

Best Practices of Care Coordination Report: Rockbridge

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I. Introduction

The purpose of this community based research project is to conduct an in depth analysis of best practices of care coordination in other communities in order to provide a few key practices that may work and be implemented in the Rockbridge area. In order to do so, this project will examine initiatives in other communities while also interviewing individuals and organizations in Rockbridge involved in promoting health and health care. Speaking with individuals in the community will give a better indication of the level of care coordination currently in place and evaluate which strategies would be most feasible and effective in the Rockbridge area. As such, this report will take into account community perspectives, community resources and the current literature.

In the Rockbridge Area Community Health Needs Assessment (RACHNA) (2015), coordination of care was seen as one of the top priority areas. Among these finding, 53% of participants surveyed believed that, given one area to target in order to reduce the barriers to health in Rockbridge, the community should focus on improving coordination of care (RACHNA, 2015). Possible practices of care coordination will be presented to Rockbridge 2020, a group consisting of agencies and organizations in the community whose mission is to work together for community well being (Health Needs Assessment 2015). Rockbridge 2020 consists of a number of tasks forces - one being dedicated to improving care coordination. The goal of this project is to begin the conversation of where the community would like to go in terms of coordinating care between organizations. Its objective is to present possible coordination of care strategies and options to the Rockbridge 2020 Coordination of Care Task Force in order to begin the discussion of how this might be implemented in the Rockbridge area. The task force will then decide on the best initiative to carry out and future steps in the process.

Overview of the Rockbridge Area

The Rockbridge area is located in the Shenandoah Valley of West Central Virginia and is composed of the independent cities of Lexington and Buena Vista and Rockbridge County. Rockbridge is a predominantly rural, 610 square-mile area, subdivided into five districts (Borman & Leon, 2026). Future interventions need to consider how to effectively serve a vast, sparsely populated area and reach its most vulnerable patients. Before venturing into possible interventions, it is important to note some demographics of the Rockbridge area. Because the Rockbridge area is composed of Rockbridge County and the two independent cities of Lexington and Buena Vista, there are some demographic differences to note among each.

In 2015, the estimated population of the Rockbridge County was 22,354 people (U.S. Census Bureau). According to the U.S. Census Bureau (2015), The majority of the population in Rockbridge County was between the ages of 18-64 years of age (57.8%), followed by individuals over the age of 65 (24.8%) and then individuals under 18 years of age (17.4%).¹ The county is a predominately white (94.6%) with around 2,304 veterans (~9.7%). The majority of people who live there have their high school diploma (84.5%). However, only 23.5% have a bachelor's degree or higher. About 14.9% of people under the age of 65 do not have health insurance.

Within the city of Lexington, the estimated population in 2015 was 7,262 (U.S. Census Bureau). The majority of the population in Lexington was between the ages of 18-64 (74.2%) followed by individuals 65 and older (14.4%) and then individuals under 18 years of age (11.4%). Lexington city is predominantly white (84.5%), with 9.4% of the population is black or African American. Two hundred and eighty two veterans live in the city. The majority of

¹ Although the majority of the population is between 18-65 years old, it must be stated that there are many college students between the ages of 18-22 years old as well as law school students who live in the county and off campus. If students who live off campus were used to calculate the population statistics in the Census this could skew the perception of true long-term, local residents in Rockbridge County and the age range therein.

individuals have their high school diploma (82%) and 44.8% have a bachelor's degree. An estimated 15% of individuals under the age of 65 do not have health insurance.²

According to the U.S. Census Bureau, the population of Buena Vista in 2015 was 6,618 individuals. The majority of individuals were between the ages of 18-64 (60.6%), followed by individuals under the age of 18 (21.5%) and then individuals 65 and older (17.9%). Buena Vista is primarily white (90.8%). The second largest group are African Americans (5%). Three hundred and forty one veterans live in Buena Vista. The majority of individuals have their high school diploma (76.9%). Only 14% have a bachelor's degree or higher. About 14.1% of individuals under the age of 65 do not have health insurance.

Together, Lexington, Buena Vista and Rockbridge County make up the Rockbridge area. According to County Health Rankings (2015), Rockbridge is ranked 41 of 134 Virginia counties for Health Outcomes³. Each county in Virginia is ranked on both health factors and health outcomes (See Annex I). Health outcomes include length and quality of life. Health factors include areas such as health behaviors, clinical care, social and economic factors, and physical health. A full list of measurements and their weights can be seen in the County Health Rankings model (See Annex II).⁴

The Rockbridge area is classified as a rural community. As such, the area has specific health needs and barriers to health and health care. Chronic illnesses and conditions, such as respiratory disease, diabetes and congestive heart failure have been named among the leading

² It must be noted that this number could potentially be skewed. Many of the individuals under the age of 64 are students or employees of the universities in Lexington, whether that is at W&L or at VMI. If student or school provided health insurance, is not calculated as part of this estimate, then the number of individuals who have health insurance could be greater.

³ The ranking lists each county in Virginia from best to worst, with one being the best in terms of health outcomes, and 134 being the worst. The University of Wisconsin Population health Institute in conjunction with the Robert Wood Johnson Foundation compile data and put together this ranking.

⁴ *The County Health Rankings* are formed based on national and state data resources (for specific resources go to: <http://www.countyhealthrankings.org/ranking-methods/data-sources-and-measures>.)

causes of death in the area (RACHNA, 2015). Over 90% of Rockbridge can be categorized as a food desert (RACHNA, 2015)⁵. While only 5.5% of houses in Rockbridge do not have vehicles, the concern with transportation is much larger (RACHNA & U.S. Census Bureau). Although a household may report that they have a vehicle, this reporting does not account for whether the household has money to purchase gas for the vehicle or if the vehicle is in working order. Public transportation is limited in Lexington, Buena Vista, and in the County as a whole. While options for transportation include the Maury Express and the Rockbridge Area Transportation System (RATS), these options do not extend to all parts of the county, and some people may not be able to afford the services. Limited transportation can negatively affect potential employment opportunities, access to grocery stores and other services. These disparities do not always translate into numbers and figures, but lack of reliable transportation should be a focus area in rural communities such as Rockbridge.

Defining Coordination of Care

While there are many ways to define care coordination, each community must decide upon an agreed definition and understanding when working on a collaborative project. Perspectives of all stakeholders should be considered when developing a working definition. While each organization may have different goals, developing a shared definition of care coordination will help everyone in the group understand and work towards a common goal.

According to the Stanford-UCSF Evidence-based Practice Center (2007); there are over 40 definitions of care coordination. All definitions have five key points in common:

- 1) Many participants are involved in care coordination activities;

⁵ In an urban area, a food desert occurs when 33% of the people in a census tract live one mile or more from a supermarket. This changes to 10 miles or more for rural areas (USDA: Economic Research Service)

- 2) Coordination is necessary when participants are dependent upon each other to carry out different activities for the patient's care;
- 3) Care coordination participants require knowledge about their roles, the roles of others, and available resources;
- 4) There is a need for care coordination participants to exchange information; and
- 5) The ultimate goal of care coordination is to facilitate the appropriate delivery of healthcare services (Stanford University- UCSF Evidence-based Practice Center, 2007).

Taking all of the key components of many of the definitions of coordination of care, Stanford has created a working of coordination of care. The working definition states:

The deliberate organization of patient care activities between two or more participants (including the patient) involved in a patient's care to facilitate the appropriate delivery of healthcare services. Organizing care involves the marshaling of personal and other resources needed to carry out all required patient care activities and is often managed by the exchange of information among participants responsible for different aspects of care. (Stanford University- UCSF Evidence-based Practice Center, 2007, p. 5)

Other definitions may include aspects that focus on improving quality of care and improved health outcomes.

Rockbridge 2020 may formulate its own definition but it is important that such definition reflect the goals set forth by the committee members and their vision of what care coordination should be in the Rockbridge area. The definition should consider the specific needs of this community as well as include action goals on how to meet these needs.⁶

⁶ One example of using an action goal could be: care coordination as the care transition between two or more participants in an effort to fulfill needs across and within different organizations.

Care Transition

Care transition is an aspect of care coordination that needs to be considered as well. “The term *care transition* describes a continuous process in which a patient’s care shifts from being provided in one setting of care to another, such as from a hospital to a patient’s home or to a skilled nursing facility and sometimes back to the hospital” (Robert Wood Johnson Foundation, 2012, p.1). According to one health policy brief, “inadequate care coordination, including inadequate management of care transitions, was responsible for \$25 to \$45 billion in wasteful spending in 2011 through avoidable complications and unnecessary hospital readmissions” (Robert Wood Johnson Foundation, 2012, p. 1). This amount of wasteful spending hurts all parties involved in health care, be they patients or providers or other related parties.

In 2006, the U.S. Department of Health and Human Services found that 5% of the population accounts for 49% of the total health care expenses (Stanton, 2006). With such large expenditures on such a small percentage of the population, this sheds light on both inefficiencies in the system and a key population to target for future improvement efforts. The U.S. government has identified coordination of care as an initiative that can reduce this high amount of wasteful spending and help people whose needs are not currently being met. “State Medicaid agencies can now offer providers enhanced reimbursement, such as through monthly care management payments, to cover the cost of “comprehensive transitional care” and other services if the practice qualifies as a health home”—a practice that cares not only for Medicaid patients’ physical conditions but also helps them obtain other services including behavioral health care and long-term care services and supports” (RWJF, 2007, p.3). While some initiatives use incentives to motivate providers into using coordination of care strategies, other initiatives have penalties if compliance is not met. “Legislative and regulatory efforts to improve quality are ongoing. The Centers for Medicare and Medicaid Services (CMS) has stopped reimbursing care

providers for the extra health care costs related to “never events,” such as surgeries performed on the wrong person or wrong part of the body. CMS also administers the Physician Quality Reporting System (formerly the Physician Quality Reporting Initiative), which provides incentive payments to doctors under Medicare if they report on a number of performance metrics” (RWJF, 2011, p.3). Another incentive to providers arises in the form of accountable care organizations (ACOs). “The Medicare Shared Savings Program for accountable care organizations (ACOs) will give groups of providers an incentive to coordinate care more closely to keep patients healthy and out of the hospital because they will be eligible to share in the savings they are able to generate relative to a spending benchmark ” (RWJF, 2012, p.4). Because patients do not consistently receive follow-up care, the Affordable Care Act (ACA) has made a push to reduce 30-day hospital readmission rates (RWJF, 2011; RWJF, 2012). Increasing follow-up with patients and using case managers, transition coaches, and health coaches are all practices that have been implemented in order to reduce re-admission rates. Incentives and penalties for care coordination were some of the features included in the ACA.

II. Models of Care Coordination

Community Health Workers

One model of coordination of care utilizes community health workers (CHWs) to reach out to at-risk patients. “Community Health Workers (CHWs) deliver necessary health care services to underserved populations in many capacities. Including providing culturally relevant health education, care management, system navigation, and enrollment in publically funded health insurance” (Whitley, Everhart & Wright, 2006, p. 6). Community Health Workers (CHWs) or Lay health workers (LHWs) are individuals who are in a special position to reach many people in the community (Lewin et al., 2006). LHWs often serve a number of different functions related to health care delivery. “The term ‘LHW is thus necessarily broad in scope and

includes, for example, community health workers, village health workers, cancer supports and birth attendants” (Lewin et al., 2006, p. 5). Because the definition of a LHW is broad, their purpose can be tailored to serve the individual needs of any given community. Perry & Zulliger (2012), explain the versatility and possibility for different models of CHW programs:

CHWs are community members who provide health-related services in their communities. These workers are primarily based outside of fixed health facilities, but have some formal but limited training provided by the health system or health program that sponsors their work. Their training may be only a few days or as much as 6 months or more. They do not, however, receive any formal professional or paraprofessional certificate or tertiary education degree. They may receive a salary, receive some kind of incentive, or work entirely on a voluntary basis.

While programs that use CHWs can take on many forms, in the following paragraphs a number of initiatives that have proven to be successful in urban and rural communities will be presented.

Community Health Workers: Minnesota

The first use of a CHW model can best be seen in the Minnesota Community Health Worker alliance. “The Minnesota Community Health Worker Alliance is a “statewide consortium of 30 plus community health workers, public agencies, and nonprofits” (U.S Department of Health and Human Services, 2014, p.1). The Alliance includes educational institutions, government agencies, providers, professional associations, insurers and other payers. It first started as a partnership with universities and years later it was incorporated. The alliance focuses on bridging the gap between communities and health and social service systems in order to alleviate health disparities. One way in which the Alliance does so is by employing CHWs. “As members of the local community, community health workers are well positioned to facilitate communication between provider and patient to clarify cultural practices, educate community

members about appropriate use of the health care and social service systems, and educate the health and social service systems about community needs and perspectives” (U.S Department of Health and Human Services, 2014, p.1). These CHWs help patients navigate through health services and systems. This can take the form of making referrals, educating patients, following up on services and helping people enroll in public assistance programs.

Health workers understand both community and individual needs and can help advocate on the behalf of the people they serve. They can help people understand the resources that are available to them in their local communities. Some are able to provide direct services such as health, wellness and disease prevention and management information, assisting with self-management of chronic illness and medication administration, and conducting health-related screenings. The goal of these CHWs is to build communities and individuals while also looking at and addressing social determinants of health (U.S Department of Health and Human Services, 2014). Because health workers are members of the community, they can understand community needs and respond to them. As trusted members of their own communities, these workers may be able to reach out to and help those who have been reluctant or even avoided the health system. Knowing that there is someone whom they are comfortable with and who can walk them through what can be a confusing system, community members may be willing to share more about their individual circumstances with a CHW and take more control of their own health.

The Minnesota Alliance Model has a statewide competency-based curriculum and certificate program that is between 11-14 credits and covers areas such as health promotion, disease management, diabetes, cancer, mental and oral health. There is a community service internship portion to the curriculum as well. The course is offered at a number of universities and an online version is currently being made by the Alliance.

The Alliance is unique in that it has led to the passage of state legislation to approve Medicaid payments for specific community health workers services under clinical supervision. “Requirements for reimbursement include receiving a certificate from an accredited Minnesota post-secondary school that offers the statewide community health worker curriculum and supervision by a physician or advanced practice nurse who is also enrolled in the state’s Medicaid Program” (U.S Department of Health and Human Services, 2014, p.1). The Alliance has one part-time contractor who serves as their executive director. Their policy council was staffed part-time with the help of a grant. Most costs of the program are supported by grants. Key funders include: The Robert Wood Johnson Foundation, the Blue Cross and Blue Shield of Minnesota Foundation, and other foundations and health services.⁷⁸ The goal of the program was to integrate CHWs into the health care, public health, and social service systems. Other states that are working on similar initiatives include Alaska, Indiana, Nevada, North Carolina and Ohio. Other organizations have purchased the Minnesota community health worker curriculum; however, each group is advised to tailor the curriculum to meet the needs of their own community.

The CHW program was created to address the racial and ethnic disparities in Minnesota as well as the shortage of primary care professionals. In a similar way, this model could be beneficial in the Rockbridge area and might be able to address the trust and separation concerns identified by local agencies and service providers as being key barriers to local access to health care. The U.S. Department of Health and Human Services (2014) states:

⁷ Other funders include: UCare Minnesota, Health Partners, Minnesota Department of Health, Otto Bremer Foundation, Fairview Health Services, Delta Dental of Minnesota, Minnesota State Colleges and University System, Minneapolis Foundation, Randy Shaver Foundation, Susan B. Komen Foundation, and the Mayo Clinic.

⁸ The Robert Wood Johnson Foundation has supported the initiative with \$300,000 over four years. The Blue Cross and blue Shield of Minnesota Foundation has given \$150,000-\$160,000 over two years.

As trusted, knowledgeable members of the communities they serve, community health workers are critical links between underserved, isolated, or at-risk populations and the health care system. Community health workers tend to be better known and better established in community health centers and other community-based nonprofits than mainstream health providers. Expanding community health worker employment beyond community-based settings to team-based primary care and public health settings can broaden access to community health worker benefits, resulting in better health outcomes. In connecting individuals in the community with CHWs this can bridge the gap of both tangible distances such as geographic locations and intangible separations caused by issues of trust.

As a result of this CHW program, medical health workers have gained more recognition as key members of the health care team in Minnesota. According to the Community Health Access Project (CHAP):

CHAP [The Community Health Access Project] has found though using Community Health Workers, that it is more often the system that is the problem. Long bus rides, rude appointment clerks, difficult paperwork, few minority providers, and little understanding about the importance of medical care and other services play a key role in determining a poor versus a favorable health outcome. Either way we all pay for the poor outcomes. Having someone, in this case a CHW, who can help the patient navigate the health system, at their own level, may alleviate some of the concerns with the current health care system. Additionally, using CHWs can provide a number of benefits. “Community health workers have been shown to improve the provision of culturally competent care, enhance access to and the cost-effectiveness of care, and improve chronic disease care” (U.S Department of Health and

Human Services, 2014). Additionally, by having the patient's trust, CHW can bridge the gap between patients and their health care providers.

While using CHWs has been shown to provide a number of benefits to communities and the health care system, there are a number of barriers to the programs implementation. The U.S. Department of Health and Human Services (2014) has commented:

As yet, community health workers seldom function as integrated members of primary care-based teams. Few primary care organizations make use of community health workers, and those that do may use them in an "add-on" role. Barriers to community health workers playing a more formal role include lack of provider awareness about the valuable role that community health workers can play, inadequate training and certification programs to ensure an ample supply of qualified community health workers, and lack of a consistent funding mechanism to reimburse organizations for community health worker services.

Many of these limitations can be overcome by providing education about the role of CHWs to both health care professionals and community members. In this way, successful implementation of CHWs would entail a coordinated effort between all involved health care professionals as well as incorporating CHWs as part of the health care team and not as sideline additions that are sparsely utilized.

In summary, the main areas of concern for implementing a program with CHWs include: a lack of awareness of CHWs by health professionals, administrations and providers, a lack of standardized training, and a lack of sustainable funding (U.S. Department of Health and Human Services, 2014). Depending on the program, there are a number of grants that are targeted towards organizations and communities who collaborate to coordinate health care. More future

research is needed to find the specific grants and funding sources that will sustain different programs.

Community Health Workers: Harrisonburg, VA

Another group that has recently adopted a Community Health Worker (CHW) initiative is the Virginia Department of Health (VDH) in Harrisonburg, VA. This program, where lay people in the community act as health workers started in 2015. It is overseen by the VDH (Debbie Bundy-Carpenter), but contracted out to other parties to coordinate the initiative. In 2015-16 the VDH contracted with the Eastern Mennonite University (EMU) School of Nursing, and the initiative was led by faculty member of the university.

Currently there are about six health workers. Community members, mostly volunteers, who are familiar with their community and the people in it, act as the CHWs, sometimes referred to as lay health workers. Some tasks that they help perform include: reminding patients about appointments, reading labels on food, and diabetes education etc. This program has achieved success—in that, patients feel supported and comfortable as someone from their own community helps them navigate the health care system. People are often times more receptive to talking to people who are from their own community (Debbie Bundy-Carpenter). Building on an already established line of trust is central to the CHW model.

A grant was secured through the CDC to run this CHW program⁹. This money helps pay for a coordinator and other program needs. While the program needs a coordinator, this person does not have to be a nurse or a professor. Additionally, the Harrisonburg CHW program received a demonstration grant from the Sentara RMH , which allowed them to hire some of the lay health workers.

⁹ A grant of \$20,000 was secured through the CDC for four-years. The grant will run its final year in 2016-17. The VDH plans to reapply in the spring for another four years.

The Harrisonburg VDH CHW program trained its lay health workers using courses on topics such as diabetes education, blood pressure management, and case management.¹⁰ In terms of program effectiveness, reviews indicate that most effective programs target specific health issues:

It should be noted that most of the LHW [Lay Health Worker] interventions shown to be effective in this review were focused on very specific health issues, such as the promotion of breast-feeding or immunization uptake. Little evidence was identified regarding the effectiveness of ‘generalist’ LHWs who are given responsibility for delivering a range of primary health care interventions. Further research in this area is needed before such programs can be supported. (Lewis et al., 2006)

Taking this into consideration, the training materials taught to LHWs should be thematic and focus on concrete issues. One way this could be done is by analyzing the data of patients at the hospital and in other physician’s offices to look for trends of health issues and barriers to attaining health in the Rockbridge area. Having an understanding of which chronic illnesses are most prevalent, which parts of the community are exhibiting the most need and other areas of concern should be taken into consideration.

The results of the programs conducted in Harrisonburg are mostly qualitative (i.e. stories), but there are some quantitative data (i.e. decreased hospital admission rates for some of the heart failure patients) that are also being used to measure results and program effectiveness. When designing a program to fit the Rockbridge area, different program measures may be decided to measure program and cost effectiveness. Although, there is a lack of data on the cost effectiveness of CHW interventions across settings, this mainly stems from the fact that most

¹⁰ The courses taught used learning materials from previously used and proven curriculums on specific topic areas (consult Debbie Bundy-Carpenter for more information).

economic measures do not fully capture the benefits of CHW programs (Walker & Jan, 2005).¹² However, “LHWs could potentially reduce the costs of health care if substituted for professionals, by providing care at a level closer to local consumers”(Lewis et al., 2006).¹³ Some costs of the program may be harder to quantify (e.g. patient satisfaction); however, difficulty of measurement should not be seen as a barrier to the implementation of programs that have the potential to positively impact the community.

The CHWs program in Harrisonburg has provided a number of recommendations of steps that future CHWs programs will need to take before becoming established (Debbie Bundy-Carpenter):

- First, “All of these things take extreme coordination that needs to be the focus of one coordinator” (Debbie Bundy-Carpenter). Hiring a full-time coordinator, and having someone who can be devoted to the project undertaken will be essential to program sustainability and momentum.
- Second, choose a model that the group would like to utilize and focus on that model (e.g. using a health system care coordination model vs. a navigator model vs. an outreach model etc
- Third, establish what agency will coordinate the program.
- Fourth, decide what role CHWs will play and what kind of services they will provide. Note that integrating CHWs & LHWs into the health system may have legal implications. “In some settings, changes to the legal frameworks governing

¹² The difference in paid vs. volunteer labor, employment and training opportunities, and the value of clients receiving such services are not necessarily included in standard economic reviews.

¹³ “LHWs show promising benefits, compared to usual care, in promoting immunization and breastfeeding uptake; in reducing mortality and morbidity from common childhood illnesses; and in improving TB treatment outcomes. There is little evidence available regarding the effectiveness of LHWs in substituting for health professionals or the effectiveness of alternative training strategies for LHWs” (Lewis et al., 2006)

health care delivery may be necessary to enable LHWs, for example, to distribute medicines or refer patients to health professionals. Such policy issues need to be discussed before programs are initiated” (Lewis et al., 2006). Third, determine if CHWs will be paid workers or volunteers and how they will be recruited.

Fourth, develop CHW training.

Other Models - University Partnerships

Throughout the country many universities are teaming up with hospitals and other health organizations in order for students to act as CHWs on health teams.

- Temple University uses the CHW model. For them, “Community Health Workers (CHWs) are lay people from the community, who have been trained to function as members of the health care team; they function as a bridge between patients and the health care system. CHWs advocate, facilitate and organize access to health and social services for an identified group of patients. They serve as liaisons between high risk, high cost patients and their health care providers. They are available to visit patients in their home, and accompany them to clinical appointments. CHWs have frequent contact and conduct follow up with patients. The goal is to demonstrate improved care, improved health and lower costs” (Temple University: Community Health Workers, p.1).
- In Tennessee the Blount Memorial Hospital (BMH) has partnered with Maryville College to use a health coaching program (Maryville College: MC News, 2014).
- Allegheny College also uses Student Health Workers (Garza, 2014).
- Wooster Hospital and Wooster College have adopted the Allegheny SHW model (Hallstaff, 2013).

To have a better understanding of how university-hospital partnerships work, we will take a closer look at one program and focus on Allegheny's model. Allegheny College's Student Health Workers (SHWs) Model requires "Allegheny pre-health students to regularly meet with patients experiencing chronic conditions and having a history of frequent hospitalizations. The health coaches would serve in a preventive role by helping patients adhere to doctors' orders" (Garza, 2013). The SHWs provide follow-up care in order to prevent re-admissions. The program started in 2011 and by 2013 the program has served almost 400 patients. "As an example, during the first year of the health coaching program, patients from the Community Care Network (a hospital-wide effort comprised of a physician-directed team of nurses, counselors, social workers, nutritionists and ancillary support personnel) experienced a 45 percent reduction in hospital admissions and a 25 percent reduction in emergency room visits compared to the previous year. Patient outcomes also improved in multiple areas such as control of diabetes. Additionally, and as a direct result, he says, the cost of care for these patients also was reduced substantially" (Garza, 2013). With such results, utilizing a STW model may be very beneficial in other communities as well.

To be apart of this program, students at Allegheny take a seminar and review case studies. They then work as part of a community health care team.¹⁴ The student is responsible for scheduling regular meetings with a patient. "During the patient visits, students perform tasks such as reminding them of their appointments, making sure they are following their prescribed diet, checking to make sure their environment is clean and safe, and helping them organize their medications" (Garza, 2013). Wooster Hospital and Wooster College are using the Allegheny

¹⁴ In addition to the student health worker, each community health care team includes a physician, nurse, social worker, and nutritionist.

SHW model in their own community as well (Hallstaff, 2013). Having a pre-established model for a program can be instrumental in developing similar programs in other locations.

One benefit to using the student health model is that students can incorporate this program as part of their academic studies. For pre-med, nursing, and other students interested in case management and health, this program would provide a great hands-on experience. These students would be motivated and active participants in the health care team. On the other hand, knowing that students will only participate during the four years while they are in college, this may lead to a high turnover rate for volunteers. With a comprehensive training protocol in place, this turnover rate may not be as big of a concern, as many other non-profits use volunteers with varying lengths of stay.

The Rockbridge area has a number of different universities and colleges that may be interested in a SHW program. Because Allegheny is a rural community, further insight into their program and implementation should be considered for a student health worker model in Rockbridge. Future efforts should also look into contacting Dabney S. Lancaster's nursing program. If students could receive academic credits, both in the classroom and through hands on experience with patients, then this initiative may be very appealing to the university as well as those who run the program.

Referral Center

With so many non-profits, health professionals and other organizations in the Rockbridge area, it can become difficult for an individual to navigate where to go and who to turn to when help is needed. This is a process that often proves challenging for service agencies, health professionals, as well as community members. One program that would streamline this process and that could prove important to coordination of care efforts would be a referral center: a

resource hub that can guide patients from one central location. This can be an actual location or even a telephone hotline that refers patients where they need to go.

While some organizations may have a referral coordinator, having one central service/location that organizes referrals would consolidate the process, and be more user-friendly. One study that examined four South Side Chicago community health centers noted that there were significant coordination and communication problems between patients referred from the health centers to a specialty physician (Patrick, Bisgaier, Hasaham, Navarra & Hickner, 2011). Many referrals were not marked as complete, and this “lack of primary care provider knowledge of referral completion and lack of physician-to-physician communication about the specialists’ findings and recommendations could lead to management errors, delays in care, and unnecessary additional testing” (Patrick et al., 2011, p. 1310). For patients with fewer resources, these concerns can be very costly. Sometimes it is not enough to have referral coordinators when much of the information that needs to be communicated is not being coordinated between parties and when follow-up is missing or incomplete. While this study only looked at communication between community health centers to specialist physicians, it could potentially be applied further when looking at coordinating aspects that affect health that are listed as “non-medical” (i.e. transportation, education, food, etc.).

One example of a community resource center that also acts as a referral center would be the organization LIFT. “LIFT is a community resource center where interns are dedicated to working one-on-one with clients to advocate on their behalf. Interns help clients navigate different systems in order to reach their goals. The main goals that LIFT focuses on are securing stable housing, employment, higher education, basic needs/benefits and healthcare. Using a member driven approach, interns work *together* with clients on their goals” (Honig, 2015). LIFT

is able to connect members and provide referrals to organizations in the community who can best meet their needs. Their goal is to help families break the cycle of poverty, and while their model is similar to case-management, there are some key differences. For one, each client does not necessarily receive the same case manager each visit. Interns, often students and volunteers, work one-on-one with clients to help them navigate their goals and connect them with resources. This is a largely volunteer driven organization that can be found in four major cities in the U.S.¹⁹

In order to ensure successful collaboration and use of the referral center, each community partner or resource (as listed in the official guide) would create a formal agreement of understanding with each. This agreement will set a clear understanding of the expectations of procedures and follow-up with the referral hub. Those organizations with individuals who currently refer patients and help patients apply to programs could help in the establishment of this center and consult in the operations needed to run the program. Other models of referral centers exist; however, if Rockbridge would like to create a center like this, it should create one that is tailored to the needs of its own community. Questions to ask can include, but are not limited to: Would the referral center only help individuals navigate the options of what services and agencies are available in the community, or would it also support people who need assistance applying to programs? Would it take on more of a case-manager and work with people to help them achieve their goal? These questions need to be asked and answered before implementing this model. While the referral hub recommendation in Rockbridge would be implemented on a smaller scale than the LIFT model, it could employ some of LIFT's strategies and tactics such as being cost-effective by having a small key staff, with the majority of workers as volunteers.

¹⁹ For more information about LIFT, go to <http://www.liftcommunities.org>

Even if the community decides that it does not need a central referral center or that its implementation would not be feasible, at least having a shared resource guide of local agencies could be helpful to individuals trying to access services and also to agencies that might want to refer them to others. We currently have the Community Resource Guide and Community Resource List, which provides an initial listing of agencies and services exist in the Rockbridge area²⁰ While these documents are current, they will need to be updated and maintained throughout the years to remain useful and relevant.

III. Resources and Considerations for Model Implementation **Community Health Coach**

In the process of considering which model should be implemented, there is a free resource, provided by the Robert Wood Johnson Foundation and the University of Wisconsin that can be helpful to Rockbridge. This organization provides counseling and coaching services to community groups who apply and are accepted into their program in order to help the group reach their goals. The use of a community health coach is a resource to all the organizations in the Rockbridge area and community who are collaborating to coordinate care. This service can and should be seen as a means to create and shape a group in Rockbridge and help in the formation of the community's own model of care coordination.

In the form of Rockbridge 2020, the Rockbridge area already has a group of committed organizations that come together to discuss health goals for the community. In an effort to better organize and provide more infrastructure for coordination of care, one of the group's leading strategic goals, this coaching service would be a resource to the group. At this time, Rockbridge

²⁰ ²⁰ For the official Rockbridge Area Community Resource Guide & list of community organizations, please contact Holly Otsby

has completed the Rockbridge Area Community Health Needs Assessment for 2015 and is ready to move on to creating and implementing initiatives to meet the areas of need identified therein.²²

Health Coach for Rockbridge 2020

The *Roadmaps to Health* coaching program provides communities guidance and tools to help achieve health improvement goals (Roadmap to Health: Coaching Program).²³ The program, which is jointly supported by the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute, pairs a program coach with a team from a given community. Each community team is composed of five local lead organizations that are ready to choose, act and/or evaluate opportunities and initiatives for their community. The service is free to applicants who are accepted to the program and provides direct support to communities, helping them shape and build their organizations in order to achieve their goals. Because Rockbridge 2020 is an already existing group of individuals in the Rockbridge area working to collaborate care coordination efforts, this service would be an advantage to them in their development and program implementation stages.

How the Health Coach program works:

The formal coaching process begins with an application that includes the community's background information, and the team's goals for the coaching service. After completing the "Are you poised for progress?" survey and being accepted into the program, a formal agreement between the coach and the community's expectations is completed. This includes a commitment to meeting at least monthly, to complete work between monthly meeting and providing feedback to help improve the coaching experience, This coaching experience is usually over a six to twelve month period (Roadmaps to Health Coaching).

²² Some areas of need identified in the RACHNA include: access to services, coordination of care, health education, transportation, food insecurity, management of chronic diseases etc.

²³ Applications become available on Tuesday October 15th and they are due on Tuesday, Nov 12th. (see <http://www.countyhealthrankings.org/sites/default/files/resources/Roadmaps%20to%20Health%20Coaching%20Program%20Opportunity%20for%20Teams.pdf> for more details)

Current Progress

Under the leadership of Mickey Watkins, Rockbridge 2020 has already completed the “Are you poised for progress?” survey and has been in contact with a health coach (See Annex III). Once the completed survey has been submitted, Rockbridge 2020 can move forward to the next stages: being accepted into the program and creating a formal agreement with a coach.

The Augusta County Partnership, a coalition similar to Rockbridge 2020, has undertaken the same health coaching service since last fall. Every month to every other month they have a video conference with their coach. Since the coach has been contacted, the coalition has established bi-laws, membership requirements, a steering committee, and developed more of an infrastructure for their organization. The coach has helped the group in asking questions such as “Who is not at the table?” and “Who do we need to include in this discussion?” The group has worked to define their own meaning and working definition of wellness and their goals for their coalition (Debbie Bundy-Carpenter). While the coaching process, implementation of goals, and tangible results take time, the coaching service has received very positive reviews. Because this group is very close by to Rockbridge, it is an asset to be able to speak with them and gain their insight about using this program.²⁴

Utilizing Super-Utilizers: A mechanism for action

When thinking about developing a program or adopting a model of care coordination, Rockbridge should also consider the target population of interest. There have been a number of successful models and programs that have used super-utilizers as their initial target population for their programs. Super-utilizers “are people who overuse emergency departments and hospital inpatient services, making more visits to those facilities in a month than some people make in a lifetime” (Huget, 2012). These individuals are often patients with many chronic conditions who

²⁴ Contact Debbie Bundy-Carpenter with specific questions about this programs use and implementation in the Augusta County Partnership

need more care than most other patients (Burns, 2013). Identifying who these patients are is key to many interventions of care coordination. Any model implemented should determine which patients are super-utilizers of the health care system and use this knowledge as a tool to provide treatment tailored to understanding and overcoming the barriers of health for these individuals. Later in this section, it will identify other organizations that distinguish super-utilizers, based on hospital and clinic data in order to better coordinate healthcare.

In 2006 the U.S. Department of Health and Human Services found that 5% of the population accounts for 49% of the total health care expenses (Stanton, 2006). Having interventions that understand and target high-user patients can potentially decrease excess spending as well as provide better care to those who use the system the most. While identifying super-utilizers is a strategy used by hospitals and other organizations, helping these individuals should be a goal of all organizations involved with health and health coordination. Many super-utilizers use resources across the system from a number of different health agencies. In order to provide the most efficient, quality care, professionals must look at social determinants of health, such as income, education level, living arrangements etc. (RSWF, 2016). It is important to look at the social determinants of health because often times there are life circumstances and factors that are non-medical in nature that influence an individual's health (RWJF, 2016). Speaking with patients and understanding the areas that impact health is vital to patient's treatment (Waller, 2014).

The Camden Coalition of Healthcare Providers

The Camden Coalition of Healthcare Providers, based in Camden, NJ, is one example of a group that identifies and helps super-utilizers of health care better manage their health and reduce preventable hospital readmissions (Huget, 2012; Healthcare Hotspotting: Care Interventions 101). The coalition has four key principles that it employs: motivational

interviewing, trauma-informed care, accompaniment and harm reduction.²⁵ The coalition has an “outreach team“ that goes to patient’s homes, visits them in the hospital, or wherever they may be and helps them coordinate their health care, and other areas, such as housing and food access, that contribute to their status as super-utilizers (Huget, 2011). The Camden Coalition has been able to measure its long-term effect on its first thirty-six super-utilizers. “They averaged sixty-two hospital and E.R. visits per month before joining the program and thirty-seven visits after—a forty-per-cent reduction. Their hospital bills averaged \$1.2 million per month before and just over half a million after—a fifty-six-per-cent reduction” (Gawande, 2011). However, these costs do not include all expenses involved such as personnel, program development and medications prescribed to patients.

The Camden Coalition finds super-utilizers by using healthcare hotspotting – a tool that they have created. “Healthcare hotspotting is the strategic use of data to reallocate resources to a small subset of high-needs, high-cost patients” (Healthcare Hotspotting). Using this tool along with real-time data in the Camden Health Information Exchange (HIE), the coalition can find patients in need. “Hotspotting uses data to discover the outliers, understand the problem, dedicate resources, and design effective interventions. It is a movement for a new system of multi-disciplinary, coordinated care that treats the whole patient and attends to the non-medical needs that affect health: housing, mental health, substance abuse, emotional support” (Healthcare

²⁵According to the Camden Coalition: motivational interviewing is “A conversational technique that engages a patient’s motivation to change based on his or her own needs and wants rather than a provider’s goals.” Trauma-informed care is “A framework for care that realizes the prevalence of trauma in a population, recognizes the presence of trauma symptoms in an individual, acknowledges the role that trauma has played in a patient’s life, and seeks to avoid re-traumatization.” Accompaniment is “The principle that care coordinators should be active but short-term participants in health care provider visits and other interactions, with the goal of helping develop the patient’s capacity for self-advocacy and independent navigation of complex systems.” And harm reduction is “A set of practical strategies and ideas aimed at reducing negative consequences of various human behaviors, legal and illegal, especially those associated with drug use.” More information can be found at: <http://hotspotting.camdenhealth.org/care-interventions-101/>

Hotspotting). The HIE used by the coalition “is a collaborative data-sharing effort to improve care delivery in Camden. The Camden HIE is a web-based technology offering participating local and regional health care providers secure, real-time access to shared medical information” (Camden Health Information Exchange).²⁶ The coalition has a specific intervention timeline that includes multiple follow-up visits with the patient (See Annex IV). “Patients often don’t consistently receive follow-up care after leaving the hospital. Among Medicare beneficiaries readmitted to the hospital within 30 days of a discharge, half have no contact with a physician between their first hospitalization and their readmission” (RWJF, 2012). It is important to establish a coordinated protocol with multiple follow-ups in order to reduce readmissions and better coordinate care.

WellSpan Bridges to Health Program

Another example of an initiative that treats higher consumers of health care can be found in the rural Pennsylvania. The WellSpan Bridges to Health program, in York and Adams counties, “aims to improve the care of high utilizers, meaning patients with many chronic conditions who require more care than most patients and thus consume a higher proportion of total costs” (Burns, 2013). Chris Echterling, the medical director of the program, found that about four percent of high utilizers in York and Adams counties accounted for almost half of the spending there (Burns, 2013). Using a grant from the Robert Wood Johnson Foundation, Echterling and his team have met and consulted with the Camden Coalition to learn best-practices of identifying and working with super utilizers to learn from the Coalition’s previous

²⁶ Participants of the exchange include hospitals, primary care practices, laboratory and radiology groups, social services organizations, and other licensed health facilities and providers (Camden Health Information Exchange)

efforts and experience. WellSpan is a non-profit with limited resources, however, through grants they have been able to expand and continue their program.²⁷

In 2011, Echterling conducted a pilot study with 12 patients who were high utilizers of ER and hospitalizations.²⁸ “Once these 12 patients were enrolled in the program, they received a team-based approach to care, meaning their primary care provider had access to behavioral health and social services and home health care assistance. After the primary care physicians worked closely with these patients, the annualized number of ER, inpatient, and observation visits dropped by 25 percent and total costs dropped by 28 percent to about \$1.1 million” (Burns, 2013). These results show that targeting and helping patients who are super utilizers is a cost-effective strategy. While the motives of patients who excessively use the ER and hospital may differ, it is clear that seeking care in these areas are not lasting treatments to improve health, but rather quick remedies that do not benefit the patient or the health system in the long-run. Future studies should examine whether the decrease in hospital and ER admissions was accompanied by and increase in visits to one’s primary care physician. This will give a good indicator if the patient is making progress towards preventative care and preventative care strategies.

IV. Rockbridge Voices: Common Community Themes

The goal of this project is to provide options of programs of care coordination and take into account the perspective of active members of the community involved in health care. In this regard, I have spoken with a number of community members and organizations involved with health care and care coordination in Rockbridge. This sample group was by no means an

²⁷ It should be noted that WellSpan has received grants from multiple entities. Grants have been given to them from private investors and groups, such as the Highmark Foundation in Camp Hill, PA, as well as from the Robert Wood Johnson Foundation.

²⁸ These 12 patients had 99 ER visits total in the previous year, 62 inpatient stays, 25 office visits and over 12 months accounted for \$1.5million (Burns, 2013).

indication of everyone who is or should be involved in the discussion of care coordination, but rather a sample group to gauge the current level and interest of care coordination in Rockbridge. Future work and decision should include a larger scope of the community and all parties involved in care coordination. In these discussions, there were a number of common themes that emerged. This section aims to discuss some of those reoccurring themes in order to show aspects of the community voice.²⁹ Each individual interviewed was asked about the coordination of care efforts within their agency, coordination of care efforts with other organizations, and their perspective on coordination of care more broadly as it pertains to the Rockbridge area (Annex V)

³⁰ Common themes include:

- Defining care coordination
 - What is the definition of care coordination for Rockbridge?
 - Which patients/group of individuals/illness should care coordination initially be directed towards?
- Accountability
 - Who will lead the care coordination initiative?
 - Formal memorandum of understanding between organizations
- Communication
 - Within groups and between groups
 - Educating others in Rockbridge 2020 and in the wider community about organization practices, services and needs

²⁹ Some organizations and groups who contributed to this information include: Carilion's Stonewall Jackson Hospital, Rockbridge Area Hospice, Rockbridge Health Center, the Maury River Senior Center, and the Virginia Health Department to name a few²⁹ This list is by no means a complete depiction of all the voices and perspectives that should be included, but rather, a sample group.

³⁰ Sample meeting questions provided in Annex V

- Follow-Up: Communication between discharge planners and intake at the receiving facility
- Bridging the referral process
- Utilizing super-utilizers as the population of interest in interventions
- Barriers of care coordination
 - Technology
 - Every organization is at a different stage of technology use and implementation which can make initial collaboration challenging
 - Transportation in a rural community such as Rockbridge
 - Distrust, separation and isolation between different geographic areas of the community
 - Resources

Defining Care Coordination

One reoccurring theme was that the definition of care coordination used by local agencies and organizations varied widely. Because there is not a shared definition of care coordination, many found that it was hard to discuss and collaborate on such issues. For some, coordinating care meant filling in the gaps of care transition between hospitals, physicians, and other parties involved in health care (Rockbridge Voices)³¹. Areas related to social determinants of health but that are not medical in nature are often not considered in definitions used by local agencies, even though they may directly affect the health of patients (Rockbridge Voices). Rockbridge 2020 has a strategic plan that identifies coordination of care as one of its priorities (Annex VI).³²

³¹ While a number of groups and individuals were interviewed, for ethical considerations, all interviews are anonymous. All interviews will be labeled as “Rockbridge Voices” in this report.

³² Objectives of this plan include: Identifying high-utilizers of health services and providing transitional support to prevent hospital readmissions; coordinating referrals from one organization to another; and providing education to high risk patients.

Agreeing on a common definition of coordination of care will be important in not only defining next steps but also in developing strong collaboration across different agencies.

One question posed by a number of groups was how to identify patients who need the most help coordinating care. As shown in an earlier section, some organizations, such as the Camden Coalition of Healthcare Providers, have looked at high-risk patients who are super-utilizers of health care. With identifying super utilizers being one of the objectives of the Rockbridge 2020 Strategic Plan, this is in line with how other communities have been identifying patients who need more attention than the current system can provide. Therefore, one strategy would be to use super utilizers as a tool to identify patients to begin a coordination of care initiative. Some suggested that it may be helpful to have someone assigned to super-utilizers and check in with these individuals frequently just to have someone to follow-up on this particular group (Rockbridge Voices). This could be done by phone or physically going to meet these individuals. This person does not have to be a nurse or doctor, but nevertheless, this may reduce admission rates due to problems that can be solved outside the hospital or a doctor's office.

Many organizations expressed the desire to coordinate care more efficiently between organizations, but were unsure how to go about this. Some suggested using health coaches and others suggested a referral hub to refer patients to the specific care that they need. Main community concerns were chronic diseases (i.e. obesity, heart disease, diabetes and food insecurity (Rockbridge Voices).

Accountability

The idea and practice of accountability in coordination strategies was a concern for many organizations. While many organizations use formal memorandums of understanding (MOUs), not every group uses them, and not each member within the groups who use them know what the

MOU entail. Some suggested implementing and making sure all individuals in an organization know of their formal MOUs (Rockbridge Voices).

Each organization was asked who they would suggest to run a coordination of care initiative in the Rockbridge area. Because Rockbridge 2020 is currently an initiative that brings together people in the community to coordinate care, among other task areas, some suggested developing Rockbridge 2020 and tuning it into its own 501C3 (Rockbridge Voices). Some suggested having the entity exist under the umbrella of another organization that can house the initiative – only if said organization can remain impartial to the collaboration project (Rockbridge Voices)³⁴. Suggestions of organizations who could possibly head the initiative as the umbrella organization included: Carilion’s Stonewall Jackson Hospital or the Rockbridge Area Health Center (RAHC). The hospital and health center both have a number of resources, and this may be good place to start this coordination (Rockbridge Voices.).

However, the majority was in favor of a neutral, third organization heading the movement to coordinate care in Rockbridge (Rockbridge Voices). One potential concern was in regards to the costs that would be incurred with the creation of a new, neutral organization and the sustainability of this organization in terms of funding (Rockbridge Voices). The benefit of creating a neutral, non-connected party would be that is could prioritize its own agenda without the existing demands or influences of existing individual parties. As for funding, there are grants targeted towards collaborative efforts for health coordination; however, more research will need to be done on this front.

Regardless of which agency houses this effort, it will be necessary to hire someone either part time or full time to keep the collaboration and coalition together (Rockbridge Voices). This

³⁴ One potential concern for having the collaboration of care initiative under the umbrella of another organization is that the umbrella organization may want to assert its own values, goals and restrictions upon the collaborative coordination of care effort.

person can write grants, coordinate efforts across agencies, and maintain and update the already existing resource guide of all non-profits in the Rockbridge area.

Communication

With representatives from across the Rockbridge area, Rockbridge 2020 is a great launch point for coordination of care efforts. Everyone has the common goal of helping patients and improving care delivery and application. However, having everyone sit down at the same table to share a meal is not necessarily enough. In order to make the most of the group, each person in the group would benefit from learning about the other organizations in the group, what they are doing, and how they can best help one another. After this information is shared, each representative could then go back to their respective groups and share this information. The group must coordinate information between themselves in order to be successful in coordinating information for their patients.

Educating other groups about each other's programs would enhance communication efforts amongst the group (Rockbridge Voices). One suggestion is to have each individual/organization represented at Rockbridge 2020 put together a brief presentation or a summary about their organization, what they have done, what they plan to do, who they work with, and any help or areas they think could be coordinated more or helped by other organizations etc. and then present it to the group (Rockbridge Voices).

Communication and coordination between discharge planners and between intake at the receiving facilities (Rockbridge Voices) was also a theme that emerged in interviews with local agencies. There is a gap between when the patient leaves one health facility until they return to another. This can be an information gap, where the electronic record does not share all the patient's information and they receive the same test twice. There is a need for a more user-friendly system and reports (Rockbridge Voices). However, EHRs will not necessarily improve

work and coordination unless they are updated and this process is still being developed and refined (RWJF, 2016). This gap can even be seen in the referral process when a patient is referred from one organization to another (Rockbridge Voices). Who does follow-up with the patient? Is there more than one follow-up? How do these organizations work together to help the patient? What is the shared protocol? Many organizations have shown to have good internal communication such as having interdisciplinary team meetings (Rockbridge Voices). However, most agree that external and inter-communications can and should be improved.

Barriers

In discussions with organizations, a number of the limitations and barriers to coordination of care were also discussed. Technology was one of the most widely agreed upon perceived barriers of successfully coordinating care (Rockbridge Voices). Each organization uses different technology systems and not all of these systems are inter-operable, or able to speak to one another. Carilion has an HIE, but physicians outside of network cannot add to it (Rockbridge Voices). Some information that would be helpful to exchange would be: medications, health history, and code status (Rockbridge Voices). The system itself can be seen as a huge barrier, especially when many organizations in rural areas like Rockbridge are behind in technology updates and implementation (Rockbridge Voices). Some organizations are currently in the process of transitioning their records from paper to technology while others are looking at inter-operable systems (Rockbridge Voices). Due to the highly variable state of different organizations, the push for inter-operable and coordinated health information exchanges (HIEs) has been slow in the Rockbridge area.

Transportation in Rockbridge is also an expressed concern (Rockbridge Voices). Because Rockbridge is a rural community, transportation concerns affect a greater number of people. Having a vehicle is not the same as having reliable transportation (Rockbridge Voices). Someone

may have a car, but not enough money to pay for gas. Public transportation of any kind is very limited and only exists between the cities of Lexington and Buena Vista in the form of the Maury Express. Other options include the Rockbridge Area Transportation System (RATS) and the Easy Rider Cab Service, but both options can be expensive and the hours and availability are limited (Rockbridge Voices). With a large number of individuals in the Rockbridge area being over the age of 65, there are a number of geriatric concerns in the community (Rockbridge Voices).

Although the Rockbridge may be dispersed geographically, there is also an intangible barrier of trust and separation. There is a certain degree of distrust and division across the region. Many health groups and organizations are based in Lexington, and Lexington is viewed by many as the center of the area. This notion creates a divide between Lexington and other parts of the county and surrounding area, as some people are reluctant to come to Lexington to seek the health care they need (Rockbridge Voices). Rural areas can sometimes be fiercely independent and develop a mistrust of outsiders, and this view needs to be taken into consideration as well. Including people from all parts of the county in the discussion as to the best ways to coordinate care and taking practices and care directly to patients outside of Lexington may be two strategies to alleviating this concern.

Coordinating care can be an expensive endeavor. Rockbridge has a large underserved and impoverished population, and the area as a whole has limited resources (Rockbridge Voices). Although resources may be limited, there are a number of grants that specifically target care-coordination initiatives in underserved populations.³⁶The return on investment of programs that coordinate care varies depending on the measures that are used to calculate cost effectiveness (i.e. life expectancy, readmissions to hospital, patient satisfaction, financial costs of care). Both

³⁶ More research needs to be conducted on potential grants for coordination of care initiatives.

quantitative and qualitative measures should be used in the initiative decided so as to capture the full spectrum of the benefits of the program and its success.

V. Future

Grants

While researching grants was not the objective of this project, looking into funding to launch and sustain a coordination of care initiative is important. There are many grants aimed at groups who collaborate to coordinate care.³⁸ Some areas to look into include: the CDC, the Appalachian Community Fund Application, the VA Department of Health, Virginia Health Safety Net Grants, and the Robert Wood Johnson Foundation etc. Grants exist in the form of private funding, federal funding and outside organizations. While it may be challenging to get a grant independently, collaborating with multiple organizations is helpful to attract potential grant sponsors.

Health Information Exchanges & Interoperable systems

Discussing the coordination of technology is a major concern of coordination between health care systems, providers, and professionals. Interoperability (the ability for two or more systems to exchange information and use the information that has been exchanged) as well as health information exchanges (HIEs), will both require attention (Fridsma, 2013). While this project found technological coordination to be a future direction of coordination efforts, the following paragraphs discuss some specific considerations for Rockbridge.

In one executive brief by Manatt Health Solutions (2006), they discuss what hospitals and health systems should know about health information exchange (HIE) projects. “A recent RAND study estimated that savings from national implementation of fully standardized interoperable HIE between providers and other health care organizations could yield \$77.8 billion in annual savings, or approximately 5 percent of the projected \$1.7 trillion spent on U.S.

³⁸ Debbie Carpenter, of the Virginia Department of Health, has experience writing grants and working on coordination of care projects. It is advised to consult her on future projects and grant writing.

health care in 2003” (p. 5). However, the costs to providers can be very steep initially. “For this reason, a question for hospital executives is whether, and to what extent, payer organizations will cover their share of the enormous costs of transitioning from a paper to a digital system” (Manatt Health Solutions: Executive Brief, 2006, p.5). An HIE could potentially improve information exchange (See Annex VII). However it also has the potential to slow down work if all the kinks have not been worked out and fully tested (RWJF, 2016). Drew Schiller (2015), believes that HIEs will improve care coordination:

We need buy-in from physicians and administrators to build care programs utilizing this technology. Too often, care teams are spending their time calling other providers about patient information, faxing paper records and trying to coordinate care efforts across a disjointed and disconnected system. This is a drain on resources that could be better spent with patients on site or remotely monitoring patients with chronic conditions. We need a network connecting this data to create more effective workflows, care coordination, and prevention-based models of care. Whatever you choose to call it (interoperability, data liquidity or care coordination), we need data to flow easily throughout the healthcare ecosystem to improve the lives of patients. (p.1)

What this collaboration would look like depends on the interests of individual communities and stakeholders.

Health information exchange collaborations are very diverse and usually involve a wide variety of stakeholders (Manatt Health Solutions: Executive Brief, 2006). “More recently, a large number of projects began identifying themselves as regional health information organizations (RHIOs). This term was first coined by the ONC to describe entities that resolve operational issues of HIE (governance, business practices, financing, privacy and security) at the

regional level” (Manatt Health Solutions: Executive Brief, 2006, p.6). This type of organization is largely beneficial when patients use a variety of health systems in one region. Particularly in Rockbridge, this should be a consideration because the region is large and many patients use a number of different hospitals and physician’s offices.³⁹ Clinical benefits of using an RHIO include medication management, efficient use of lab and other diagnostic services, radiology image exchange, hospital discharge summaries exchange, and data from patient’s EHRs (Manatt Health Solutions: Executive Brief, 2006). One concern for implementing this initiative is the large estimated costs of an RHIO (Annex VIII).⁴⁰

In terms of technology, “there is no one commercial technology product for RHIOs, and the suite of the technology components for HIE is emerging but lacks standardization or commercial maturity. Stakeholders involved in RHIO projects today must be comfortable with being pioneers and navigating new terrain” (Manatt Health Solutions: Executive Brief, 2006, p.12). There are three main types of data architectures used: peer-to-peer, central data repositories and a mix of both. Data can be stored in the original systems of participating organizations or it can be integrated into one central location at a regional or more local vault (Manatt Health Solutions: Executive Brief, 2006).

In terms of privacy, “A threshold issue for hospitals is ensuring compliance with the *Health Insurance Portability and Accountability Act of 1996* (HIPAA). Fortunately, in most HIE projects, HIPAA creates parameters but not roadblocks. HIPAA permits hospitals to share protected health information for treatment, payment and health care operations (such as quality improvement) without patient authorization. Given the fact that most HIE projects are focused on using data for these purposes, they generally can be implemented under HIPAA without

³⁹ Hospitals used by citizens of Rockbridge County include, but are not limited to, Carilion’s Stonewall Jackson Hospital, Augusta Hospital, Waynesboro Hospital, University of Virginia’s Hospital etc.

⁴⁰ Projected costs of forming a RHIO include planning, development & Implementation and Operations.

establishing a patient authorization process” (Manatt Health Solutions: Executive Brief, 2006, P.14). However, state laws can sometimes be more stringent and therefore, there is a need to create clear policies regarding sensitive health information, patient consent, patient access to information, and other data use issues. Furthermore, this executive brief also discussed who should run the initiative. “While some question the need for a new organization, many RHIOs have found that one is necessary to resolve complicated issues of public trust, financial alignment and privacy and security solutions” (Manatt Health Solutions: Executive Brief, 2006, p. 12). Similar concerns were expressed by organizations in the community in regards to creating a separate coordination of care entity. Because many of the RHIO collaborators are individuals with full time jobs, there is a need for outside assistance and people who can be fully dedicated to working out the program (Manatt Health Solutions: Executive Brief). Considering hiring a full-time personnel dedicated to a coordination of care initiative was also recommended by other coordination of care initiatives (see CHWs above).

One benefit of an RHIO is that “participation in a RHIO can enhance hospitals’ internal capabilities by providing them with better, more timely clinical information and a more cost effective way to integrate their own EHRs” (Manatt Health Solutions: Executive Brief, 2006, p.11). However, “for these hospitals, [in rural areas] participation in a RHIO is likely to impose significant economic hardship, unless the RHIO invests in building and supporting the hospitals’ own systems as part of the project” (Manatt Health Solutions: Executive Brief, 2006, p. 11). The executive brief shows that hospitals and health organizations collaborating towards an HIE or RHIO have the decision to be pioneers in researching and implementing systems or choose to adopt a system once all the kinks are adjusted. The first option would allow for coordination of care at a technological level much earlier, but impose large development and planning costs on a

group. The second direction would involve staying up to date with current technological and HIE program advances in order to implement them at a later time.

Looking at Rockbridge, there are a number of organizations which are all at different places in technology use: some are currently using predominately paper for their records, others are transitioning from paper to digital, some have technology that is outdated and others are beginning to look at interoperable electronic health records (EHRs). Before a technological collaboration effort can be established, coordination at a personal and inter-organizational level must be formed.

Rockbridge 2020 is a starting place for the coordination of care effort, but there is a need for a neutral organization, with a full-time staff, that can research and develop a HIE, or interoperable EHR system to be put to use. It is the finding of this report that a rural community such as Rockbridge, with many different stakeholders, all at different points of the technology adaption process and due to limited resources, should invest in researching more about HIEs and interoperable exchanges before embarking on implementing these initiatives. It is important to first decide upon the goals and definition of care coordination and then decide what implications this has for choosing and implementing a technology framework or model.

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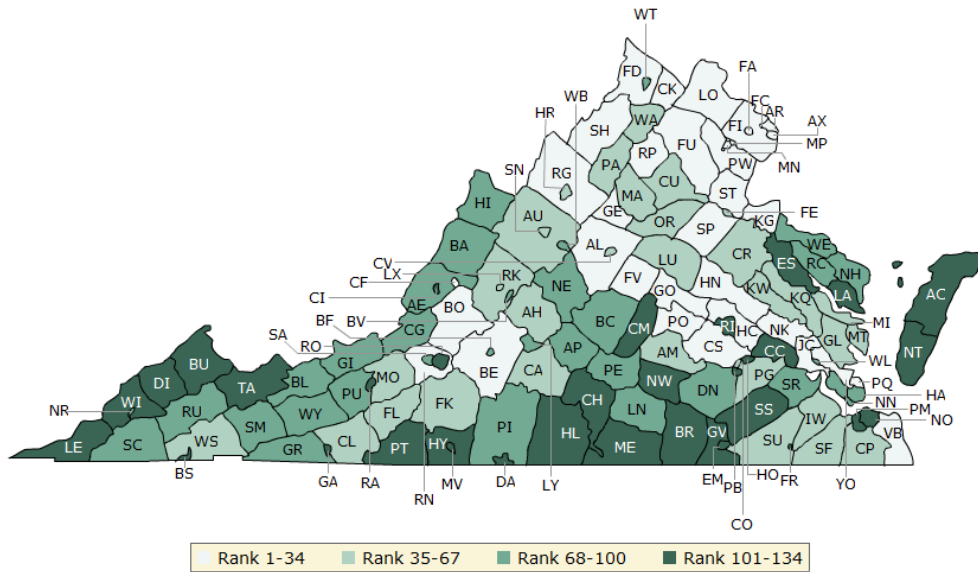
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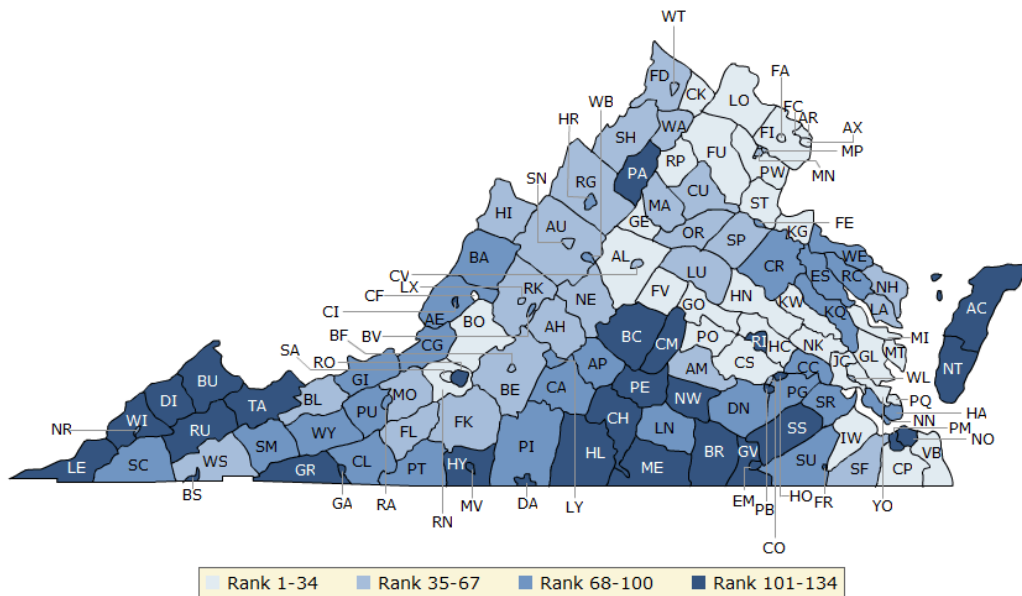
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Annex

Annex I: County Health Ranking Health Outcomes and Health Factors for Virginia.



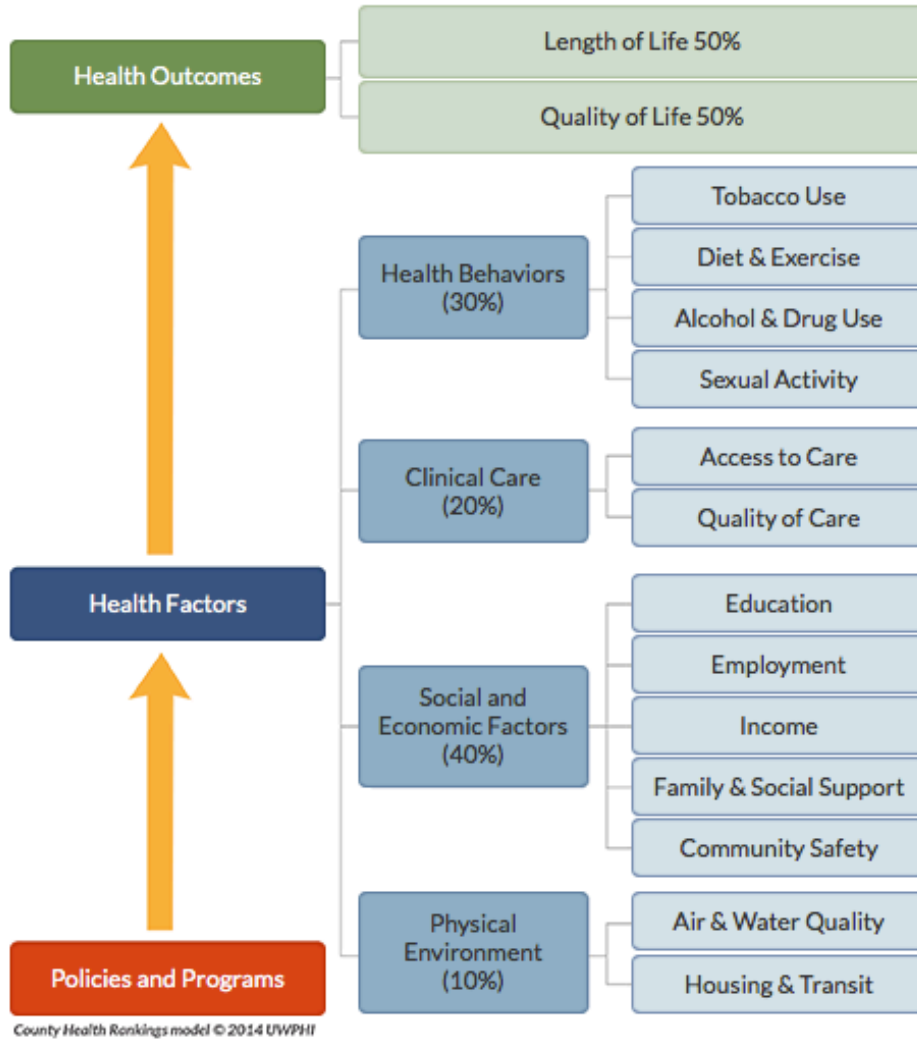
Note: This graph depicts an overview of the health outcomes ranking for Virginia. Darker and higher numbered areas are ranked worse in the health rankings



Note: This graph depicts an overview of the health factors ranking for Virginia. Darker and higher numbered areas are ranked worse in the health rankings

Annex II:

County Health Rankings and Roadmaps Model of Population Health



Note: The model above depicts how the features of the County Health Rankings and the weights given to different health factors. The model can be found at <http://www.countyhealthrankings.org/our-approach>

Annex III: Completed “Are you Poised for Progress?” Survey Completed by Rockbridge 2020 at June/July Meetings 2016



ARE YOU POISED FOR PROGRESS?

Do you have a shared vision for health and the people, plans, and resources that can help make your community a healthier place to live, learn, work and play? You can find out by taking this self-assessment tool, which is built on the foundation of the County Health Rankings [model of health](#), the Roadmaps to Health Take Action [cycle](#), and the [criteria](#) used to select RWJF Culture of Health Prize winners. This tool can identify your strengths in building a healthy community and indicate where more focused effort is needed. Learn more about what it takes to build a Culture of Health by viewing the [RWJF Culture of Health Prize](#) winners' stories.

Key Activities for Building a Healthy Community

Questions to Consider	We're doing this well	We could do more of this	We haven't started yet	Need help? The Roadmaps to Health Action Center can guide you
Are diverse stakeholders from multiple sectors working together effectively (including employers, community advocates, health care and public health professionals, government officials, grantmakers, policymakers, educators, and others)?		We should include the County Board of Supervisors, Buena Vista Officials, larger employers and someone from Glasgow.		Work Together: Recruit diverse stakeholders from multiple sectors. Communicate: Keep your partners informed and engaged
Are you working with community members, including those who may not have formal power, are most vulnerable or are experiencing the worst conditions for good health (such as members of low income communities and youth)?		We could do more outreach to both formal and informal community leaders. We could potentially use the local newspaper to do more outreach.		Work Together: Recruit diverse stakeholders from multiple sectors.
Using the Rankings and additional data, have you done a thorough assessment of your community's needs and assets?	We did a Community Health Needs Assessment in 2015 using Rankings data and other			Assess Needs and Resources: Identify community assets and resources

A collaboration between the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute.



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Questions to Consider	We're doing this well	We could do more of this	We haven't started yet	Need help? The Roadmaps to Health Action Center can guide you
	sources.			
Do you understand your community's vulnerable populations and the challenges they face?		We need more sharing of information, especially with businesses and officials.		Assess Needs and Resources: Collect primary data
Are you working with everyone in your community – especially those disproportionately affected by poor health – to ensure they have a role in prioritizing your community efforts on the factors that most influence health, such as those focused on social and economic factors and health behaviors?		We conducted focus groups with low income families, seniors, and people utilizing local mental health services during the 2015 CHNA. Their comments influenced the prioritization of needs in the community.		Focus on What's Important: Prepare to prioritize
Are you choosing evidence-informed strategies where they exist, with an emphasis on policy, systems and environmental change?		We are currently doing research on strategies employed in other communities to determine what will work best for our community.		Choose Effective Policies and Programs: Explore policies and programs
Where evidence doesn't exist, are you creating innovative strategies, and evaluating these new strategies along the way?			Haven't started yet.	Evaluate Actions: Prepare to evaluate
Are you implementing strategies that will create opportunities for all members of the community to make choices that allow them to live a long, healthy life (including ethnic minorities, those with limited English skills			Haven't started yet.	Choose Effective Policies and Programs: Consider the impact

County Health Rankings & Roadmaps

Building a Culture of Health, County by County

A Robert Wood Johnson Foundation program

Questions to Consider	We're doing this well	We could do more of this	We haven't started yet	Need help? The Roadmaps to Health Action Center can guide you
and/or education, and those with lower incomes)?				
Do the priorities you are working on reflect a reasonable balance between meeting immediate needs and bringing your community's long term vision for health improvement to life?		Starting the process. Will look at Connection program at Rockbridge Area Health Center.		<p>Focus on What's Important: Prepare to prioritize</p> <p>Focus on What's Important: Prioritize the issues</p>
Are you implementing strategies that change policies, systems or environments, as well as programs that meet individual needs?			Haven't started yet.	<p>Act on What's Important: Build political will</p> <p>Act on What's Important: Advocate for change</p>
Are you making effective use of financial and non-financial resources, such as particular experience and expertise of individual leaders and/or organizations?		We need more collaboration with poorer communities within our area.		Act on What's Important: Identify resources to support your activities
Are you bringing consideration of health impacts into public and private sector decision making?		Individual organizations in both the public and private sector participate in Rockbridge 2020 and are able to use shared information on health impacts when making decisions for their organizations.		<p>Act on What's Important: Identify key decision makers, allies, and opponents</p> <p>Communicate: Persuade decision makers</p>

County Health Rankings & Roadmaps

Building a Culture of Health, County by County

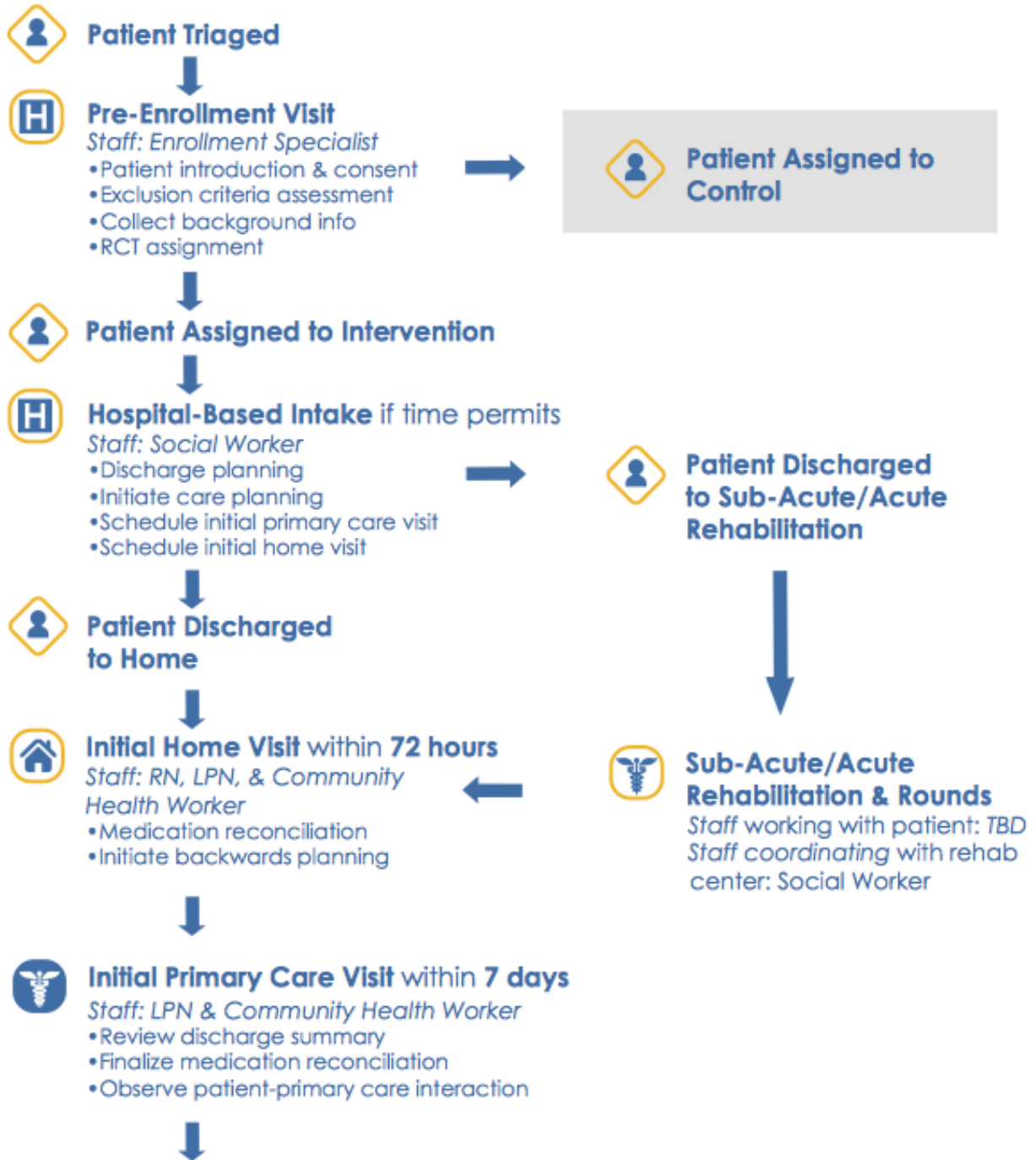
A Robert Wood Johnson Foundation program

Questions to Consider	We're doing this well	We could do more of this	We haven't started yet	Need help? The Roadmaps to Health Action Center can guide you
Are you engaging in thoughtful, regular monitoring and evaluation of your strategies as well as their long-term impact?			We are still working on plans and have not reached a point where we have come full circle to evaluate impacts.	<p>Evaluate Actions: Identify indicators and how to collect data</p> <p>Evaluate Actions: Monitor progress toward achieving benchmarks</p>
Are you sharing your work and your results with your community?		Our CHNA and strategic plan are publically available. Professionals in the community regularly use this information, however very few individuals are aware of it.		<p>Evaluate Actions: Share your results</p> <p>Communicate: Tell your story</p>
Are you seeking out opportunities to learn from others outside your community?		We are currently doing research into models used in other communities (such as the Camden Coalition in NJ).		<p>Community Stories - Health improvement efforts from around the country</p>

Note: This survey was completed by the coordination of care task force of Rockbridge 2020. While some organizations may have answered differently on some questions, the group tried to answer the questions with a mix of community perspectives and their own knowledge from their respective organizations.

Annex IV: Timeline Intervention – The Camden Coalition of Healthcare Providers

CMI Complex Care Workflow





Legend

***Additional Services:**

- Community Resource Visits
- Office-Based Coordination
- Diagnostic Testing
- Specialist Visits
- Referrals

Patient is no longer receiving services

C.O.A.C.H. is a training curriculum that teaches patients self-efficacy and empowerment.

Note: This diagram is a model sample of the timeline intervention that Camden Coalition implements for the patients that it serves. The intervention highlights home visits and follow-up with patients.

Annex V: Sample Interview Questions

1. What does coordination of care mean to you?
2. What is already being done for patients in terms of care coordination?
 - a. In the community
 - b. In your respective organization
3. What are your goals for coordinating care (for your respective organization)?
4. Are there need that are not currently being met in the community?
 - a. If so, what are they, and what coordination of care efforts could overcome these barriers?
5. In your opinion, who do you see as being in charge of/ leading a coordination of care initiative?
 - a. Does this group already exist? Would it be under an already existing group?
 - b. Or, would we need an outside entity? Suggestions?
 - i. How can an outside organization help?
6. How do you approach information sharing?
 - a. Can you walk me through the process?
 - b. Which organizations for you work with?
7. Is technology a barrier to coordinating care?, if so:
 - a. Why?
 - b. How did you/can you overcome it?
 - i. i.e. different organizations using different databases and software
8. Would a universal release form be helpful to you (in terms of coordinating care between organization)?
 - a. Who would you include?
 - b. How would you go about it?
9. In your opinion, what is needed to successfully carry out coordination of care in Rockbridge County?

Note: Questions varied based on individual/group interviewed and throughout the development of this project. This list is a sample of questions that were asked to most groups.

Annex VI: Rockbridge 2020 Strategic Plan 2015-2018

Rockbridge 2020
Strategic Plan 2015 - 2018**Priority: Coordination of Care**

Goal: Establish a coalition to identify best practice strategies and adopt a data-driven, interdisciplinary strategy to facilitate coordination of health and social services.

Objective 1: Identify high-utilizers of health services and provide transitional support to prevent hospital readmissions.

Resources:

-

<i>Key Action Steps</i>	<i>Responsible Parties</i>	<i>Timeline</i>	<i>Evaluation</i>	<i>Comment</i>
1. Start with high risk report generated by CSJH to identify patients in need	1. CSJH			

Objective 2: Coordinate referrals from one organization to another

Resources:

- Carilion physician offices have Care Coordinators assigned to assist patients with referrals..
- CSJH coordinates with local nursing homes, assisted living facilities, home care, physical therapy, hospice, community based care, etc. The team also helps facilitate transportation and arranges for DME to be delivered to the patient's home if needed.
- RACS not only provides outpatient services, but also care coordination. Mental health services have been doing care coordination for years, and may be able to help RAHC and CSJH in this area.

<i>Key Action Steps</i>	<i>Responsible Parties</i>	<i>Timeline</i>	<i>Evaluation</i>	<i>Comment</i>
1.				

Objective 3: Provide education to high risk patients

Resources:

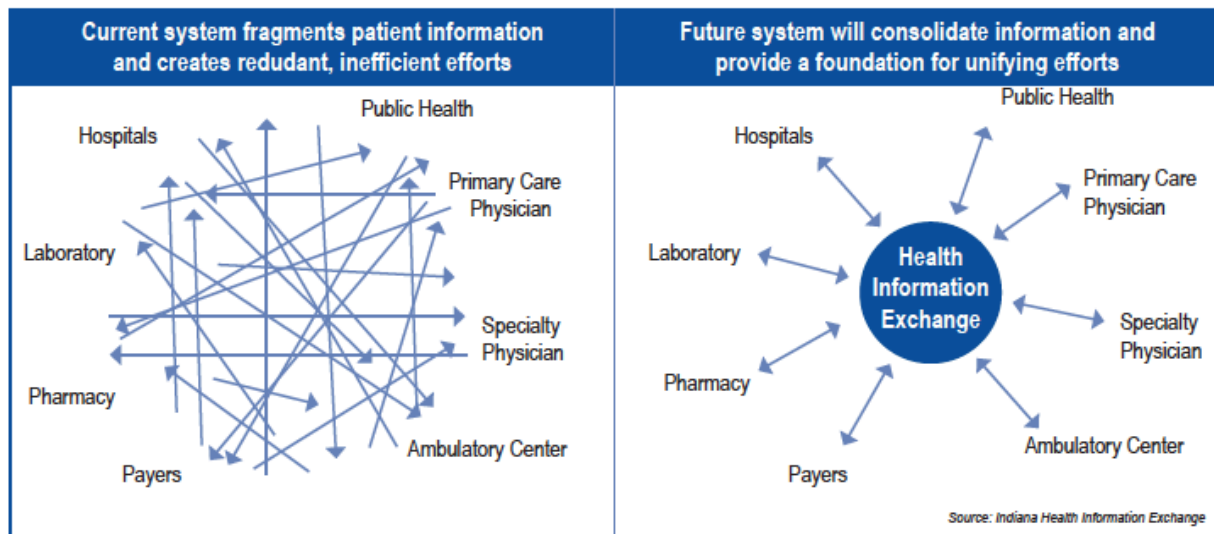
- Intrepid provides education for patients from home health workers. They do 60 and 90 day follow up with patients, and will reach out to the patient's doctor if a need is identified.
- RACS also provides skills building services. Ex. medication compliance.

<i>Key Action Steps</i>	<i>Responsible Parties</i>	<i>Timeline</i>	<i>Evaluation</i>	<i>Comment</i>
1. Adopt an implement an evidence-based education program on health literacy	1. 2.			

Note: The above document shows the current strategic plan used at Rockbridge 2020 as of August 2016.

Annex VII. HIE and Information Flow – Manatt Health Solutions: Executive Summary, 2006

Figure 2: Improving Information Flow



Note: The above diagram depicts the potential benefit that HIE's can provide to coordination care by improving information flow.

Manatt Health Solutions: Executive Brief. (2006). Health information exchange projects: What hospitals and health systems need to know. American Hospital Association. Retrieved from <http://www.aha.org/content/00-10/AHARHIOfinal.pdf>

Annex VII: Projected costs of forming a Regional Health Information Organization (RHIO)

**Table 2: Estimated Costs of Forming a RHIO
by Stage of Development**

<u>Stage of Development</u>	<u>Costs</u>
Planning	\$300,000 to \$1 million
Development and Implementation	\$3 million to \$10 million
Operations	\$2 million to \$5 million

Note: Planning and development costs will differ based on the desire of the group to invest in creating and implementing new technology (larger expenses early on) or wait for a proven HIE and RHIO system to be developed at a later time and adopt this model. Although developing new technology may incur larger expenses early on, the dividends in savings due to increased information flow and care coordination could pay dividends in the long run. Data and analysis to support this is still being done, and consistent results will probably not show for a number of years after implementation and operation.

Manatt Health Solutions: Executive Brief. (2006). Health information exchange projects: What hospitals and health systems need to know. American Hospital Association. Retrieved from <http://www.aha.org/content/00-10/AHARHIOfinal.pdf>