, providers discussed the increased throughput of patients using video visits. Providers generally observed that patients receiving care through video visits were able to move through care more quickly, have their symptoms and health outcomes improve and be discharged more quickly.

V. Patient Access

Providers noted several ways that video visits improved patient access to care. First, providers discussed that some patients were more willing to access mental health services for the first time via video than other modalities such as an office visit. Providers stated that video visits seemed to reduce common barriers to access, including financial barriers, such as a copay, and stigma. With video visits these two factors were limited as Kaiser Permanente does not charge a copay for video visits and stigma may be reduced as patients are able to access care from the privacy of their own home rather than in a clinic. In addition, providers discussed how video visits reduced patient absenteeism. This was seen as a significant stressor to some patients, particularly lower income patients who were paid hourly wages and had to take time off to travel into appointments, therefore sacrificing some income. These situations would sometimes cause patients to forgo receiving care. The convenience and ability to participate in a video session during a lunch break and therefore maximize income was seen as having positive impacts on health equity.

Most providers also discussed how video visits allowed them to "meet patients where they are." Essentially, video visits allowed providers to provide care to patients who were reluctant or unable to leave their homes for a variety of reasons, typically related to being in a poor state of mental health. Providers stated that video visits allowed them to help bridge the gap in treatment without requiring the patient to be healthy or motivated enough to come into the office. With video visits, providers were able to reach patients who needed help and improve their mental health.

Providers discussed varied levels of satisfaction with conducting video visits. Positive factors related to job satisfaction included patient convenience and being able to work from home. Factors that inhibited provider satisfaction were the limited rapport with video visits, increased eye strain and dissatisfaction with technical issues. Providers commonly noted their perspective on the importance of provider autonomy and having control over how often they conduct video visits as being key to their satisfaction.

Covid-19 was a major factor in the study, with the subsequent increase in video visit volumes due to more widespread adoption by providers and patients. Providers had different attitudes toward willingness to adopt video visits and how often they would like to conduct video visits. On one hand, Covid increased show rates and patient engagement in care. On the other hand, some providers stated that their experience with video visits during Covid had worsened due to increased strain on the network.

VI. "Provider at Home" Initiative

While almost all KPNW providers were deployed to their homes due to Covid-19, KPWA providers largely remained working in the clinic in private offices. Therefore, an important

caveat is that all but two KPNW providers only had experience working from home due to Covid. Providers were interviewed in May, approximately 2 months after transition to work from home.

A. Provider Satisfaction

Most providers who had experienced working from home stated they felt more satisfied and less burned out. Providers enjoyed no longer having a commute, having a flexible schedule, being able to more easily handle life and family responsibilities, being able to sleep more and exercise more frequently, improved mood and better relationships with their families and patients. Providers stated that being able to work from home made their jobs feel more sustainable and that they were more likely to stay with the organization throughout their career.

In addition, providers noted that team-based work and collaboration with colleagues was key to their satisfaction. Providers had varying perspectives on whether virtual collaboration with colleagues was as satisfying as in-person collaboration.

Other factors related to satisfaction included technical issues, provider attitude toward technical issues and the presence of a window in their work space. While technical issues were largely seen as a dissatisfier, providers had varying attitudes toward technical issues. Some providers stated that technical issues made them seem more human to the patients, allowed them to build more rapport, and dismantled the traditional power dynamic of a provider-patient relationship. Others stated that technical issues caused stress and physical ailments such as neck pain and headaches. The presence of a window in the workspace was associated with higher satisfaction.

B. Provider Burnout and Turnover

A few providers mentioned their workload is higher with video visits due to patients being more likely to show for the visits. Providers generally agreed that this additional workload was less burdensome due to the flexibility and work-life balance gained from working from home. Working from home also allowed other stressors such as commute to be minimized. While the majority of providers preferred to work from home on a part- or full-time basis, some providers preferred to work full-time in the clinic due largely to leadership responsibilities or a desire to keep boundaries between work and life very separate.

Providers were asked about their ideal work schedule, including the number of hours they would prefer to work each week (part- or full-time) and their preferred work location- clinic or home. Providers were also asked that if they could have this ideal schedule, if they would be more likely to stay in the organization, and also if they would be more likely to recommend the organization as a good place to work to family and friends. Approximately 95% of providers said they would be more likely to stay in the organization, with 5% of providers responding they would stay with the organization regardless of being able to work their ideal schedule. All providers responded that working their ideal schedule would make them more likely to recommend the organization as a good place to work. Therefore, the "provider at home" initiative appears to protect against turnover and may be able to help with recruitment and referral efforts, or the ability for the organization to recruit providers based on recommendations and referrals from their existing providers.

Most providers discussed enjoying working for Kaiser Permanente, stated their intention to stay with the company and likelihood to recommend the company as a good place

to work. Overall, providers saw flexibility, including part-time hours and a work from home option, as key elements of successful organizational recruitment efforts.

C. Supporting and Inhibiting Factors

The most common factor supporting the delivery of the "provider at home" initiative was providers to have organizational support to set up provider workstations at home, ensuring they had the right equipment and set-up to ensure a professional and quality video visit experience with patients. Providers also requested more video visit training on a variety of topics, including how to conduct video visits, how to set up their web cam, how to build rapport during a video visit and basic troubleshooting tips. In addition, providers requested more patient education to help patients become more comfortable with video visits.

VII. Opportunities and Next Steps

Providers shared several recommendations for further enhancing and improving video visit delivery to mental health patients. These recommendations included enhancing the technology to improve the experience of providers and patients, and particularly, improving the ease of sending screening questionnaires as well as reviewing them. Providers also requested the ability to more easily send documents, including mental health patient education tools to promote skill-building. As stated above, providers also commonly requested more provider training as well as patient education.

Providers also discussed opportunities for video visits to improve access to care. Three providers discussed how allowing providers to work from home on a part- or full-time basis would allow more sharing of previously private offices. This would allow the organization to

hire more mental health providers by decreasing the impact of limited office space. More mental health providers means better access to mental health treatment.

In addition, providers discussed how video visits could enable clinician/patient matching that was not limited by geography. Providers discussed the provider-patient relationship as being key to treatment and the benefits of finding a good fit, removing geography as a limitation. Providers also discussed how video visits and the "provider at home" initiative could be key to improve recruitment efforts by the organization. Providers stated that offering flexible hours, part-time hours and the option of working from home part-time or full-time were key to recruitment, based on discussions with their friends and colleagues in the field. Improving recruitment efforts would also improve access to mental health care due to the limited supply of mental health providers and desire to competitively recruit top mental health provider candidates.

B. Limitations

Participants were interviewed during the Covid-19 pandemic. Therefore, their perceptions may not be completely generalizable to a non-pandemic environment. Covid-19 had many unique impacts on video visits in mental health. First, "stay at home" orders and business shutdowns caused patients to use video visits much more frequently as they were avoiding clinics in order to reduce their exposure to the virus. Moreover, smaller clinics were shut down between March and May 2020. This led to a significant increase in video visit use.

The majority of providers only had work from home experience during the Covid-19 pandemic which is a significant limitation of the study.

Another limitation to the study is with regards to patient age data. During the time period where data were collected, adolescents and teens were not able to access video visits from home. Instead, these patients had to come to a clinic to have a video visit with a provider at another clinic. This was due to these patients not having access to video visits on their KP accounts due to privacy issues with this age group. This may have limited the use of video visits in this age group.

C. Implications for Practice

I. "Provider at home" initiative

A. Access Implications

This initiative will also have access implications. Access is currently constrained by the availability of office space. This is a lose-lose scenario for the organization, who is paying a high cost for its real estate footprint while also contending with access issues, particularly in mental health. If office space is used more efficiently, by allowing providers to work from home full-time or part-time, therefore allowing for shared office spaces, Kaiser Permanente could hire more mental health providers in order to expand access to care.

B. Recruitment Implications

Freeing up office space will also have implications with regards to Kaiser Permanente's recruitment practices. Perhaps one driver of recruiting mental health providers is lack of office space. Should this barrier be removed or reduced, the organization may be able to recruit and hire mental health provides for part-time positions. Several interviewees stated that they had attempted to recruit colleagues to the organization and the main barrier to successful recruitment was their

colleagues' desire to work part-time hours. Therefore, by offering part-time hours and a work from home option in addition to its benefit package, Kaiser Permanente could increase its competitive edge in the mental health recruitment space.

II. Provider support and training

A. Professional workspaces at home

Providers wishing to work from home will require organizational support to ensure they are conveying a professional image. This will require the organization to provide equipment such as laptops and dual monitors, per provider preference. Some providers may also require help with limiting noise from children and pets and a privacy screen in order to present a professional image.

B. Technology Improvements

i. Video visit platform

By far, the most substantial dissatisfier with video visits was the unstable and unreliable nature of the video visit platform. Providers noted common technical issues during video visits which impeded their ability to provide quality care to patients. Common issues include poor video resolution, audio lag, the patient being unable to connect to the platform and either the patient or provider being disconnected in the midst of a video visit.

ii. Screening questionnaires

Screening questionnaires are essential to mental health practice. Video visits do not currently allow a workflow for providers to quickly and easily send screening questionnaires to patients. Similarly, video visit workflows do not allow providers to

quickly and easily ascertain if a patient has filled out a screening questionnaire. Screening questionnaires are routinely completed by patients prior to an office visit and this practice should be enabled technologically via video visits. Screening questionnaires give the provider important insight into the patient's mental health and suicidal ideations. Clunky workflows are a major risk and may cause providers to miss important information.

Similarly, mental health providers often share tools and documents with patients during office visits. With video visits, providers currently have to scan documents and send them to patients via a secure message. This labor-intensive workflow causes providers to not have the time to share materials, hence limiting patient education and access to helpful tools. Thus this workflow needs to be supported with technology to make sending documents to patients far easier.

III. Implications for Research

This was an exploratory study and the first of its kind. An exhaustive review found no evidence on the impact of video visits on mental health provider satisfaction, burnout and turnover. There are many opportunities to complete subsequent studies. Examples include completing a similar study at the end of 2020 or beginning of 2021, from a post-Covid perspective. Another example of a subsequent study is exploring how video visits promote patient consistency in attending appointments and impact on health outcomes.
This could be a two arm study, with one arm following patients receiving face to face care and the other arm following patients receiving care through video visits. The researchers could note the frequency with which patients in each arm access care and track health outcomes.

E. Conflict of Interest Statement

The student works for Kaiser Permanente Washington.

CITED LITERATURE

Aarons, G. A., & Sawitzky, A. C. (2006). Organizational culture and climate and mental health provider attitudes toward evidence-based practice. *Psychological Services, 3*(1), 61-72.

Abel, E. A., Shimada, S. L., Wang, K., Ramsey, C., Skanderson, M., Erdos, J., … Brandt, C. A. (2018). Dual Use of a Patient Portal and Clinical Video Telehealth by Veterans with Mental Health Diagnoses: Retrospective, Cross-Sectional Analysis. Journal of Medical Internet Research, 20(11). doi: 10.2196/11350

Adams, S. V., Mader, M. J., Bollinger, M. J., Wong, E. S., Hudson, T. J., & Littman, A. J. (2019). Utilization of Interactive Clinical Video Telemedicine by Rural and Urban Veterans in the Veterans Health Administration Health Care System. The Journal of Rural Health, 35(3), 308–318. doi: 10.1111/jrh.12343

Ryan, O., Murphy, D., Krom, L. (2012). Vital Signs: Taking the Pulse of the Addiction Treatment Workforce, A National Report, Version 1. Kansas City, MO: Addiction Technology Transfer Center National Office in residence at the University of Missouri-Kansas City.

Agency for Healthcare Research and Quality, The Department of Health & Human Services. (2009). HCUP Facts and Figures: Statistics on Hospital-based Care in the United States, 2009. American Hospital Association. The promise of telehealth for hospitals, health systems and their communities. Washington, DC.

An PG, Manwell LB, Williams ES, Laiteerapong N, Brown RL, Rabatin JS, et al (2013). Does a higher frequency of difficult patient encounters lead to lower quality care? J Fam Pract. 62(1):24–29.

Association of American Medical Colleges. Tuesday, February 13th, 2018. Stacey Weiner. Addressing the escalating psychiatrist shortage. Retrieved on September 11th, 2019 from https://news.aamc.org/patient-care/article/addressing-escalating-psychiatrist-shortage/

Backhaus, A., Agha, Z., Maglione, M. L., Repp, A., Ross, B., Zuest, D., . . . Thorp, S. R. (2012). Videoconferencing psychotherapy: A systematic review. Psychological Services, 9(2), 111-131.

Barton C, Morris R, Rothlind J, Yaffe K (2011). Video-telemedicine in a memory disorders clinic: evaluation and management of rural elders with cognitive impairment. Telemed J E Health. 17(10):789–793.

Basher, R. L., Armstrong, P. A., Youssef, Z. I. (1975). Telemedicine: Explorations in the use of telecommunications in health care. Springfield, IL: Charles C. Thomas.

Bodenheimer T., & Sinsky C. (2014). From triple to quadruple aim: care of the patient requires care of the provider. Ann Fam Med. 12(6):573–576. doi: 10.1370/afm.1713.

Brian J. Grady. A comparative cost analysis of an integrated military telemental health-care service (2004). Telemedicine Journal and e-Health. July8(3): https://doi.org/10.1089/15305620260353180
Buckley D1, Weisser S (2012). Videoconferencing could reduce the number of mental health patients transferred from outlying facilities to a regional mental health unit. Aust N Z J Public Health. Oct;36(5):478-82. doi: 10.1111/j.1753-6405.2012.00915

Buchbinder SB, Wilson M, Melick CF, Powe N (2001). Primary care physician job satisfaction and turnover. Am J Manag Care. 7(7):701–713.

Buche J., Beck A., Singer P., Casemore B. & Nelson D (2017). Workforce Factors Impacting Behavioral Health Service Delivery to Vulnerable Populations: a Michigan Pilot Study. Behavioral Health Workforce Research Center. Retrieved on Oct 30th, 2019 at http://www.behavioralhealthworkforce.org/wp-content/uploads/2017/05/FA2P2_Vulnerable-Pop-BH-Serv-Del_Final-Report.pdf

Burkus, D. (2011). Building the strong organization: Exploring the role of organizational design in strengths-based leadership. 2011; Journal of Strategic Leadership, 3(1), 54-66

Center for Behavioral Health Statistics and Quality (2015). Behavioral health trends in the United States: Results from the 2014 National Survey on Drug Use and Health. HHS Publication No. SMA 15-4927, NSDUH Series H-50. Available from http://www.samhsa.gov/data/sites/default/files/NSDUH-FRR1-2014/NSDUH-FRR1-2014.htm

Centers for Disease Control and Prevention (CDC), National Center for Injury Prevention and Control (NCIP) (2014). Web-based injury statistics query and reporting system (WISQARS) [Internet]. Atlanta: CDC. Available from: https://www.cdc.gov/injury/wisqars/index.html.

Centers for Disease Control and Prevention (2014). 10 Leading Causes of Death by Age Group, United States - 2014. National Center for Injury Prevention and Control. http://www.cdc.gov/injury/images/lc-charts/leading_causes_of_death_age_group_2014_1050w760h.gif. Accessed October 5, 2016.

Chapman DP, Perry GS, Strine TW (2005). The vital link between chronic disease and depressive disorders. Preventing Chronic Disease. Atlanta, GA: Centers for Disease Control and Prevention. Available from: http://www.cdc.gov/pcd/issues/2005/jan/04_0066.htm

Choi NG, Marti CN, Bruce ML, Hegel MT, Wilson NL, Kunik ME (2014). Six-month postintervention depression and disability outcomes of in-home telehealth problem-solving therapy for depressed, low-income homebound older adults. Depress Anxiety. 31:653–61.

Cohen Veterans Network, National Council for Behavioral Health (2018). America's Mental Health 2018. Retrieved on 9/9/2019 from https://www.cohenveteransnetwork.org/wp-content/uploads/2018/10/Research-Summary-10-10-2018.pdf

Colton, C.W. & Manderscheid, R.W. (2006). Congruencies in Increased Mortality Rates, Years of Potential Life Lost, and Causes of Death Among Public Mental Health Clients in Eight States. Preventing Chronic Disease: Public Health Research, Practice and Policy, 3(2), 1–14. Division of Adult and Community Health, Centers for Disease Control and Prevention. Public Health Action Plan To Integrate Mental Health Promotion and Mental Illness Prevention with Chronic Disease Prevention, 2011–2015. Atlanta, GA: 2011. Available from http://www.mhrb.org/dbfiles/docs/Brochure/11_220990_Sturgis_MHMIActionPlan_FINAL-Web_tag508.pdf [PDF - 847KB]

Creswell, J. W. (2003). Research design: Qualitative, quantitative, and mixed methods approaches (2nd ed.). Thousand Oaks, CA: Sage.

Dieleman, J.L., Baral, R., & Birger, M. (2016). U.S. Spending on Personal Health Care and Public Health, 1996–2013. JAMA. doi:10.1001/jama.2016.16885

DiMatteo MR, Sherbourne CD, Hays RD, Ordway L, Kravitz RL, McGlynn EA, et al (1993). Physicians' characteristics influence patients' adherence to medical treatment: results from the medical outcomes study. Health Psychol. 1993;12(2):93. doi: 10.1037/0278-6133.12.2.93.

Dyrbye LN, Varkey P, Boone SL, Satele DV, Sloan JA, Shanafelt TD (2013). Physician satisfaction and burnout at different career stages. Mayo Clin Proc. 88(12):1358–1367. doi: 10.1016/j.mayocp.2013.07.016.

Eaton DK, Kann L, Kinchen S, et al (2007). Youth risk behavior surveillance—United States, 2007. Surveillance summaries, June 6. MMWR. 2008;57(SS-4):1–131. Atlanta, GA: Centers for Disease Control and Prevention. Available from http://www.cdc.gov/mmwr/preview/mmwrhtml/ss5704a1.htm

Flodgren G, Rachas A, Farmer AJ, Inzitari M, Shepperd S (2015). Interactive telemedicine: effects on professional practice and health care outcomes. Cochrane Database of Systematic Reviews 2015, Issue 9. Art. No.: CD002098. DOI: 10.1002/14651858.CD002098.pub2.

Fortney JC, Maciejewski ML, Tripathi SP, et al (2011). A budget impact analysis of telemedicine-based collaborative care for depression. Med. Care. Sep;49(9):872-80. doi: 10.1097/MLR.0b013e31821d2b35. PMID: 21623240.

Fortney JC, Pyne JM, Edlund MJ, et al (2007). A randomized trial of telemedicine-based collaborative care for depression. J. Gen. Intern. Med. Aug;22(8):1086-93. doi: 10.1007/s11606-007-0201-9. PMID: 17492326.

Fortney JC, Pyne JM, Kimbrell TA, et al (2015). Telemedicine-based collaborative care for posttraumatic stress disorder: a randomized clinical trial. JAMA Psychiatry. Jan;72(1):58-67. doi: 10.1001/jamapsychiatry.2014.1575. PMID: 25409287.

Fortney JC, Pyne JM, Mouden SB, et al (2013). Practice-based versus telemedicine-based collaborative care for depression in rural federally qualified health centers: a pragmatic randomized comparative effectiveness. Focus, 15(3), 361–372. doi: 10.1176/appi.focus.15306

Fortney JC1, Pyne JM, Edlund MJ, Williams DK, Robinson DE, Mittal D, Henderson KL (2007). A randomized trial of telemedicine-based collaborative care for depression. J Gen Intern Med. 22(8):1086-93.

Fortney JC1, Pyne JM, Mouden SB, Mittal D, Hudson TJ, Schroeder GW, Williams DK, Bynum CA, Mattox R, Rost KM (2013). Practice-based versus telemedicine-based collaborative care for depression in rural federally qualified health centers: a pragmatic randomized comparative effectiveness trial. Am J Psychiatry. 170(4):414-25. doi: 10.1176/appi.ajp.2012.12050696.

Fortney JC, Pyne JM, Kimbrell TA, Hudson TJ, Robinson DE, Schneider R, Moore WM, Custer PJ, Grubbs KM, Schnurr PP (2015). Telemedicine-based collaborative care for posttraumatic stress disorder: a randomized clinical trial. JAMA Psychiatry. 72(1):58-67. doi: 10.1001/jamapsychiatry.2014.1575.

Freiburger, G., Holcomb, M., Piper, D. (2007). The STARPAHC collection: Part of an archive of the history of telemedicine. Journal of Telemedicine and Telecare, 13, 221-223. doi:10.1258/135763307781458949

Frueh, B. C., Monnier, J., Yim, E., Grubaugh, A. L., Hamner, M. B., Knapp, R. G. (2007). A randomized trial of telepsychiatry for post-traumatic stress disorder. Journal of Telemedicine and Telecare, 13, 142-147. doi:10.1258/135763307780677604

Garcia, H. et al. (2015). Burnout among psychiatrists in the Veterans Health Administration. Burnout Research,2:4, 108-114. https://doi.org/10.1016/j.burn.2015.10.001

Gardner, M. R., Jenkins, S. M., O'MD 10, D. A., Wood, D. L., Spurrier, B. R., Pruthi, S. (2015). Perceptions of video-based appointments from the patient's home: A patient survey. Telemedicine and E-Health, 21, 281-285. doi:10.1089/tmj.2014.0037

Gloff, N. E., et al (2015). "Telemental Health for Children and Adolescents." International Review of Psychiatry, 27(6): 513–524., doi:10.3109/09540261.2015.1086322.

Godleski, L., Nieves, J. E., Darkins, A., Lehmann, L. (2008). VA telemental health: Suicide assessment. Behavioral Sciences and the Law, 26, 271-286. doi:10.1002/bsl.811

Grol R, Mokkink H, Smits A, van Eijk J, Beek M, Mesker P, et al (1985). Work satisfaction of general practitioners and the quality of patient care. Fam Pract. 2(3):128–135. doi: 10.1093/fampra/2.3.128.

Gros, D. F., Lancaster, C. L., López, C. M., & Acierno, R. (2016). Treatment satisfaction of home-based telehealth versus in-person delivery of prolonged exposure for combat-related PTSD in veterans. Journal of Telemedicine and Telecare, 24(1), 51–55. doi: 10.1177/1357633x16671096

Grubbs KM, Fortney JC, Dean T, Williams JS, Godleski L (2015). A comparison of mental health diagnoses treated via interactive video and face to face in the veterans' healthcare administration. Telemed J E Health 2015;21:564-6.

Haas JS, Cook EF, Puopolo AL, Burstin HR, Cleary PD, MLT 8n TA (2000). Is the professional satisfaction of general internists associated with patient satisfaction? J Gen Intern Med. 15(2):122–128. doi: 10.1046/j.1525-1497.2000.02219.x.

Hamidi M., Boyman B., Sandborg C., et al. (2017). "The Economic Cost of Physician Turnout Attributable to Burnout," presentation at 2017 American Conference on Physician Health, San Francisco, Oct. 12-13, 2017.

Hammond, S.A. (2013). The thin book of appreciative inquiry (3rd ed.). Oregon: Thin Book Publishing Co.

Han S., Shanafelt T., et al. (2017). "An Economic Evaluation of the Cost of Physician Burnout in the U.S.," presentation at 2017 American Conference on Physician Health, San Francisco, Oct. 12-13, 2017.

Hande Musdal, Brian Shiner, TeChieh Chen, Mehmet E. Ceyhan, Bradley V. Watts, James Benneyan, In-Person and Video-Based Post-Traumatic Stress Disorder Treatment for Veterans: A Location–Allocation Model, Military Medicine, Volume 179, Issue 2, February 2014, Pages 150–156, https://doi.org/10.7205/MILMED-D-13-00177

Harrell, K. M., Wilkins, S. S., Connor, M. K., Chodosh, J. (2014). Telemedicine and the evaluation of cognitive impairment: The additive value of neuropsychological assessment. Journal of the American Medical Directors Association, 15, 600-606. doi:10.1016/j.jamda.2014.04.015

Health Resources and Services Administration/National Center for Health Workforce Analysis; Substance Abuse and Mental Health Services Administration/Office of Policy, Planning, and Innovation. National projections of supply and demand for selected behavioral health practitioners: 2013–2025. Rockville, MD: HRSA. https://bhw.hrsa.gov/sites/default/files/bhw/health-workforce-analysis/research/projections/behavioral-health2013-2025.pdf. Published 2016.

Healthy Aging Program, Centers for Disease Control and Prevention. Alzheimer's Disease. Atlanta, GA: 2011. Available from http://www.cdc.gov/aging/aginginfo/alzheimers.htm

Healthy People 2020. Mental Health. Retrieved on Sep 11th, 2019 at https://www.healthypeople.gov/2020/leading-health-indicators/2020-lhi-topics/Mental-Health/

Herbert, M. S., Afari, N., Liu, L., Heppner, P., Rutledge, T., Williams, K., … Wetherell, J. L. (2017). Telehealth Versus In-Person Acceptance and Commitment Therapy for Chronic Pain: A Randomized Noninferiority Trial. The Journal of Pain, 18(2), 200–211. doi: 10.1016/j.jpain.2016.10.014

Hill, Jeffrey V., et al. “Utility of Real-Time Video Teleconferencing in Conducting Family Mental Health Sessions: Two Case Reports.” Telemedicine Journal and e-Health, vol. 7, no. 1, 2001, pp. 55–59., doi:10.1089/153056201300093930.

Hilt, R. J., Barclay, R. P., Bush, J., Stout, B., Anderson, N., Wignall, J. R. (2015). A statewide child telepsychiatry consult system yields desired health system changes and savings. Telemedicine and E-Health, 21, 533-537. doi:10.1089/tmj.2014.0161

Hilty, D. M., Luo, J. S., Morache, C., Marcelo, D. A., Nesbitt, T. S. (2002). Telepsychiatry: An overview for psychiatrists. CNS Drugs, 16, 527-548. doi:10.2165/00023210-200216080-00003

Hilty, D. M., Marks, S. L., Urness, D., Yellowlees, P. M., Nesbitt, T. S. (2004). Clinical and educational telepsychiatry applications: A review. Canadian Journal of Psychiatry, 49(1), 12-23.

Hilty, D. M., Yellowlees, P. M., Parrish, M. B., Chan, S. (2015). Telepsychiatry: Effective, evidence-based, and at a tipping point in health care delivery? Psychiatric Clinics of North America, 38, 559-592. doi:10.1016/j.psc.2015.05.006

Insel, T.R. (2008). Assessing the Economic Costs of Serious Mental Illness. The American Journal of Psychiatry. 165(6), 663-665

Interian, A., King, A. R., Hill, L. M. S., Robinson, C. H., & Damschroder, L. J. (2018). Evaluating the Implementation of Home-Based Videoconferencing for Providing Mental Health Services. Psychiatric Services, 69(1), 69–75. doi: 10.1176/appi.ps.201700004

Isometsa, E.T., (2001). Psychological Autopsy Studies - A Review. European Psychiatry, 16(7), 379-85. Jenkins-Guarnieri MA, Pruitt LD, Luxton DD, Johnson K. Patient Perceptions of Telemental Health: Systematic Review of Direct Comparisons to In-Person Psychotherapeutic Treatments. Telemedicine Journal and E-Health. 2015;21:652–660.

Jenkins-Guarnieri, M. A., Pruitt, L. D., Luxton, D. D., Johnson, K. (2015). Patient perceptions of telemental health: Systematic review of direct comparisons to in-person psychotherapeutic treatments. Telemedicine and E-Health, 21, 652-660. doi:10.1089/tmj.2014.0165

Jonas BS, Franks P, Ingram DD. Are symptoms of anxiety and depression risk factors for hypertension? Arch Fam Med. 1997;6:43–49.

Jonas BS, Mussolino ME. Symptoms of depression as a prospective risk factor for stroke. Psychosom Med. 2000;62:463–471.

Kadis, J (2001). Workforce Planning: How to Recruit and Retain Mental Health Workers. Independent Living Research Utilization: Community Living Brief; 2:1. Retrieved on Oct 30th, 2019 from: http://www.advancingstates.org/sites/nasuad/files/hcbs/files/23/1100/Vol_2_Iss_1.pdf

Kaiser Permanente (2019). Fast Facts. Retrieved on Oct 25th, 2019 from https://about.kaiserpermanente.org/who-we-are/fast-facts.

Kane, L (2020). Medscape National Physician Burnout and Suicide Report 2020: The Generational Divide. Retrieved on January 15th, 2020 from: https://www.medscape.com/slideshow/2020-lifestyle-burnout-6012460?src=WNL_physrep_200115_burnout2020&uac=321584CK&impID=2245484&faf=1#12

Kessler RC, Demler O, Frank RG et al (2005). Prevalence and treatment of mental disorders, 1990 to 2003. New England Journal of Medicine. 352(24):2515-23.

Konrad, T.R., Williams, E.S., Linzer, M...., and SGIM Career Satisfaction Study Group (1999). Measuring physician job satisfaction in a changing workplace and a challenging environment. *Med Care*. 1999; 37: 1174–1182

Lake, J., & Turner, M. S. (2017). Urgent Need for Improved Mental Health Care and a More Collaborative Model of Care. The Permanente journal, 21, 17–024. doi:10.7812/TPP/17-024

Lando J, Marshall Williams S, Sturgis S, et al. A logic model for the integration of mental health into chronic disease prevention and health promotion. Prev Chronic Dis. 2006 April;3(2):A61.

Lee A1, Sikka N, O'Connell F, Dyer A, Boniface K, Betz J. Telepsychiatric assessment of a mariner expressing suicidal ideation. Int Marit Health. 2015;66(1):49-51. doi: 10.5603/IMH.2015.0012.

Lindsay, J. A., Kauth, M. R., Hudson, S., Martin, L. A., Ramsey, D. J., Daily, L., Rader, J. (2015). Implementation of video telehealth to improve access to evidence-based psychotherapy for posttraumatic stress disorder. Telemedicine and E-Health, 21, 467-472. doi:10.1089/tmj.2014.0114

Linn LS, Brook RH, Clark VA, Davies AR, Fink A, Kosecoff J (1985). Physician and patient satisfaction as factors related to the organization of internal medicine group practices. Med Care. 23(10):1171–1178. doi: 10.1097/00005650-198510000-00006.

Linzer M, Poplau S, Brown R, Grossman E, Varkey A, Yale S, et al (2017). Do work condition interventions affect quality and errors in primary care? Results from the healthy work place study. J Gen Intern Med. 32(1):56–61. doi: 10.1007/s11606-016-3856-2.

Linzer M, Manwell LB, Williams ES, Bobula JA, Brown RL, Varkey AB, et al (2009). Working conditions in primary care: physician reactions and care quality. Ann Intern Med. 151(1):28–36. doi: 10.7326/0003-4819-151-1-200907070-00006.

Melville A (1980). Job satisfaction in general practice implications for prescribing. Soc Sci Med Med Psychol Med Sociol. 14(6):495–499. doi: 10.1016/0160-7979(80)90050-8.

Mental Health America. The State of Mental Health in America 2018. Retrieved from: https://www.mhanational.org/sites/default/files/2018%20The%20State%20of%20MH%20in%20America%20-%20FINAL.pdf

McCall T, Schwartz T, Khairat S. Acceptability of Telemedicine to Help African American Women Manage Anxiety and Depression. Stud Health Technol Inform. 2019 Aug 21;264:699-703. doi: 10.3233/SHTI190313.

McWilliams, J. K. (2015). Integrating telemental healthcare with the patient-centered medical home model. Journal of Child and Adolescent Psychopharmacology, 25, 1-5. doi:10.1089/cap.2015.0044 MedlinePlus, National Library of Medicine, National Institutes of Health. Child Mental Health. Bethesda, MD: 2011. Available from http://www.nlm.nih.gov/medlineplus/childmentalhealth.html

Merikangas KR, He J, Burstein M, et al (2010). Lifetime prevalence of mental disorders in U.S. adolescents: Results from the National Comorbidity Study–Adolescent Supplement (NCS-A). J Am Acad Child Adolesc Psychiatry. 49(10):980–989.

Merritt Hawkins (2018). The Silent Shortage. Retrieved on Sep 11th, 2019 at https://www.merritthawkins.com/uploadedFiles/MerrittHawkins/Content/News_and_Insights/Thought_Leadership/mhawhitepaperpsychiatry2018.pdf

Merritt Hawkins. 2017 Review of Physician and Advanced Practitioner Recruiting Incentives. Dallas, Texas. Retrieved on Sep 11th, 2019 at https://www.merritthawkins.com/uploadedFiles/MerrittHawkins/Pdf/2017_Physician_Incentive_Review_Merritt_Hawkins.pdf

Milliman Research Report. Addiction and mental health vs physical health: analyzing disparities in network use and provider reimbursement rates. December 2017 http://www.milliman.com/uploadedFiles/insight/2017/NQTLDisparityAnalysis.pdf

Mochari-Greenberger, H., Peters, A., Vue, L., & Pande, R. L. (2017). A Nationally Scaled Telebehavioral Health Program for Chronic Pain: Characteristics, Goals, and Psychological Outcomes. Telemedicine and e-Health, 23(8), 640–648. doi: 10.1089/tmj.2016.0188

Modai, Ilan, et al. “Cost Effectiveness, Safety, and Satisfaction with Video Telepsychiatry versus Face-to-Face Care in Ambulatory Settings.” Telemedicine and e-Health, vol. 12, no. 5, Oct. 2006, pp. 515–520., doi:10.1089/tmj.2006.12.515.

Mojtabai R, Olfson M, Sampson NA, et al. Barriers to mental health treatment: results from the National Comorbidity Survey Replication. Psychol Med. 2011;41(8):1751–1761. doi:10.1017/S0033291710002291

Morland, L. A., Greene, C. J., Rosen, C. S., Foy, D., Reilly, P., Shore, J., . . . Frueh, B. C. (2010). Telemedicine for anger management therapy in a rural population of combat veterans with posttraumatic stress disorder: A randomized non inferiority trial. Journal of Clinical Psychiatry, 71, 855-863. doi:10.4088/JCP.09m05604blu

Morland, Leslie A., et al. “Home-Based Clinical Video Teleconferencing Care: Clinical Considerations and Future Directions.” International Review of Psychiatry, vol. 27, no. 6, Feb. 2015, pp. 504–512., doi:10.3109/09540261.2015.1082986.

Morse, G., Salyers, M. P., Rollins, A. L., Monroe-DeVita, M., & Pfahler, C. (2012). Burnout in mental health services: a review of the problem and its remediation. Administration and policy in mental health, 39(5), 341–352. doi:10.1007/s10488-011-0352-1

Myers, K. M., Valentine, J. M., & Melzer, S. M. (2008). Child and Adolescent Telepsychiatry: Utilization And Satisfaction. Telemedicine and e-Health, 14(2), 131–137. doi: 10.1089/tmj.2007.0035

National Association of State Mental Health Program Directors Council. (2006). Morbidity and Mortality in People with Serious Mental Illness. Alexandria, VA: Parks, J., et al.
National Council for Behavioral Health. The Psychiatric Shortage Causes and solutions. March 28, 2017. Retrieved on Sep 11th, 2019 at https://www.thenationalcouncil.org/wp-content/uploads/2017/03/Psychiatric-Shortage_National-Council-.pdf

National Institutes of Health, National Institute of Mental Health (NIMH). NIMH strategic plan (revised 2008) [Internet]. Bethesda, MD: NIMH; 2008 [cited 2010 May 6]. Available from: http://www.nimh.nih.gov/about/strategic-planning-reports/index.shtml
National Institutes of Mental Health (2018). "Suicide." Retrieved September 9th, 2019, from https://www.nimh.nih.gov/health/statistics/suicide.shtml

National Research Council and Institute of Medicine, Committee on the Prevention of Mental Disorders and Substance Abuse Among Children, Youth, and Young Adults. Preventing mental, emotional, and behavioral disorders among young people: Progress and possibilities [Internet]. O'Connell ME, Boat T, Warner KE, editors. Washington: National Academies Press; 2009. p. 562. Available from: https://www.nap.edu/read/12480/chapter/1

National Research Council and Institute of Medicine, Committee on the Prevention of Mental Disorders and Substance Abuse Among Children, Youth, and Young Adults. Preventing mental, emotional, and behavioral disorders among young people: Progress and possibilities [Internet]. O'Connell ME, Boat T, Warner KE, editors. Washington: National Academies Press; 2009. p. 18. Available from: https://www.nap.edu/read/12480/chapter/1

Norman S. The use of telemedicine in psychiatry. Journal of Psychiatric and Mental Health Nursing. 2006 Dec;13(6): 771-777.

O'Reilly, R., Bishop, J., Maddox, K., Hutchinson, L., Fisman, M., Takhar, J. (2007). Is telepsychiatry equivalent to face-to-face psychiatry? Results from a randomized controlled equivalence trial. Psychiatric Services, 58, 836-843. doi:10.1176/appi.ps.58.6.836

Oakes, J., Battersby, M. W., Pols, R. G., & Cromarty, P. (2007). Exposure Therapy for Problem Gambling via Videoconferencing: A Case Report. Journal of Gambling Studies, 24(1), 107–118. doi: 10.1007/s10899-007-9074-4

Olfson M, Wang S, Wall M, Marcus SC, Blanco C. Trends in serious psychological distress and outpatient mental health care of US adults [published online November 28, 2018]. JAMA Psychiatry. doi:10.1001/jamapsychiatry.2018.3550

Pamela L. Owens, Ph.D., Kathryn R. Fingar, Ph.D., M.P.H., Kevin C. Heslin, Ph.D., Ryan Mutter, Ph.D., and Chelsea L. Booth, Ph.D. Emergency Department Visits Related to Suicidal Ideation, 2006-2013Healthcare Cost and Utilization Project Statistical Brief. AHRQ January 2017.

Patton, M.Q. (2015). Qualitative Research & Evaluation Methods (4th Edition). Thousand Oaks: SAGE Publications.

Pelton, D., Wangelin, B., Tuerk, P. (2015). Utilizing telehealth to support treatment of acute stress disorder in a theater of war: Prolonged exposure via clinical videoconferencing. Telemedicine and E-Health, 21, 382-387. doi:10.1089/tmj.2014.0111

Perry, K., Gold, S., & Shearer, E. M. (2019). Identifying and addressing mental health providers' perceived barriers to clinical video telehealth utilization. Journal of Clinical Psychology. doi: 10.1002/jclp.22770

Pruitt, L. D., Luxton, D. D., Shore, P. (2014). Additional clinical benefits of home-based telemental health treatments. Professional Psychology: Research and Practice, 45, 340-346. doi:10.1037/a0035461

Rath, T., & Conchie, B. (2008). Strengths-based leadership: Great leaders, great teams, and why people follow. New York: Gallup Press.

Reeves WC, Strine TW, Pratt LA, et al. Mental illness surveillance among adults in the United States. MMWR. 2011;60(3):1–32. Atlanta, GA: Centers for Disease Control and Prevention. Available from http://www.cdc.gov/mmwr/preview/mmwrhtml/su6003a1.htm?s_cid=su6003a1_w

Reid RJ, Coleman K, Johnson EA, et al (2010). The Group Health medical home at year two: cost savings, higher patient satisfaction, and less burnout for providers. Health Aff (Millwood). 2010;29(5):835–843.

Roehrig, 2016. Mental Disorders Top The List Of The Most Costly Conditions In The United States: $201 Billion HEALTH AFFAIRSVOL. 35, NO. 6: BEHAVIORAL HEALTH

Royal Society for Public Health (2016). Health in a Hurry. Retrieved on October 7th, 2019 from: https://www.rsph.org.uk/our-work/policy/wellbeing/commuter-health.html

Rural Health Research & Policy Centers. Supply and distribution of the behavioral health workforce in rural America. Rockville, MD: Federal Office of Rural Health Policy. www.ruralhealthresearch.org/publications/1058. Published September 2016. Accessed September 11, 2019.

Ruskin, P. E., Silver-Aylaian, M., Kling, M. A., Reed, S. A., Bradham, D. D., Hebel, J. R., . . . Hauser, P. (2004). Treatment outcomes in depression: Comparison of remote treatment through telepsychiatry to in-person treatment. American Journal of Psychiatry, 161, 1471-1476. doi:10.1176/appi.ajp.161.8.1471

Sally C. Curtin, M.A., Margaret Warner, Ph.D., and Holly Hedegaard, M.D., M.S.P.H. Increase in Suicide in the United States, 1999–2014. NCHS Data Brief No. 241, April 2016

SAMHSA-HRSA Center for Integrated Health Solutions (2017). Workforce Development Part 1: Recruitment and Retention of Behavioral Health Providers. Presented on November 28, 2017. Available at https://www.integration.samhsa.gov/about-us/Recruitment_and_Retention_of_Behavioral_Health_Providers_Presentation.pdf

Salmoiraghi, A., Hussain, S. (2015). A systematic review of the use of telepsychiatry in acute settings. Journal of Psychiatric Practice, 21, 389-393. doi:10.1097/PRA.0000000000000103
Schnurr, P. P., Friedman, M.J. Engel, C.C., Foa, E.B., Shea, M.T. Chow, B.K. et al (2007). Cognitive behavioral therapy for posttraumatic stress disorder in women. JAMA, 297 (2007), pp. 820-830.

Scheepers RA, Boerebach BC, Arah OA, Heineman MJ, Lombarts KM (2015). A systematic review of the impact of physicians' occupational well-being on the quality of patient care. Int J Behav Med. 22(6):683–698. doi: 10.1007/s12529-015-9473-3.

Seal, K. H., Maguen, S., Cohen, B., Gima, K. S., Metzler, T. J., Ren, L., … Marmar, C. R. (2010). VA mental health services utilization in Iraq and Afghanistan veterans in the first year of receiving new mental health diagnoses. Journal of Traumatic Stress. doi: 10.1002/jts.20493

Seidel RW1, Kilgus MD (2010). Agreement between telepsychiatry assessment and face-to-face assessment for Emergency Department psychiatry patients. J Telemed Telecare. 2014 Mar;20(2):59-62. doi: 10.1177/1357633X13519902. Epub 2014 Jan 10.

Shanafelt, T.D. Enhancing meaning in work: a prescription for preventing physician burnout and promoting patient-centered care. *JAMA*. 2009; 302: 1338–1340

Shanafelt TD, Bradley KA, Wipf JE, Back AL(2002). Burnout and self-reported patient care in an internal medicine residency program. Ann Intern Med. 136(5):358–367. doi: 10.7326/0003-4819-136-5-200203050-00008.

Shanafelt TD, Boone S, Tan L, Dyrbye LN, Sotile W, Satele D, et al (2012). Burnout and satisfaction with work-life balance among US physicians relative to the general US population. Arch Intern Med. 172(18):1377–1385. doi: 10.1001/archinternmed.2012.3199.

Shanafelt TD, Hasan O, Dyrbye LN, Sinsky C, Satele D, Sloan J, et al (2015). Changes in burnout and satisfaction with work-life balance in physicians and the general US working population between 2011 and 2014. Mayo Clin Proc. 90(12):1600–1613. doi: 10.1016/j.mayocp.2015.08.023.

Shanafelt, T.D., Mungo, M., Schmitgen, J. et al (2016). Longitudinal study evaluating the association between physician burnout and changes in professional work effort. *Mayo Clin Proc*. 2016; 91: 422–431

Shanafelt TD & Noseworthy JH (2017). Executive Leadership and Physician Well-being: Nine Organizational Strategies to Promote Engagement and Reduce Burnout. Mayo Clin Proc. 2017 Jan;92(1):129-146. doi: 10.1016/j.mayocp.2016.10.004. Epub 2016 Nov 18.

Shanafelt TD, Sloan JA, Habermann TM. The well-being of physicians (2003). Am J Med. 114(6):513–519. doi: 10.1016/S0002-9343(03)00117-7.

Singh S.P., Social Worker 5 D., Peters T. Accuracy of telepsychiatric assessment of new routine outpatient referrals. BMC Psychiatry. 2007 Oct 5;7:55.

Smucker Barnwell, S. V., Juretic, M. A., Hoerster, K. D., Van de Plasch, R., & Felker, B. L. (2012). VA Puget Sound Telemental Health Service to rural veterans: A growing program. Psychological Services, 9(2), 209-211. http://dx.doi.org/10.1037/a0025999

Spinelli WM (2013). The phantom limb of the triple aim. Mayo Clin Proc. 2013;88(12):1356–1357

Stalker, C. & Harvey, C. (2003). Professional burnout in social service organizations: A review of theory, research, and prevention (pp.1–56, Report). Waterloo, ON: Wilfrid Laurier University, Partnerships for Children and Families Project (Finding a Fit: Family

Strachan M., Gros D., Yuen E., Ruggiero K., Foa E. & Acierno R. Home-based telehealth to deliver evidence-based psychotherapy in veterans with PTSD Contemporary Clinical Trials. Volume 33, Issue 2, March 2012, Pages 402-409.

Stratton-Berkessel, R. (2010). Appreciative inquiry for collaborative solutions. San Francisco: John Wiley & Sons, Inc.

Substance Abuse and Mental Health Services Administration. (2018). Key substance use and mental health indicators in the United States: Results from the 2017 National Survey on Drug Use and Health (HHS Publication No. SMA 18-5068, NSUDH Series H-53). Rockville, MD: Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration.

Tang WK1, Chiu H, Woo J, Hjelm M, Hui E. Telepsychiatry in psychogeriatric service: a pilot study. Int J Geriatr Psychiatry. 2001 Jan;16(1):88-93.

The Urban Institute. Poverty's toll on mental health. www.urban.org/urban-wire/povertys-toll-mental-health. Published 2013. Accessed January 23, 2018.

Thiele, J. S., Doarn, C. R., Shore, J. H. (2015). Locum tenens and telepsychiatry: Trends in psychiatric care. Telemedicine and E-Health, 21, 510-513. doi:10.1089/tmj.2014.0159

Thomas, L., Capistrant, G. (2015). State telemedicine gaps analysis: Physician practice standards and licensure. Washington, DC: American Telemedicine Association.

Titov N, Hadjistavropoulos HD, Nielssen O, Mohr DC, Andersson G, Dear BF. From Research to Practice: Ten Lessons in Delivering Digital Mental Health Services. J Clin Med. 2019;8(8):1239. Published 2019 Aug 17. doi:10.3390/jcm8081239

Tönnies, Justus, et al. "Mental Health Specialist Video Consultations for Patients with Depression or Anxiety Disorders in Primary Care: Protocol for a Randomised Controlled Feasibility Trial." BMJ Open, vol. 9, no. 9, 2019, doi:10.1136/bmjopen-2019-030003.

Trockel, M., Bohman, B., Lesure, E., Hamidi, M. S., Welle, D., Roberts, L., & Shanafelt, T. (2018). A Brief Instrument to Assess Both Burnout and Professional Fulfillment in Physicians: Reliability and Validity, Including Correlation with Self-Reported Medical Errors, in a Sample of Resident and Practicing Physicians. *Academic psychiatry : the journal of the American Association of Directors of Psychiatric Residency Training and the Association for Academic Psychiatry*, *42*(1), 11–24. doi:10.1007/s40596-017-0849-3

U.S. Department of Education. (2014). 35th Annual Report to Congress on the Implementation of the Individuals with Disabilities Education Act, 2013. Washington, DC: U.S. Department of Education.

U.S. Department of Veteran Affairs Mental Health Services Suicide Prevention Program. (2012). Suicide Data Report, 2012. Kemp, J. & Bossarte, R.
US Burden of Disease Collaborators. The state of US health, 1990-2010: burden of diseases, injuries, and risk factors. JAMA, 310(6): 591-608, 2013.

Vahia, I. V., Ng, B., Camacho, A., Cardenas, V., Cherner, M., Depp, C. A., . . . Agha, Z. (2015). Telepsychiatry for neurocognitive testing in older rural Latino adults. American Journal of Geriatric Psychiatry, 23, 666-670. doi:10.1016/j.jagp.2014.08.006

Valdagno, M., Goracci, A., di Volo, S., Fagiolini, A. (2014). Telepsychiatry: New perspectives and open issues. CNS Spectrums, 19, 479-481. doi:10.1017/S1092852913000916

Veazie S, Bourne D, Peterson K, et al. Evidence Brief: Video Telehealth for Primary Care and Mental Health Services. Washington (DC): Department of Veterans Affairs (US); 2019 Feb. Available from: https://www.ncbi.nlm.nih.gov/books/NBK538994/

Vernig, P. M. (2016). Telemental Health: Digital Disruption and the Opportunity to Expand Care. Journal of the American Psychiatric Nurses Association, 22(1), 73-75. doi: 10.1177/1078390315623947

Wallace JE, Lemaire JB, Ghali WA (2009). Physician wellness: a missing quality indicator. Lancet. 374(9702):1714–1721. doi: 10.1016/S0140-6736(09)61424-0.

Watanabe-Galloway S, Madison L, Watkins KL, Nguyen AT, Chen LW5. Recruitment and retention of mental health care providers in rural Nebraska: perceptions of providers and administrators. Rural Remote Health. 2015;15(4):3392. Epub 2015 Nov 16.

Williams ES, Skinner AC (2003). Outcomes of physician job satisfaction: a narrative review, implications, and directions for future research. Health Care Manag Rev. 28(2):119–139. doi: 10.1097/00004010-200304000-00004.

APPENDICES

Appendix A: Interview Guide

Interview Guide

I. Introduction

Hello [interview name]. This is Lisa calling for your phone interview. I wanted to thank you for taking the time to speak with me today.

Did you have a chance to look over the information sheet about the study that I sent in the reminder email?

YES – Great!

NO –Do you still have a copy of it?

Yes, great.

No, I'll send that again.

Oral Consent

Before we begin, I need to take a moment to review some key information you should know about being in the study.

This interview is part of a research study. I am a Telehealth program manager at Kaiser Permanente Washington (KPWA) and am also a student in the Doctor of Public Health program at the University of Illinois, Chicago, specializing in health informatics. The findings gathered from this work will inform my dissertation, while also helping KP leaders understand how video visits in mental health can benefit our providers and patients.

Our goal is to learn from MHW providers how video visits impact your work, how they could affect your work-life balance and how video visits could be further improved to benefit patients and providers. The "provider at home" initiative allows providers to work from home, using video visits as a means to provide care to their patients. Therefore, we will discuss your perceptions on the impact of the "provider at home" initiative.

This interview guide is framed by appreciative inquiry, which is an approach to asking questions that focuses on building upon what is working well in an organization so that this positive growth can be sustained over time. You will notice that some of my questions are framed in a positive way; however, you are welcome to share any thoughts you might have, whether positive or negative.

There are no right or wrong answers. During the interview, you may skip any questions you would prefer not to answer.

Being in the study is voluntary and not part of your work time. This study is not an evaluation of your work, or the work done at your clinic. If you decide not to be in the study now or opt to withdraw from it in the future, it won't affect your employment at Kaiser Permanente.

The phone interview will be audio-recorded and typed up into a detailed transcript to make sure I fully capture the discussion. I will gather demographic information, including the region you work in, licensure and years of practice prior to beginning the recording so that it will not be captured in the recording. The transcript will be kept confidential and used for research purposes only. I will keep the linking files between the names and codes separate from the transcripts. Your name will not be included in the transcript and will instead have a code. I will destroy the audio-recording and transcripts within five years of study ending, by August 2025. Your name will not be used in study reports or included in the transcript.

While I am making every effort to ensure the confidentiality of this discussion, I cannot guarantee your privacy. It is possible that someone other than the researchers could find out you were in the study.

Do you have any questions about the study that I can answer for you? [Answer questions]

Are you ready to begin the interview?

YES Continue to Qualitative Interview- B

NO (Answer questions; Skip to D - Refusal; or reschedule)

B- Qualitative Interview

I. Demographic Questions

I will begin by asking you a few demographic questions to get an idea of your professional background.

A) What is your licensure?
   a. Psychiatrist
   b. Social Worker
   c. Masters Level Therapist (MLT)

B) How long have you been practicing?
   a. How long have you been practicing at Kaiser Permanente?

C) Which region do you work in?
   a. KPWA
   b. KPNW

II. Impact of Video Visits	
Constructs	**Research question 1. What are provider perceptions of video visits in mental health?**
Role Value Effectiveness	We are going to start off by talking about a time when you had a successful video visit. **A) Can you tell me about your favorite or most successful mental health video visit experience?** i. What were some of the factors that contributed to its success? ii. We will now turn to your perceptions about how video visits impact the patients' experience. From your standpoint as the provider, how do you perceive the patient benefits, if at all, from having the video visit? a. [If there was a benefit (X) mentioned] You mentioned X, can you provide me with an example that exemplified this benefit? iii. Can you think of any ways that video visits are especially beneficial to mental health patients?
III. Workflow/Efficiency	
Constructs	**(Research question 1a. What are the potential impacts of video visits on workflow and efficiency in mental health?)**
Efficiency Effectiveness Provider Satisfaction Burnout Turnover Retention	A) Which care modalities do you **currently** provide? a. (If both office and video visits, skip to B). b. (If just video visits, continue). i. Do you have **previous** experience conducting both office visits and video visits, even if not currently providing both services? 1. (If Yes, go to B). 2. (If No, go to V). B) How many years of experience do you have with providing video visits? a. Less than one year b. 1-3 years c. 3-5 years C) How has your perception of technology and video visits changed, if at all, due to COVID-19? D) (Asked if affirmative response to A or Ai) a. Length of visit

	i. Tell me about how you perceive that the length of office visits compares to that of video visits. 1. In what ways does appointment length affect your satisfaction as a provider? 2. How does appointment length affect your level of burnout? b. No show rates i. Tell me about any difference you have perceived in no show rates for video visits as compared to office visits? 1. How do no show rates for video visits affect your satisfaction as a provider? 2. How do no show rates for video visits affect your burnout as a provider?
IV. Provider Satisfaction/Burnout/Turnover	
Constructs	**(Research question 1. What issues and factors contribute to provider burnout and turnover in mental health?)** **(Research question 1a. What is the role and value of telehealth in addressing burnout and turnover?)** **(Research question 2. What are provider perceptions of the "provider at home" initiative?)** **(Research question 2a. How does the "provider at home" initiative impact burnout?)** **(Research question 2b. How does the "provider at home" initiative impact turnover?)** **(Research question 2c. How does the "provider at home" initiative impact provider satisfaction?)**
Provider Satisfaction Burnout Turnover	A) As a mental health provider, what are common stressors that you experience? B) What is your current schedule? a. Do you work part-time or full-time? b. Is your work clinic-based or do you work from home at all? i. How often do you work from home?

	C) Now imagine it's a year from now and you are working in your ideal schedule. Tell me what that would look like. a. Part-time or full-time hours? b. Balance between clinic-based and home-based work? c. If you could adopt this ideal schedule, what impact would this have on your life? i. How would this help your work-life balance? ii. How do you perceive telehealth as positively impacting provider burnout? iii. How do you perceive telehealth as positively impacting work-life balance? iv. How would this ideal schedule affect your satisfaction as a provider? v. How would this ideal schedule affect your level of burnout as a provider? vi. Would this ideal schedule make you more likely to stay at Kaiser Permanente? 1. Which components of this ideal schedule would be most important to you? 2. Why would this make you more or less likely to stay with the organization? vii. Would this make you more likely to recommend Kaiser Permanente as a good place to work to family/friends? 1. Why would this more or less likely to recommend the organization as a good place to work?
V. Future Vision of Video Visits	

Constructs	(Research question 1b. What factors impact video visit implementation in mental health?) (Research question 3. What are the opportunities and next steps to enhance video visit services in mental health?)
Role Value Strategy	A) How do you perceive video visits are currently working? B) Describe how you perceive video visits are not functioning optimally. C) Describe how video visits could be enhanced or optimized. a. How can video visits further improve access to care?

Thank you so much for taking the time to participate in this interview. We really appreciate your input as we continue to work to improve video visits for both patients and providers.

D Thanks Refusal

IF R ALREADY GAVE REFUSAL REASON; DO NOT ASK, JUST CODE ANSWER

It would help us with future studies to know the reasons people don't want to participate. Would you be willing to share your reasons?

RECORD REFUSAL REASON. RECORD ALL THAT APPLY.

Appendix B: Measurement Table

Measurement Table			
Research question 2. What are provider perceptions of video visits in mental health?			
Research question 2a. In what ways do video visits affect patient care? (role and value) **i. How do video visits support the provision of effective care?** **ii. How do video visits enhance the efficiency of care delivery?**			
Research question 2b. In what ways do video visits affect patient access? (role and value) **i. In what ways do video visits affect provider burnout and retention?**			
Research question 2c. What factors support and inhibit video visit delivery in mental health?			
Constructs	**Factors**	**Measures**	**Data Sources**
Role	• Access • Flexibility	• Qualitative measures with a-priori coding ○ Extraction of key terms and phrases ○ Thematic analysis	• Semi-structured Interviews
Value	• Distance • Care options • Access • Flexibility • Ease of Use • Technology	• Qualitative measures with a-priori coding ○ Extraction of key terms and phrases ○ Thematic analysis	• Semi-structured interviews
Efficiency	• Appointment lengths • No show rates • Effect on interaction	• No show rates (office/phone/video) • Appointment lengths (video) • Qualitative measures with a-priori coding ○ Extraction of key terms and phrases	• Enterprise Data Warehouse • Clarity • Semi-structured Interviews

		○ Thematic analysis	
Effectiveness	• Patient-provider interaction • Patient-provider relationship • Quality of care	• Qualitative measures with a-priori coding ○ Extraction of key terms and phrases ○ Thematic analysis	• Semi-structured Interviews
Research question 1. What issues and factors contribute to provider burnout and turnover in mental health?			
Research question 1a. What is the role and value of telehealth in addressing burnout and turnover?			
Research question 3. What are provider perceptions of the "provider at home" initiative?			
Research question 3a. How does the "provider at home" initiative affect work-life balance?			
Research question 3b. How does the "provider at home" initiative affect burnout?			
Research question 3c. How does the "provider at home" initiative affect turnover?			
Research question 3d. How does the "provider at home" initiative affect provider satisfaction?			
Research question 3e. What factors support or inhibit the delivery of the "provider at home" initiative?			
Constructs	**Factors**	**Measures**	**Data Sources**
Provider Satisfaction	• Personal Factors ○ Age, sex, years of practice • Intrinsic Factors ○ Inherent characteristics of the job; type and quality of patient interactions • Contextual Factors ○ Work environment, autonomy,	• Qualitative measures with a-priori coding ○ Extraction of key terms and phrases ○ Thematic analysis	• Document Review • Semi-structured interviews

	caseload, colleague relationships, perceived quality of care		

Burnout	• Work-life imbalance
	• Lack of control
	• Caseload
		• Quantitative Burnout Measure
		• Qualitative measures with a-priori coding
		  ○ Extraction of key terms and phrases
		  ○ Thematic analysis
			• Document Review
			• Semi-Structured Interviews

Turnover	• Work-life imbalance
	• Caseload
		• Qualitative measures with a-priori coding
		  ○ Extraction of key terms and phrases
		  ○ Thematic analysis
			• Document Review
			• Semi-Structured Interviews

Retention	• Professional development/training
	• Satisfaction
		• Qualitative measures with a-priori coding
		  ○ Extraction of key terms and phrases
		  ○ Thematic analysis
			• Document Review
			• Semi-Structured Interviews

Research question 4. What are the opportunities and next steps to enhance video visit services for both mental health care providers and patients?			
Constructs	**Factors**	**Measures**	**Data Sources**

Strategy	• Leadership
	• Context/environment
		• Qualitative measures with a-priori coding
		  ○ Extraction of key terms and phrases
		  ○ Thematic analysis
			• Semi-Structured Interviews

Appendix C: Institutional Review Board (IRB) Authorization Agreement

Institutional Review Board (IRB) Authorization Agreement

Name of Institution Providing IRB Review (Institution A): Kaiser Permanente Washington; IRB Registration # IRB00010902;

Name of Institution Relying on the Designated IRB (Institution B): University of Illinois at Chicago; FWA #: 00000083

The Officials signing below agree that Institution B may rely on the designated IRB for review and continuing oversight of its human subjects research described below:

Name of Project: Exploring the Impact of Video Visits in Mental Health from a Provider Lens in the Pacific Northwest

Name of PI at Institution A: Robert Penfold, PhD
IRB Study Identifier at Institution A: IRBNet #1586321

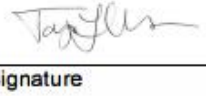
Name of PI at Institution B: Lisa Macdonald
IRB Study Identifier at Institution B: 2020-0638

Sponsor or Funding Agency: N/A
Award Number, if any:

The review performed by the designated IRB will meet the human subject protection requirements of Institution B's OHRP-approved FWA. The IRB at Institution/Organization A will follow written procedures for reporting its findings and actions to appropriate officials at Institution B. Relevant minutes of IRB meetings will be made available to Institution B upon request. Institution B remains responsible for ensuring compliance with the IRB's determinations and with the Terms of its OHRP-approved FWA. This document must be kept on file by both parties and provided to OHRP upon request.

Signatures:

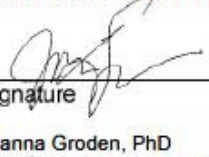
Authorized Official of Institution A



Signature — Date: 05/20/2020

Tanya L. Matthews, PhD
IRB Administrator
Kaiser Permanente
Washington Health Research Institute
1730 Minor Ave Suite 1600
Seattle, WA 98101
206-287-2871 (fax)
Tanya.L.Matthews@kp.org

Authorized Official of Institution B



Signature — Date: 05/20/2020

Joanna Groden, PhD
Vice Chancellor for Research
University of Illinois at Chicago
1737 W. Polk Street, Suite 310
Chicago, IL 60612
312-996-4995
jgroden@uic.edu

VITA

1404 173rd Ave NE, Bellevue, WA 98008 | 206-302-9643 | Lisameimac@outlook.com

Lisa MacDonald, MHA, DrPHc

PROFILE

Healthcare manager and leader with 13 years of relevant experience, including 7 years in project management. Experience includes strategic project management, management of primary care clinic, quality improvement, research and healthcare policy. Currently a doctoral candidate of health informatics in the dissertation phase.

SKILLS

- Project management
- Lean methodology
- Data analysis
- MS Project; SAS

EDUCATION

Doctor of Public Health
University of Illinois, Chicago
- **Health Informatics** specialization
- Currently in dissertation phase of program
- Completion: 2020

Masters of Health Administration
University of British Columbia
- Completion: 2014

Bachelor of Science
University of British Columbia
- Minor: English Literature

Additional Training:

2017: Lean Green Belt, VHA
2013: IHI Open School Quality of Care Certificate
2013: Journal Author Academy, Springer
2011: Fundamentals of Project Management, Global Knowledge
2011: CPR Level C with AED Certificate

RELEVANT EXPERIENCE

Telehealth Program Manager **August 2017- present**

Telehealth/Solution Center
Kaiser Permanente, Renton, Washington, USA
Implement strategic projects in partnership with executive leadership to improve the cost and quality of healthcare.

Project Manager **February 2015- August 2017**
Office of Analytics and Business Intelligence
Veterans Health Administration, Seattle, Washington, USA
Execute large, complex strategic initiatives, iteratively integrating feedback from key stakeholders. Lead two national committees tasked with generating evidence-based policies and innovative healthcare delivery models.

Research Associate **October 2013- May 2015**
School of Public Health, University of British Columbia, Vancouver, Canada
Conduct patient and healthcare provider interviews, analyze data using NVivo, develop manuscripts for publication and present at conferences as part of a nationally-funded (CIHR) initiative to facilitate supportive healthcare decision-making in minority populations. Developed a tool to facilitate discussions on Advanced Care Planning and goals of care, including a cultural framework.

Project Administrator **May 2011- January 2013**
Faculty of Medicine, University of British Columbia, Vancouver, Canada
Facilitated strategic, long-term healthcare IT quality improvement initiatives, and developed effective project management training material and led staff training workshops. Improved financial management of Faculty by creating fiscal year workbooks in Microsoft Excel to track project budgets of over $10M.

Shift Supervisor **Nov 2006- June 2011**
Aquarius Medical Clinic, Vancouver, Canada
Responsible for managing 12 staff at high-volume family practice and drop-in clinic. Led two quality improvement initiatives leading to 50% efficiency gains and improved patient care management. Commended for problem solving and ability to work under pressure.

COMMUNITY INVOLVEMENT/ACADEMIC LEADERSHIP

Volunteer **September 2014- February 2015**
Aboriginal Mother Center Society, Vancouver, Canada
Collaborated in planning of fundraising events and annual health fairs.

Academic Representative **September 2012- May 2014**
University of British Columbia, Vancouver, Canada
Chosen by cohort to act as student liaison between students, program management and professors.

Fundraising Coordinator **September 2007- May 2009**
BC Children's Hospital, Vancouver, Canada
Developed annual student fundraising event, raising over $30,000 in two years for BC Children's Miracle Network.

VP Administration/Recruitment **September 2007- May 2009**
Phi Delta Epsilon, University of British Columbia, Vancouver, Canada
Founded pre-medical undergraduate chapter on UBC campus, created corporate charter and internal procedure definitions and successfully recruited over 60 members in two years, with 100% retention.

HONORS AND AWARDS

President's Entrance Scholarship 2006-2011

Emma Hughson Scholarship 2006

PRESENTATIONS

Fussell L., Ho A. and Unger D. Preventive Ethics Through Expanding Education. Canadian Bioethics Society. Toronto, Canada; May 25-28, 2016. (Abstract Submitted).

Fussell, L. and Taylor, K. Promoting Respectful Research Practices through an "Indigenous Lens". Canadian Association of Research Ethics Boards. Vancouver, Canada; May 2, 2015.

Fussell, L. Enhancing Supportive Decision Making for Aboriginal Patients. Aboriginal Mother Center Society Health Fair. Vancouver, Canada; Oct 23, 2014.

Fussell, L. The Effect of Temperature and Humidity on Growth and Development of the Black Soldier Fly. Multidisciplinary Undergraduate Research Conference. Vancouver, Canada; March 24, 2012.

Fussell, L. Composting with the Black Soldier Fly. Invited presentation, UBC Farm. Vancouver, Canada; Aug 26, 2010.

PUBLICATIONS

Ho, A. and **Fussell, L.** Enhancing Supportive Decision Making for Aboriginal Patients and Families. (Submitted to CMAJ in November 2015).

Ho, A. and **Fussell, L.** Preventive Ethics Through Expanding Education. HEC Forum; February 2015.

LANGUAGE SKILLS

Fluent in mandarin Chinese, conversational Spanish and Japanese

RESEARCH INTERESTS

Access – telehealth – stakeholder engagement- healthcare reform- cost containment - systems redesign - new models of care - end of life care

THIS PAGE INTENTIONALLY LEFT BLANK