

RAMifications for Healthcare: Remote Area Medical and Healthcare Access in Rural Virginia

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Introduction

Health outcomes for rural Americans, who make up between 15% and 20% of the United States population¹, are significantly worse than those of individuals living in urban regions. Rural Americans are more likely to die from five of the leading causes of death in the country, including heart disease, cancer, unintentional injury, chronic lower respiratory disease and stroke², and have a two-year shorter average life expectancy: a disparity that has steadily increased from what was originally a 0.4 year discrepancy in 1969.³ Causes and contributing circumstances are complex and varied, but recent research has cited what are termed “deaths of despair,” an observed spike in suicide, drug- and alcohol-related deaths among the underprivileged working class in the United States.⁴ This context is the backdrop for this research, which investigates the additive effect of barriers to healthcare access on health attitudes and autonomy on rural Virginians seeking healthcare. In Rockbridge County, the rural Virginia county in which Washington and Lee University is situated, access to healthcare is challenging, with more than 30% of the population for instance relying on government subsidized health insurance, and nearly 10% of the population lacking health insurance altogether, limiting access to necessary, routine healthcare.⁵ Nonprofits like Remote Area Medical (RAM) attempt to address these disparities.

¹ Robin Warshaw, “Health Disparities Affect Millions in Rural U.S. Communities,” AAMC, October 31, 2017, <https://www.aamc.org/news-insights/health-disparities-affect-millions-rural-us-communities>.

² “About Rural Health,” August 2, 2017, <https://www.cdc.gov/ruralhealth/about.html>.

³ Gopal K. Singh and Mohammad Siahpush, “Widening Rural–Urban Disparities in Life Expectancy, U.S., 1969–2009,” *American Journal of Preventive Medicine* 46, no. 2 (2014), <https://doi.org/10.1016/j.amepre.2013.10.017>.

⁴ Anne Case and Angus Deaton, *Deaths of Despair and the Future of Capitalism* (Princeton (New Jersey): Princeton University, 2021).

⁵ “Rockbridge County, VA,” Data USA, accessed March 25, 2021, <https://datausa.io/profile/geo/rockbridge-county-va#health>.

Remote Area Medical, a healthcare nonprofit based in Rockford, Tennessee, attempts to shore up health disparities experienced by rural Americans, “prevent[ing] pain and alleviat[ing] suffering by providing free, quality healthcare to those in need.”⁶ This they accomplish through a care model of pop-up clinics. Distinct from permanent hospitals or brick-and-mortar clinics, pop-up clinics like RAM’s usually only remain in a community for a weekend and are designed to process a high volume of patients, often serving 1,000+ individuals over the space of three days.⁷ Organized and funded in collaboration with local community organizations, pop-up clinics provide medical, dental and optical care to patients on a first-come, first-served basis free of cost. The intended recipients of these clinics are those “in need,” such as rural, working class communities, affected by healthcare disparities. This research is thus interested in the ability of an organization like RAM to meet these patients’ needs through temporary, community-directed healthcare interventions—like weekend pop-up clinics. Although this topic is complex and multifaceted, this project will not address the logistics or scalability of RAM services. Rather, given the healthcare context within which RAM provides care and the effect of that context on patients’ attitudes toward healthcare, how ably can RAM meet rural patients’ needs? Despite having operated for almost thirty years, RAM has done little research or analysis of the population of patients they have served. This research will employ this unutilized data as a means to explore the possibility of RAM services as a replacement for traditional healthcare, by exploring RAM patients’ attitudes toward health and healthcare. Doing so has several components.

⁶ “About RAM,” accessed March 24, 2021, <https://www.ramusa.org/about/>.

⁷ “2018 Annual Report Remote Area Medical - RAM®,” Remote Area Medical (Remote Area Medical, 2018), <https://www.ramusa.org/wp-content/uploads/2018-Final-Annual-Report-.pdf>.

This research will investigate patient autonomy as an extension of patient dependence on RAM services. To that end, the first component of the research methodology will seek to understand whether RAM patients consider RAM services as a supplemental or replacement healthcare measure compared to more traditional forms of healthcare. Data to reach these conclusions will come from patient registration archives—these contain information about patient health, demographics and healthcare histories—from Virginia RAM clinics conducted over the last 15 years. This is followed up with a focus on underlying patient attitudes that form the foundation of those observations, furnished by in-person, in-depth interviews. These extend the investigation of dependency to one of patient agency and autonomy. Do RAM patients think of RAM as a replacement healthcare service in itself? If so, what consequences does that have for the kind of care they expect to receive? What obligations does RAM have to such a population? Do patients depend on RAM from a financial standpoint, or is hypothetical dependence on RAM services the product of intersectional needs related to healthcare? These are just some of the questions that this research will identify and address.

Indeed, the prescience of the dependence inquiry stems from media content RAM itself has released concerning attitudes among the patient population. RAM regularly publishes video interviews with patients, volunteers and staff that describe the desperation of their patient population. Stories in these videos—of patients suffering chronic pain and dental neglect before visiting a RAM clinic—coalesce in a narrative of RAM's necessity. This is important justification for the work RAM performs, though it is subject to bias in that RAM employees select the patients to interview, perform the interviews onsite at the RAM clinic, and edit them to create a narrative charitable to RAM's work. This research, then, is motivated in part to

ascertain the extent to which this necessity is genuine, enduring and ubiquitous among RAM patients. For instance, if the kinds of gratitude demonstrated by patients in these videos is widespread, what implications does this have for the power dynamic that exists between RAM provider and RAM patient? What level of autonomy can patients express over the methods of their treatment? What obligations does RAM have as a care provider to those patients?

Exploring and confirming the existence of these patient attitudes prompts us to consider these questions.

Literature Review

This research considers the role of organizations like Remote Area Medical in the healthcare landscape, where disempowerment described in “deaths of despair” meets a paucity of care options for rural populations. More specifically, as rural hospitals continue to close their doors, and rural communities continue to experience a shortage of healthcare resources, do RAM patients turn to RAM as a suitable replacement, and to what end? First, I will describe the current healthcare landscape, with an emphasis on those barriers most immediately pertinent to the healthcare services RAM provides to patients in rural Virginia.

Hospital Closures

Rural healthcare facilities are in short supply, with an average of 13 permanent hospital closures per year from 2014 to 2018⁸. A study conducted by the Chartis Center for Rural Health

⁸ “What Should Be the Scope of a Health Network’s Obligation to Respond After a Hospital Closure?,” *AMA Journal of Ethics* 21, no. 3 (January 2019), <https://doi.org/10.1001/amajethics.2019.215>.

cited an additional 673 rural hospitals vulnerable to closure in coming years⁹. The circumstances contributing to this shutdown crisis are varied.

Patient volume in rural areas is limited by the setting. Hospitals need patients, and rural populations are less densely distributed and smaller in size. Some populations have even declined in recent years, owing in large part to being older on average than urban populations¹⁰. In addition, rural populations are disproportionately likely to be impoverished, with lower median household incomes than urban population counterparts¹¹. While this impacts rural healthcare access in a number of ways, it also strains access to transportation required to receive care. As a result of these factors, observed patient volume in rural areas is much smaller than that of urban locales.

Hospitals in rural areas often operate at a loss.¹² Just as poverty limits people's access to transportation, ability to purchase healthcare insurance and pay for costly healthcare services is limited as well. Hospitals in the United States, regardless of their nonprofit or for-profit status, are obligated to provide emergency care to patients who need it.¹³ As a result, hospitals routinely absorb losses on patients who cannot pay for the care they receive. In areas like the

⁹ Shawn Radcliffe, "Rural Hospitals Closing at an Alarming Rate," Healthline (Healthline, February 24, 2017), <https://www.healthline.com/health-news/rural-hospitals-closing>.

¹⁰ What Should Be the Scope of a Health Network's Obligation to Respond After a Hospital Closure?," *AMA Journal of Ethics* 21, no. 3 (January 2019), <https://doi.org/10.1001/amajethics.2019.215>.

¹¹ Robin Warshaw, "Health Disparities Affect Millions in Rural U.S. Communities," AAMC, October 31, 2017, <https://www.aamc.org/news-insights/health-disparities-affect-millions-rural-us-communities>.

¹² Shawn Radcliffe, "Rural Hospitals Closing at an Alarming Rate," Healthline (Healthline, February 24, 2017), <https://www.healthline.com/health-news/rural-hospitals-closing>.

¹³ Maureen Groppe, "Who Pays When Someone without Insurance Shows up in the ER?," USA Today (Gannett Satellite Information Network, July 13, 2017), <https://www.usatoday.com/story/news/politics/2017/07/03/who-pays-when-someone-without-insurance-shows-up-er/445756001/>.

rural United States, where patients are more likely to live in poverty and to be uninsured, hospitals absorb more of those losses as a result.¹⁴

Under the Affordable Care Act, the Obama administration expanded Medicaid coverage, providing coverage to millions of people who previously were uninsured, many of whom live in rural parts of the country. At the same time, however, Medicaid took place on a state-by-state basis: 19 states—including several with high rates of vulnerable rural hospitals—did not opt in to the legislated expansion, and did not see the benefits of expanded Medicaid coverage.¹⁵ This correlates closely to percentage of rural hospitals operating at a loss.

According to the same Chartis Report, 36 percent of rural hospitals in states that expanded Medicaid operated at a loss in 2015, compared to 47 percent of rural hospitals in states that did not.¹⁶ 18 percent of rural hospitals in states that expanded Medicaid operate at a dangerously vulnerable negative 5 percent; 30 percent of rural hospitals in states that did not expand Medicaid fall into this category.¹⁷ It comes as no surprise that the vast majority of rural hospitals closed in recent years cited financial trouble as their reason for doing so.¹⁸

The peril facing rural hospitals and the communities in which they operate suggests pertinent ways in which RAM and organizations like it contribute to communities in which they offer services. Rural communities in Virginia, and the United States at large, are experiencing a shortage of hospitals, thereby reducing patients' opportunities to receive care. For the time

¹⁴ What Should Be the Scope of a Health Network's Obligation to Respond After a Hospital Closure?," *AMA Journal of Ethics* 21, no. 3 (January 2019), <https://doi.org/10.1001/amajethics.2019.215..>

¹⁵ "Status of State Action on the Medicaid Expansion Decision," KFF, February 4, 2021.

¹⁶ Shawn Radcliffe, "Rural Hospitals Closing at an Alarming Rate," Healthline (Healthline, February 24, 2017), <https://www.healthline.com/health-news/rural-hospitals-closing>.

¹⁷ *Ibid.*

¹⁸ John K. Iglehart, "The Challenging Quest to Improve Rural Health Care," *New England Journal of Medicine* 378, no. 5 (2018): pp. 473-479, <https://doi.org/10.1056/nejmhpr1707176>

that RAM is in town—likely a weekend or so—the clinic RAM provides in some ways represents a clinic or hospital. It offers many of the same services a hospital would, as well as dental and vision services. Communities left uncovered by hospital closure can receive affordable healthcare via pop-up clinics provided by RAM; this could very likely contribute to an observed patient dependence on RAM clinics, as individuals living in communities without a hospital struggle to find avenues for healthcare services.

Lack of providers

Though as many as 20% of Americans live in rural counties, only 11% of physicians practice in rural areas, placing rural patients at a disadvantage.¹⁹ The reasons for this are varied. The culture of medical practice plays a substantial role, as medical training emphasizes specialization in favor of generalized practice.²⁰ As a result, physicians become less likely to live in rural areas, as resources required for various specialties are more readily located in urban care centers.²¹ By some estimates, if even a small percentage of specialists were to practice general medicine in rural areas rather than their respective specialties in the city, shortages of physicians in rural parts of the country would be greatly assuaged.²² Younger, more recently graduated physicians are also drawn to the opportunity associated with more urban areas, and jobs for potentially working spouses are rarer in rural areas. In the meantime, the disparity in

¹⁹ Peter Jaret, “Attracting the next Generation of Physicians to Rural Medicine,” AAMC, February 3, 2020, <https://www.aamc.org/news-insights/attracting-next-generation-physicians-rural-medicine>.

²⁰ *Ibid.*

²¹ R. A. Rosenblatt, “Physicians and Rural America,” *Western Journal of Medicine* 173, no. 5 (January 2000): pp. 348-351, <https://doi.org/10.1136/ewjm.173.5.348>.

²² *Ibid.*

physician distribution continues to widen, as rural physicians tend to be older and closer to retirement than their younger, urban counterparts.²³

Some medical programs have begun to try and incentivize rural practice.²⁴ Some medical schools set aside spots in graduating classes for those predicted more likely to practice in rural areas. The Physician Shortage Area Program (SPAP) at Thomas Jefferson University evaluates applicants according to 1) the rurality of the location in which they grew up, 2) whether the applicant plans to practice in a rural area and 3) whether the applicant plans to practice family medicine²⁵. SPAP has been notably successful: thirty years later, 45% of those graduates with all three predictors continued to practice in rural areas, compared to diminishing percentages among cohorts correlated to two and one predictor(s) respectively. That is, SPAP was successful at predicting which candidates would practice rurally and encouraged the training of rural practitioners accordingly. Not all programs are as successful, but an increased emphasis on rural practice has helped reverse the trend of a declining rural physician population in some areas.²⁶

In the meantime, chronic physician shortage is exacerbated in tandem with the growing rural hospital shortage. RAM and other pop-up clinic models can potentially help alleviate both these problems at once, as temporary clinics bring in both care providers and resources, albeit for a limited time. Nonetheless, these factors are absolutely relevant to an analysis of patient

²³ Peter Jaret, "Attracting the next Generation of Physicians to Rural Medicine," AAMC, February 3, 2020, <https://www.aamc.org/news-insights/attracting-next-generation-physicians-rural-medicine>.

²⁴ John K. Iglehart, "The Challenging Quest to Improve Rural Health Care," *New England Journal of Medicine* 378, no. 5 (2018): pp. 473-479, <https://doi.org/10.1056/nejmhpr1707176>.

²⁵ *Ibid.*

²⁶ Peter Jaret, "Attracting the next Generation of Physicians to Rural Medicine," AAMC, February 3, 2020, <https://www.aamc.org/news-insights/attracting-next-generation-physicians-rural-medicine>.

attitudes toward RAM services—and toward health and healthcare. Again, without speculating unproductively, these scarcities of both hospitals and physicians represent chronic challenges faced by rural communities. As such, patient attitudes toward RAM are not only shaped by the benefit of the services RAM provides, but by the chronic strain that a lack of resources engenders.

Poverty/Lack of insurance

Medical care is expensive. The United States spent an estimated 3.6 trillion dollars on medical care in 2018, one of the largest healthcare expenditure sums in the world, breaking down to roughly eleven thousand dollars per person.²⁷ By a more robust estimation, Americans on average spent just shy of five thousand dollars on healthcare in 2018, with an average out-of-pocket cost—after insurance—of roughly \$650.²⁸ Bearing in mind that the average cost of health insurance in that same year was nearly \$3,500, the toll that healthcare in the United States exacts on Americans' wallets begins to coalesce: an average out-of-pocket cost of \$650 and average insurance rate of \$3,500 combines to form an average total healthcare cost of \$4,150, with actual individual expenditures per person potentially ranging well above that average figure.²⁹ In reality, healthcare policies are diverse and complex, but suffice it to say that healthcare can be a formidable financial burden.

Compared to urban populations, rural Americans have lower household median incomes and, understandably, are more likely to be uninsured, leaving them at risk of harm to

²⁷ "Why Are Americans Paying More for Healthcare?," Peter G. Peterson Foundation, accessed February 18, 2021, <https://www.pgpf.org/blog/2020/04/why-are-americans-paying-more-for-healthcare>.

²⁸ *Ibid.*

²⁹ *Ibid.*

both their health and finances in the aftermath of receiving uninsured healthcare.³⁰ In practice, federally- and state-funded programs like Medicare and Medicaid attempt to improve access to care, providing to populations not otherwise able to afford healthcare insurance.³¹ Gaps, however, persist, as rural Americans remain disproportionately uninsured. As previously mentioned, the Affordable Care Act—passed over a decade ago in 2010—attempted to ameliorate the health insurance crisis, but many of the 19 states that opted out of the legislation’s Medicaid expansion are home to the country’s largest rural populations.³² To demonstrate the effect this decision had on health insurance access, rural populations in states with expanded Medicaid coverage saw Medicaid coverage rates increase from 21% to 26% of the population; non-expansion states observed an increase from 20% to 21% in their respective rural communities.³³ Medicaid is obviously not the sole indicator of health insurance access, but these data signal improved health security for populations otherwise disproportionately vulnerable to being uninsured. These data simultaneously demonstrate the shortages in access that persist in rural areas, placing rural Americans’ health and financial stability at risk.

Thinking forward to patient attitudes toward RAM and health, the poverty that patient populations in rural Virginia are more likely to experience has the potential to contribute to attitudes toward RAM services and healthcare perspectives overall. While traditional forms of healthcare for those who are impoverished and/or uninsured may be prohibitively expensive, RAM’s healthcare is free, regardless of insurance, funded almost entirely by private donations.

³⁰ Robin Warshaw, “Health Disparities Affect Millions in Rural U.S. Communities,” AAMC, October 31, 2017, <https://www.aamc.org/news-insights/health-disparities-affect-millions-rural-us-communities>.

³¹ John K. Iglehart, “The Challenging Quest to Improve Rural Health Care,” *New England Journal of Medicine* 378, no. 5 (2018): pp. 473-479, <https://doi.org/10.1056/nejmhpr1707176>.

³² *Ibid.*

³³ *Ibid.*

The benefit that RAM serves to these communities can thus potentially contribute to patient attitudes in several broad ways. For one, RAM services have the potential to address critical healthcare needs, providing the medical services patients cannot potentially afford. Second, RAM services can serve as a financial benefit as well, alleviating chronic financial strain by providing semi-regular medical care via rotating clinics to some parts of Virginia. Thus, RAM services potentially affect not only healthcare at the point of care, but its attitudes toward health and healthcare that necessarily intersect with personal finances and autonomy.

Having given an overview of the healthcare landscape in which RAM operates, I will describe the place of RAM as a case study for alternative healthcare measures.

RAM as Case of Study

RAM is an established component of the rural healthcare landscape. Founded in 1985, and serving nearly a million patients since then, RAM has amassed a demonstrated patient population, and maintains robust relationships with communities and volunteers who support the clinics that RAM operates throughout the rural United States.^{34, 35} This holds several benefits for this project. Given how many patients are affected annually by the care RAM provides, this research stands to inform care decisions made RAM in coming months and years to best provide care to patients. Moreover, this research intends to investigate patient data and experiences. As this project utilizes those to research the role of care models like RAM's in a rural healthcare landscape, such an established patient population provides a wealth of

³⁴ "Fact Sheet," Remote Area Medical (Remote Area Medical, n.d.), <https://www.ramusa.org/wp-content/uploads/2021-RAM-FactSheet-01.png>.

³⁵ "Become a CORE Volunteer," Remote Area Medical, accessed April 13, 2021, <https://www.ramusa.org/core-volunteer/>.

perspectives, reducing risk of biases related to a smaller population size. Though there are other organizations like RAM providing similar healthcare services, these criteria suggest RAM as a case study for the larger inquiry into care models like RAM's as an alternative to traditional healthcare in the rural United States.

Data Collection and Methods

Data collection for this project will include two distinct methodologies: quantitative analysis of patient registration data gathered onsite at RAM clinics, and qualitative analysis conducted on patient interviews. These methodologies seek to explore complementary insights into RAM's rural Virginia patient population. Quantitative methods will furnish understanding of patients' utilization of RAM services—notably, whether patients utilize RAM healthcare services as a replacement or supplementary healthcare resource compared to traditional hospital or clinic-facilitated forms of care. Qualitative methods will be aimed at garnering understandings of the attitudes that underpin patient behaviors. I describe these methods, and provide a justification for these methods below.

Quantitative analysis will investigate data collected by RAM during patient registration at Virginia clinics over the past 15 years. For each patient, these include valuable information including detailed patient demographics, as well as healthcare history.³⁶ While I do not currently have access to the complete list of information collected at patient registration, pertinent patient responses that I recall from my time working at RAM include:

- Basic demographics (age, sex, race)
- Employment status

³⁶ See Appendix I

- Insurance status
- Last doctor's visit
- Whether the patient has been to a RAM clinic before
- Self-evaluation of health
- Complaint (specific reason for seeking care)
- Transportation utilized to arrive at clinic
- Miles traveled to arrive at clinic
- Wait time after arriving at clinic

IRB approval will be achieved before the start of research. Patient data will be deidentified, held within HIPAA compliance, and stored on an encrypted hard drive when not in use.

Qualitative analysis furnished by interviews will complement quantitative methods by investigating patient attitudes underlying quantitative trends. In total, at least 80 interviews with former Virginia RAM patients will be conducted, randomly assigned via registration data from previous clinics. Given the size of RAM's patient population, the upper threshold of interviews, at which point bias is introduced, is negligibly high. 80 has been chosen as a lower bound for patient interviews to ensure a robust collection of responses, and assumes a two-month period of interviewing, with roughly two interviews per day. Though interviews are truthfully not intended to be very long, the logistics of meeting rural patients promises a substantial travel time between interviews.

Interviews will be in-depth and in-person. Hoping to understand patients' attitudes underpinning behaviors observed in the quantitative arm of research, interviews will be very open-ended, with guiding questions included for covering important areas of interest. For

instance, quantitative analysis seeks in large part to understand how RAM patients consider RAM services: as essential or supplementary healthcare. This qualitative component will build on those findings by asking patients “how,” for example, RAM patients make the decision to seek healthcare from RAM. A complete list of those questions is included below.³⁷

Interviews will aim to be between 45 minutes and an hour and will be conducted in locations where patients are most comfortable—whether that be in patient homes or public spaces. Patients will be contacted to be interviewed over the phone and via email, or by traditional mail if other forms of contact are unavailable. To that end, mail-in inquiries will contain return postage and a questionnaire about availabilities. In the event that a time is agreed upon, follow-up mail will be sent in the week prior to the interview date to confirm the appointment. An explanation of the project in full will take place over the phone and will be included in an information sheet, and if the patient is amenable to the project and grants consent to participate in the research, the researcher will travel to the patient’s home or otherwise specified location to conduct the interview.

Justification of Methods

The quantitative methodology described above provides both granularity and breadth to this research. One of the great limitations of in-person, in-depth interviews is the potential to introduce bias by only interviewing a select few of the thousands that have been treated by RAM over the past several decades: the quantitative methodology paints a comprehensive picture of the RAM patient population in Virginia, while also reserving the ability to lend granularity to findings, data points being labeled by temporality, region and clinic.

³⁷ See Appendix II

Furthermore, the findings of the quantitative methodology are valuable in themselves, in addition to lending significance to those findings of the qualitative, interview arm. These data carry great descriptive potential for learning about the RAM patient population. Preparing for this project, RAM shared with me that this patient registration data has never been used or analyzed. Regardless, in the meantime, of these findings' significance for overarching patient attitudes, these data are extremely valuable to us and to RAM for contextualizing the rest of the findings, and—in RAM's case—for understanding better the makeup of their patients, as well as their needs.

Conducting interviews with patients is sensitive and complicated, necessitating a multitude of considerations when developing this methodology. In defense, first, of conducting interviews in-person, the interviews required of this methodology are in-depth. While briefer interviews of ten to fifteen minutes, conducted onsite at RAM clinics, for instance, may be less logistically challenging for the researcher, the kinds of insights this research hopes to gain from patient perspectives preclude short, onsite interviews as a possibility. The length of interview, first of all, allows for open-ended responses and deviations from the guiding questions, leading to new insights. Faster interviews do not confer these same benefits. The length of interview also provides research subjects with enough time to feel comfortable enough in the interview setting to open up more honestly about their health and healthcare attitudes. The setting of the interview plays into this substantially as well, as conducting interviews onsite at the clinic can introduce multiple layers of bias, as subjects may subconsciously affiliate the researcher with RAM, and feel obligated to respond fallaciously positively about RAM services.

Other considerations made in this research aim to alleviate what could be identified as weaknesses of in-person, in-depth interviews. From a purely logistical standpoint, conducting 100 interviews with rural Virginian RAM patients poses a significant challenge, as rural interviewees are dispersed across the rural geography. This can be ameliorated in part by attempting to group interviews of confirmed subjects by location, so as to reduce unnecessary travel, but drive time is unfortunately unavoidable in this methodology. An important consideration, too, is the pandemic we are currently experiencing, as in-person contact poses risks for exposure to the disease. As part of the consent process, subjects will be asked to comply with wearing a mask during the interview, and one will be provided by the researcher if necessary. Social distancing will be strictly observed as well. So as to minimize selection bias, that may be introduced by way of communicating with patients, paper mail will be used to contact patients in the event RAM logs do not contain digital contact information for patients.

Perhaps the most important component to this research concerns the positionality of the researcher. Medical histories and attendant perspectives on health are sensitive; subjects need to feel comfortable enough to open up to the researcher about these issues. This, again, is one of the reasons for which interviews will be conducted in patient homes or alternative spaces of comfort. At RAM, having just received care or anticipating care, patients will likely be less willing to open up genuinely and be vulnerable about their opinions on RAM. By meeting patients in locations of comfort, this research will ideally be less biased. Positionality must also be addressed in terms of the researcher. If I am to conduct the research, this comes with a range of considerations. After all, I am a younger man from the west coast of the country, carrying implications of gender and differing cultural and political beliefs. The likelihood of their

feeling comfortable enough to share intimate details of their health and healthcare status is reduced by the things that we may not have in common. In my case, I would emphasize my having lived in Rockbridge County, rather than my original home in Seattle or my place of study at Washington and Lee University, trying to establish commonality of place. Additionally, the interview questions are designed to develop relaxation and comfort, starting first with easier, less intrusive questions about health and healthcare.³⁸

Interviews aim to contextualize patients' decisions to seek healthcare from RAM and suggest ramifications of those contexts on patients' attitudes toward health and healthcare in an evolving healthcare landscape. For the purposes of this prospective analysis, a discussion of healthcare contexts is one of themes. Not having conducted any interviews yet, I will refrain from introducing bias by speculating on what responses the interviews may receive. A thematic discussion instead prepares us to consider the significance of interview responses for informed interventions and follow up research.

Of interest to this study are those themes directly related to patients' healthcare insecurity. Remembering some of the issue areas that threaten rural residents' access to healthcare services, these themes may include financial insecurity related to the disproportionate rate at which poverty influences those living in rural parts of the country. Other themes derive from the effect of geography. This might take the shape of patients' transportation access and mobility. Recalling too the dilemmas of hospital closures and physician shortages, some subjects may report issues of access outside the field of finance—these responses we might describe as limitations of local health infrastructure for the time

³⁸ See Appendix II

being. In any case, the thematic manifestations of patients' healthcare insecurity is likely to coalesce in a range of underlying attitudes about health and healthcare related to how patients see themselves and RAM, likely related to the combination of themes expressed in individual interviews. This is by no means meant to describe a prescriptive range of attitudes among subjects, but instead suggests that the presence of various forms of health insecurity among the patient population will materialize in diverse patient attitudes accordingly.

This research is particularly interested in the influence of factors underlying patients' dependence on health and resultant healthcare agency. The visual metaphor of a healthcare landscape implies a range of options available to patients, whose mobility among that metaphorical range describes the accessibility of healthcare services. This research explores the limitations of those healthcare options, in the barriers and circumstances that populate that landscape for rural residents of the United States, especially with regards to how those limitations ultimately affect patients' attitudes toward health, and their expectations of their healthcare providers. This model is somewhat reductive in its simplicity, but considering the potential paucity of healthcare options available to some patients, we must consider how drastically expectations of health and healthcare may be affected by a lack of access. In short, this describes the potential for desperation: situations in which patients have to forego expectations or standards for healthcare services in favor of receiving *some* level of healthcare *at all*. In the case of RAM's services, without making any suggestions about the actual level of care the organization provides, pop-up clinics are staffed in large part by medical, dental and optometry students. The actual quality of care these patients provide is immaterial to this particular point; patients in hospital settings are able to request that their care be provided by

graduated, licensed professionals. Patient throughput at RAM clinics is extremely high, and it is not clear that such an option is available to RAM patients. Even if the option were available, following this thematic arc, it is possible that patients might not feel empowered to take it. When patients have the ability to choose between providers, their autonomy is protected by a competitive market of healthcare services. Certainly, there are standards for healthcare that all providers must abide by, but for patients dependent on RAM healthcare, the autonomy represented in the act of choosing a provider is limited.

The agency patients can assert when making healthcare decisions can be potentially undercut by the health attitudes that arise from such limited choices as well. RAM-produced interviews depict patients who express overwhelming gratitude for the services RAM provides. I do not wish to definitely suggest the ubiquity of such attitudes without having collected data, but it is again potentially foreseeable that the degree of gratitude patients feel for RAM's services is the product of desperation that disempowers patients from expressing greater autonomy in their care. Gratitude for free healthcare services is understandable, but the potential danger in this phenomenon lies in the possibility of a power imbalance. In my time volunteering at clinics, for instance, I have heard practitioners voice a preference for performing certain procedures over others, specifically tooth extractions over cleanings. A doctor specifically told me that students from his institution benefited greatly from RAM clinics because "in their years of schooling, they'll likely do no more than four extractions, whereas at a RAM clinic they'll have the opportunity to easily do ten times that amount." It would take another study entirely to evaluate the impact of such mindsets on quality of dental care provided at RAM clinics; nonetheless, these observations and suggestions powerfully

demonstrate the necessity of safeguarding the autonomy and empowerment of patients in the rural healthcare setting. Faced with no other options and feeling immense gratitude for receiving dental care at all, patients could conceivably be subjected to substandard or nonindicated healthcare in settings like a RAM clinic.

Analysis:

In this section, I briefly describe the strategy by which data will be analyzed in both the quantitative and qualitative arms of this project.

Patient Data:

While I do not currently have access to a definitive list of the registration questions asked of patients, I will describe the statistical strategies that this project will apply to the data we collect.

The majority of data will be processed by univariate analysis, describing individual responses from the registration questionnaire. Quantitative data within this research design is intended to provide insight into the circumstances surrounding patients' use of RAM services. Without excessive effort, univariate statistical analysis can provide robust indicators by which RAM's patient population can then be compared to the whole of rural Virginia, describing the subset of rural Virginians who utilize RAM services. These can be compared to known values for the United States as well, but are also valuable in their own right. RAM collects information on patients' previous doctor's visits, for instance, including how long ago the visit took place, and whether that doctor's visit was at a RAM clinic. Univariate descriptions of these results are insightful on their own, given the standard recommendation of a general checkup per year, and can contribute to an understanding of the ways in which RAM patients utilize RAM services.

While ultimately interested in patient attitudes as a means by which to describe RAM's potential as a healthcare service, trends in patient data illustrate how patients use RAM services. Bivariate analysis, for instance, comparing patients' use of traditional healthcare and RAM healthcare services can lend credence to not only RAM-produced narratives of patient need, but patient dependence on RAM services. In such a case, we might plot the years since a patient has seen a doctor against the number of RAM clinics attended. A positive correlation in this case signals that a growing lack of traditional healthcare is correlated to a greater frequency of visiting RAM clinics. Data like these cannot communicate causality, but the trend signals a relationship that might suggest patient dependence.

Patient Interviews:

Analysis of patient interviews will proceed by grounded theory, a well-established analytical methodology by which data can be organized and analyzed to inform theory.³⁹ An iterative process of analysis, the use of grounded theory will likely proceed as follows. Data from interviews will be collected, and responses will be organized and coded according to relevant motifs. These motifs will then be arranged and sorted into significant categories, correlated to themes described in the methodology section. As part of the analysis process, individual responses within thematic categories will be iteratively compared in order to refine those categories. These categories, and the responses that comprise them, ultimately coalesce in the conclusions we draw from the data, informing our understanding of RAM patient attitudes.

³⁹ Ylona Chun Tie, Melanie Birks, and Karen Francis, "Grounded Theory Research: A Design Framework for Novice Researchers," *SAGE Open Medicine* 7 (2019): p. 205031211882292, <https://doi.org/10.1177/2050312118822927>.

Conclusion

Rural America is plagued by growing health disparities and an increasingly failing healthcare infrastructure. Organizations like RAM attempt to meet these needs, providing healthcare services via their care model of pop-up clinics. As they do so, this research is interested in discerning its role as a provider through the healthcare attitudes of its patient population. Given the chronic lack of access to traditional healthcare faced by some rural Americans, how do RAM patients approach RAM healthcare services? Is it utilized as a replacement for traditional healthcare services? How is patient autonomy affected by a healthcare landscape potentially devoid of options and colored by need? While solutions to the rural healthcare crisis are ultimately extremely complex, understanding RAM's role as a provider informs interventions to come.

Appendix I: Hypothetical compilation of responses to healthcare questions

Healthcare data	Count	%
Insurance data		
Insured		
- Private		
- Medicaid		
- Medicare		
Uninsured		
Healthcare history		
Last time you saw a doctor?		
- 0 – 1 yr		
- 1 – 2 yrs		
- 2 – 3 yrs		
- 3 – 4 yrs		
- 4 – 5 yrs		
- 5+ yrs		
Emergency Room in the last year?		
- Yes		
- No		
Have you been to a RAM clinic before?		

<ul style="list-style-type: none"> - Yes - No 		
Health Status		
<p>How is your health?</p> <ul style="list-style-type: none"> - Good - Fair - Poor 		
<p>Care sought</p> <ul style="list-style-type: none"> - Dental - Vision - General medical 		
Clinic Access		
<p>How did you get to clinic?</p> <ul style="list-style-type: none"> - Own vehicle - Other's vehicle - Public transportation - By foot <p>Miles traveled to reach clinic</p> <ul style="list-style-type: none"> - 0 – 10 miles - 10 – 20 miles - 20 – 30 miles 		

<ul style="list-style-type: none">- 30 – 40 miles- 40+ miles <p>How long did you wait to receive care?</p> <ul style="list-style-type: none">- 0 – 1 hour- 1 – 2 hours- 2 – 3 hours- 3+ hours		
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As a note to the reader, the above is not a definitive list of data collected by RAM at registration. These are merely some of the pertinent questions I remember from having conducted patient registration myself.

Appendix II: Patient Interview Questions

Subject disclaimer, to be read aloud before conducting the interview: Thank you for agreeing to participate in this study. Before we begin, I want to emphasize that your comfort and safety is our first priority. Any responses you give will be completely anonymized, stored securely, and not connected to you in any way. Additionally, if at any point you don't feel like answering a question, you can elect to skip it. On that same note, if you feel uncomfortable, we can also stop the interview at any time. How does that sound? *Check for confirmation. If subject affirms that they wish to proceed, continue to the interview.*

1. Healthcare context

- a. How often do you see a doctor?
- b. Would you say your access to health services is adequate? Why or why not?

(elaborative follow-up questions below).

- i. You mentioned your access to health services is adequate. Can you give an example that comes to mind?
- ii. You mentioned your access to health services is inadequate. Can you give an example that comes to mind?

2. How did you hear about RAM?
3. What RAM clinics have you been to?
4. How did you make the decision to attend?
5. What healthcare services have you received from RAM?

6. Were you satisfied with the healthcare you received from RAM? Why or why not?

(elaborative follow-up questions below).

- a. Depending how the participant answers, ask for an example of *how* they knew their care was adequate.
7. If you've received care from a doctor's office or clinic in the past, how would you compare the services you received from RAM?
- a. Can you think of an example?
8. Do you think your health status has changed as a result of services provided by RAM?
- a. Improved or worsened? How so?
9. How do you think RAM could improve their healthcare services?
- a. Example?

End of interview

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