CARILION CLINIC

RESEARCH ACCELERATION PROGRAM

GUIDELINES & APPLICATION INSTRUCTIONS

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Carilion Clinic's Research Acceleration Program (RAP) offers funding resources for Carilion employees interested in pursuing clinical, biomedical or behavioral research projects. Projects of interest are projects that would advance (or contribute to) Carilion's care objectives, education and research excellence as well as strengthen Carilion's collaborative relationships across disciplines within Carilion and/or with research institutions within the region. While all significant, innovative, and rigorous research proposals are welcomed, applicants are encouraged to pursue research in the following Carilion Clinic priority areas:

- Research addressing addiction in our region
- Engagement of rural participants in the clinical research process
- Utilization of telemedicine in the execution of a clinical research study
- Management of high-risk patients (e.g. patients with serious chronic disease, multiple comorbid conditions, significant psychosocial challenges) to increase engagement in self-care and prevent ED visits and hospital admissions
- Methods for reducing overutilization of high-volume, low-value clinical services

The Research Acceleration Program has a threefold purpose. First, it is designed to foster a culture of independent research within Carilion and offer the opportunity for Carilion employees to develop research capacity by engaging in pilot projects. Second, the program is intended to provide seed funds for the purpose of producing preliminary data prior to applying for future extramural funding opportunities. Third, the program is intended to result in meaningful changes in patient care—defined broadly to include basic science for the development of candidate health applications to implementation science for the integration of evidence-based medicine into routine practice. RAP grants are not intended to be a source of ongoing support for an investigator's program of study.

This is a competitive program with the granting of awards determined by the quality of submissions (significance, innovation, approach) and the availability of funds. Submissions will be reviewed, and awards provided by the Carilion Clinic Research Merit Committee.

Type of Grant Applications:

Tier I

The Research Acceleration Program supports investigator-initiated research projects with awards up to \$40,000

Eligibility criteria

An application may be either an individual who has not received RAP Tier I funding in the past three years (RAP 13, 14, 15) or from a collaborative group as long as one Carilion employee is the Lead Principal Investigator (PI). Any Carilion professional or research

employee may apply and serve as a PI. Per the Carilion PI policy, exceptions may be made with prior approval.

The Merit Committee encourages established investigators as evidenced by prior extramural funding or a significant publication record in peer reviewed journals to apply for Tier I RAP grants.

Proposals that have been previously reviewed and scored but did not receive funding from an external funding agency are encouraged provided your proposal meets the Carilion Clinic priority areas as stated above. All submissions of this type should be accompanied by a copy of reviews as an appendix at the end of your proposal.

Applications are particularly encouraged from those who show active collaboration across disciplines within Carilion Clinic and/or with external partners including our iTHRIV partners (University of Virginia, Virginia Tech and Inova Health Systems).

Submissions will only be considered for review if the potential principal investigator has no unresolved compliance issues with research oversight (e.g., IRB, Carilion Security Governance Committee, and Carilion Biosafety Committee).

Tier II

The Research Acceleration Program encourages new investigators to apply for Tier II RAP grants. The Research Acceleration Program supports investigator-initiated research projects with awards up to \$10,000.

Eligibility criteria

New investigators are defined as those individuals who have not received RAP Tier I funding in the past nor have received federal funding, e.g., NIH/ NSF. Medical Fellows may apply as principal investigators with the approval of their respective department chairperson.

Submissions will only be considered for review if the potential principal investigator has no unresolved compliance issues with research oversight (e.g., IRB, Carilion Security Governance Committee, and Carilion Biosafety Committee).

Tier III

The Research Acceleration Program encourages investigators to apply for Tier III RAP grants with awards up to \$2,500. Tier III grants fund interdepartmental/interdisciplinary research colloquia from two or more departments and/or functional areas. These grants are designed to stimulate collaboration between scientists, clinicians, nurses and students interested in a biomedical problem or area. Funds can be used for education, training, seminars etc. Potential areas for funding include the microbiome, oncology, translational medicine, genomics, rural health care delivery and bioethics.

Eligibility criteria

Tier III grants must be submitted with two or more principal investigators residing in two different departments or functional areas, i.e., nursing and internal medicine etc. Applications are particularly encouraged from those who want to develop an active collaboration across disciplines within Carilion Clinic and/or with external partners such as faculty from regional universities.

General Award Guidelines:

The Department of Research & Development (Research and Development) will announce a request for applications (RFA) in the first week of January. All Tier II and Tier III grant applications are due on Friday, February 7th at 5:00 pm EST. The Merit Committee will review all applications and announce successful awardees no later than 30 days after the respective due date.

Tier I Letters of Intent (LOI) are due on Friday, February 7th at 5:00 pm EST. Applicants selected for a full Tier I proposal will be notified by February 21st. Applications will be due on April 1st 2020.

Projects involving human subjects, chart reviews, behavioral interventions, translational studies, etc. will require Institutional Review Board (IRB) review (Tier I and II). Once a project is approved by the Merit Committee, the Principal Investigator (PI) must obtain Carilion Clinic IRB approval or exemption. In general the Merit Committee requests that submission of your IRB application occurs 30 days following receipt of the award.

The duration of funding for any RAP project is one year. If IRB or IACUC (for animal projects) review is required, the one-year period begins upon receipt of IRB or IACUC approval. If awardees have a project not requiring IRB or IACUC review, the one-year period begins upon receipt of the Merit Committee award letter.

To ensure that RAP projects are proceeding as planned, interim reports may be required. These reports are due at the end of each quarter (three-month period) of the funding year. A final report is due 60 days after the one-year project period has ended. Failure to submit reports may result in the withholding of remaining funds or denial of future submissions. Please see *Reporting Requirements* on page 12 of these guidelines.

Funding and budget

There is no specified limit on a category of expense; however, the budget request will be carefully considered in funding decisions The following expenses are allowable:

- Supplies, both laboratory and medical
- Patient-related procedures

- Equipment with justification of how it is directly required for the successful completion of this research proposal (defined as any non-expendable item costing \$1,000 or more)
- Patient-related fees (reimbursements, medical costs, etc)
- Travel related to the project (mileage)
- Expenses related to printing or developing project-related materials (surveys, brochures, etc) and publication costs
- Fees for statistical analysis, clinical research coordinators (CRC), pharmacy support, or other staffing that would be required for the completion of your protocol (e.g. technician, nurse, therapist) NOTE: If a coordinator is needed, it cannot be an admin person from a department **if** anything procedural related, information will be entered into EPIC, or if any procedure, etc. will be billed; the coordinator must be a Research and Development CRC.
- Salary and fringe benefits for support positions **only** (funds cannot be used for graduate student stipend and related tuition costs)
- Consultation fees for persons bringing critical information or skills to the study but who are not investigators and will not be included in any resulting manuscript or presentation.
- Costs up to \$1,800 for regional, national and international meetings to present findings.

Note that if support staff time is budgeted, these salaries are subject to fringe benefits. Contact Research and Development office to obtain the fringe benefit rate. Please see Budget Request and Justification section beginning on page 5 for guidelines. Contact Research and Development's Clinical Trials Director, Andrea Bidanset <u>albidanset@carilionclinic.org</u> if you need to request a research coordinator for your project.

Salaries and fringe benefits for the PI and investigators are **not** permitted on RAP budgets. The PI and any investigator must secure the time and associated salary necessary to complete the project from his/her respective department. Because professional fees for clinical services rendered by an investigator are based upon a physician's time, these will be waived. However, professional fees generated by physicians in another department must be included in the budget. In addition, honoraria or salary supplement is not permitted for medical care personnel providing services for which a billable charge is generated. Facilities and Administrative (F&A) fees (overhead, indirect costs) are not permitted on RAP projects.

In cases where collaboration is with an outside investigator, Carilion will require a subcontract or teaming agreement with the outside investigator's institution. Under these agreements, the investigator's institution will be allowed funds from the grant for such expenses as supplies, patient-associated costs, lab fees and/or support staff. Salaries and fringes for any subcontractor investigator(s) will **not** be allowable. Note that any funds requested by the outside investigator will be included in the respective budget limit for Tier I and II grants. Agreements with any other institution will only be made upon award of the project. Research and Development will work directly with the other institution's sponsored programs office to ensure all RAP requirements are met.

Application Instructions

Individuals preparing RAP applications are strongly encouraged to meet with Research and Development personnel before submission of the application documents. Research and Development personnel are available to help develop the budget and justification as well as answer questions on the application. New investigators are also encouraged to develop a mentorship with Carilion faculty members who are experienced researchers.

Setting up a meeting or speaking with Research and Development personnel should be done well in advance of the application deadline to allow for possible modifications to the application or budget. It is the Principal Investigator's responsibility to submit the completed application (Tier I and II) or LOI (Tier I) by 5:00 pm on February 7, 2020.

Applications must include the following documents:

RAP Application Form

Complete the RAP application form by following directions indicated on the form. If you have questions on any sections of the form, you are encouraged to contact Research and Development for assistance. All personnel on the project must be included on this form. If any investigators involved are from different departments than the PI, those department chairs/vice presidents must approve of the involvement. A signature space is available on the application form; however, an email from the department chair/vice president is sufficient. Those involved in the project who are not Carilion employees (e.g., VT, VTCRI, VTCSOM, UVA, etc. investigators), must also be listed on the application form.

Budget Request and Justification

Complete the budget form provided in the application form and include a justification for each budget item requested. Follow the budget guidelines below for each category; leave blank those that are not applicable.

On the justification page, indicate why each expense is a necessary part of the project and why the request should be funded for this amount. If there is any matching funds or donated items from your department, indicate this at the end of the justification.

Each budget category must be justified separately in the budget justification.

Personnel

Personnel funds may be requested **only** for support positions. These include research assistants, students and other support staff. Note that the fringe benefit rate for Carilion support staff varies depending upon the department. Please contact Research and Development to obtain the correct fringe benefit rate.

If you plan to have a university, such as Virginia Tech, as a subcontracting partner on your project, please note that Graduate Research Assistants (GRAs) are not allowed to use RAP funds for thesis or dissertation projects. Therefore, it is not permissible to budget for a GRA's tuition and stipend cost. Students can be listed on RAP projects as support staff and paid an hourly rate.

Note that if Research and Development Clinical Research Coordinator or Statistician time is requested, these do not go under the Personnel section. These positions are within Carilion "service centers" where fees are assessed at an hourly rate, as opposed to charging salary and fringe benefits based upon effort. Please contact Research and Development for a list of service center rates. Costs for Carilion service centers should be entered in the "Other Expenses" category.

Itemized Ancillary Services

Supplementary services such as research lab usage, imaging, laboratory tests and technology services may be charged on RAP projects. Research and Development can provide the appropriate price for hospital services. Please specify which service is required on the budget form and describe the need for this service in the justification.

Materials and Supplies

On the budget form, provide a detailed list of supplies; do not include supplies as one lump sum. Note that supplies do not include items normally furnished by departments (files, pencils, etc.). Only requests that can clearly be justified as essential to the proposed research will be considered.

Equipment (Capital)

Equipment at Carilion is defined as any non-perishable item \$1,000 or over. Any equipment must relate directly to the project, and all equipment purchased becomes the property of Carilion. This includes computer-based equipment as well. Note that each item of equipment must be justified carefully and state why each capital item would be better suited to carry out the project than what is already on hand within the PI's department or division. Capital will only be allowable if it is essential to complete the project and no suitable alternative is available. A current quote from the vendor must also be included for all requests. For computer-related equipment, this can be procured from Carilion TSG.

Consultant

If a consultant is required, indicate the name of the consultant and give the hourly rate and/or agreed upon costs. Justify the reasons why the consultant is needed for the project to succeed. A letter of commitment from the consultant, with the total of fees charged for the project, **must** be included in the RAP application packet. It is important to note that a consultant may not be included as an author/investigator in any resultant manuscript or presentation.

Subcontractor

If employees from another institution (using their laboratory or other facilities) are involved, enter that information in this section of the budget form. Name the institution that will serve as a subcontractor and give the total budget amount required by that institution. In the justification section, be sure to specify a breakdown of all costs (e.g., support staff, supplies, and travel). A letter of commitment from that institution's sponsored programs office must be submitted to the Carilion Department of Research and Development before submission of the application. This letter ensures that the subcontractor is aware of, and able to adhere to, the RAP guidelines and policies. If a project will involve a subcontracting institution, Research and Development must be notified of this as soon as possible. Research and Development will contact the institution's sponsored programs office and work with them to make certain all budget requirements are followed.

<u>Travel</u>

Mileage reimbursement may be requested if it will be required between sites or for obtaining resources related to the project. Travel for the PI or one research team member to attend a national or regional conference to present project findings is limited to \$1800. A copy of the invitation to present or a copy of the agenda is required

Patient-related Fees

Patient-related fees such as procedure costs and patient incentives (stipends) are allowable. Please contact Research and Development for costs associated with physician and hospital procedures, as Research and Development can often negotiate for a lower cost for research projects. (Note that if you need a procedure done outside of standard of care, either you need to budget for it, or you need a cost share approval from the chair. For example, an ECG every week for six weeks is not standard of care, so you would need to budget for those ECGs, or get cost share approval to waive the cost.)

Additional Budget Concerns

As RAP funds are intended to underwrite research conducted by Carilion staff, overhead (F&A) is not allowed on any RAP project.

Be sure to show matching or donated amounts where these are made available by your department, or through other sources such as collaborating partners. This information should be included in the budget justification.

Project Narrative

The project narrative must adhere to the outline shown in the application form (Section IX). The narrative will be considered incomplete if any section is missing. If a section is not applicable, do not leave it blank; state it is not applicable and explain why.

The project narrative must be typed in 12-point font (Arial or Times New Roman) and singlespaced and with no smaller than 0.5 inch margins on all sides. The narrative must be no more than 6 pages. You may use the outline provided in the application form or complete the narrative as a separate document.

The narrative must include the following elements:

Study Abstract

{*Provide a brief, non-technical summary of the study, including study purpose, methods, population(s) and expected outcomes. It should stand on its own and not refer to points elsewhere in the protocol.*}

Background (Significance and Innovation)

{Summarize background information about the research question(s). Tell why the research is needed and include the relevance of the research to contribute to this field of study. Also, provide references to relevant articles in the literature. (If you have more than 10 references, please submit the list of references as a separate attachment. Otherwise, please insert them here.)

Objectives/Specific Aims

{State the research hypothesis or question(s) the research will answer. List the research objectives and expected outcomes. A primary outcome or objective must be identified. After the statement of the primary objective, secondary objectives may be listed. Objectives should be simple and specific.}

Study Design (Approach)

{Begin with a brief description of any preliminary studies. Give a description of the research design, including the use of placebo, randomization and an explanation of what is experimental. Include type of study: descriptive, retrospective, cross-sectional, longitudinal, prospective, observational, and experimental (controlled or non-controlled) or pilot.}

Study Population

{Describe the subject population, including age, gender, ethnic characteristics and health status. State the inclusion/exclusion criteria along with how this was determined and by whom. Please state whether pregnant women, children, or other vulnerable groups will be included or excluded. Provide rationale for using or excluding special populations. Address the feasibility of your recruitment and retention strategies.}

Methodology

{List all activities or procedures that will be performed (e.g. pre-treatment tests and medications, tests and medications used during therapy, diagnostic tests, X-rays, laboratory tests, questionnaires and other forms, interviews, focus groups, chart reviews, etc.) Describe how and where tests will be analyzed. Distinguish any standard processes from those that are research. Please describe activities/procedures in a step-by-step, chronological order.}

Data Collection/Extraction

{List exactly what data is to be gathered during this research study. Include data collection methods and how data will be compiled for assessment. Attach a copy of your Data Collection tool to this application. Address the data extraction questions below and the feasibility of obtaining the data within the RAP time frame}

Data extraction questions:

Over what time period will data be extracted?

How is the population defined (please provide detail on specific diagnosis codes, procedure codes or other elements)

What departments/locations should be included? Are there other exclusions like deceased or non-Carilion PCPs?

What data elements are you requesting on the report? Please be very specific for example specifying specific conditions or specific target medications or results? Keep in mind that you should have far fewer variables than patients.

Statistical Analysis

{State how qualitative and/or quantitative data will be analyzed. Other outcomes may be listed as secondary and descriptive. }

Research Dissemination

{Describe expected outcomes and how the findings will be used to inform future work. Indicate expected modes of dissemination of the study findings (publications, presentations, patents, etc). Provide specific extramural directions you will follow should your hypotheses be supported and the directions you will take should the hypotheses not be supported. As such, indicate how you plan on submitting for an external grant (Foundations, NIH, state agencies, etc) based upon your findings, including specific information about potential funding opportunities (RFPs) to which a proposal will be addressed. Finally, if the application is related to a Carilion care priority, describe methods that will be used to ensure the findings are implemented broadly across the system, if applicable.}

Supporting Documents

Biographical Sketches

A biographical sketch is required for the PI as well as all investigators involved in the project. This includes investigators from other institutions and any consultants. Please use the Carilion "biosketch" format provided with the application materials. The biographical sketch must be the same font as the narrative (Times New Roman or Arial, 12-point) and must be no more than four pages. Provide a brief description of your role on the proposal and your expertise for fulfilling that role. Limit your list of publications to 15 references that are most relevant to the current proposal. Include grants that are ongoing or have been completed in the previous 5 years. If previous RAP awards have been received please indicate the outcomes of those projects explicitly.

Support and Commitment Letters

If other institutions or individuals outside of Carilion will be involved in the project, provide evidence of commitment. If an investigator is from another institution, that institution's sponsored programs office must submit the proper paperwork to Carilion's Research and Development before the application can be considered complete. Carilion Research and Development will require the following documents:

- Letter of Commitment from the institution's sponsored programs office.
- Statement of work that outlines what the institution's personnel are responsible for on the project.
- Budget breakdown and justification of the requested costs.

If a consultant is involved, a letter from the consultant that outlines work that will be done as well as fee for this work must be included here.

<u>Appendix</u>

Although not required, up to ten pages of appendix material may be included in addition to the application. While the application should be in layman's terms and should stand by itself, the appendix is a good place to include additional materials that may give reviewers more information on the project or the PI's background. The following material may be included in the appendix:

- Literature cited, references (please only those directly related to the project research)
- Literature searches,
- Abstracts of publications directly relevant to the project,
- Flow charts or images,
- Surveys, questionnaires and data collection instruments,
- Detailed methods
- Documentation of Carilion's care objectives.

Please note that the reviewer is not required to read the appendix; therefore, it is important that your application be able to stand on its own.

Required Internal Forms

Institutional Review Board Application

If your work involves human subjects and IRB approval or exemption is required, you are required to submit a completed IRB application (including consent forms) through PRIS3M. If you have already received Carilion IRB approval prior to submitting your RAP application, please indicate this in your application (in the Research Design and Methods section of the Narrative) and include the letter in the application packet.

Information on the IRB application can be found here: https://www.carilionclinic.org/irb/process#how-do-i-submit-a-new-study

Administration of Awards

A central goal of a RAP award is to support Carilion investigators in their pursuit of extramural funding for their projects. A strong part of this support is assisting the PIs in grant stewardship once the project has been awarded. After award, Research and Development personnel will work closely with each PI to ensure all RAP and Carilion guidelines on spending and reporting are followed.

Program Management

Upon notification of award and before the project begins, Research and Development personnel will meet with the new PI to discuss the post-award procedures that both the PI and Research and Development are responsible for. New PIs will obtain their grant activity codes, learn about Research and Development forms and processes necessary for award administration, and gain a full understanding of compliance requirements.

All requests for orders for supplies, equipment, etc., as well as travel and personnel time expenses, must be routed through Research and Development. Research and Development personnel will approve these expenses and work with the Finance Department to ensure the expenses are charged to the correct project account. Research and Development will send expenditure reports to the PI by request, allowing the PI to make certain all charges have been correctly applied.

At this time the PI may wish to submit an updated timetable to Research and Development. The PI should carefully consider whether the initial timetable goals are still reachable, as this timetable will be used by the Committee to weigh the success of the project when reviewing each progress report. The PI should consider any budgetary issues that may delay start, IRB-related delays or other delays that potentially could result in the timeline not being kept. Recall, however, that the general structure of RAP grants seeks the completion of the project in one year from the onset.

Reporting Requirements

Following IRB approval, interim progress reports may be required periodically. These reports will outline the progress of the project to date as well as the benchmarks completed. They should be emailed to Research and Development: research@carilionclinic.org.

The original or revised timetable approved by Research and Development (see above), must be included in all progress reports, and the PI must show that the project is progressing as planned. Any unexpected delays or barriers must be carefully detailed and justified. The Committee reserves the right to request additional clarification from the PI should the project not be on schedule. If there is no IRB approval (if applicable), no expenditures and/or no enrollment activities within the first three (3) months, funding of the project may be terminated.

A final, completion report is due 60 days after the one-year project period has ended. This report must include results of the project as well as a description of future extramural submissions. As applicants are expected to develop poster presentations, abstracts and/or articles based upon their findings, these accomplishments should be listed, and copies should be presented with the final report. A final report form is available on Research and Development's RAP web page. PIs will receive reminders from Research and Development prior to the due date. A project is not considered complete if the final report is not submitted, and this may result in future RAP submissions being rejected. Final reports should be submitted to Research and Development.

Budget Modification Requests

Once a project has been approved, Accounting will enter the budget into the system by means of line-item account codes. If, during the progress of the project, the PI finds that certain costs will not be required or that certain items will be more expensive than initially thought, a budget modification request form may be submitted. This form allows the PI to move around line-item costs within the budget if these changes are justified fully. Note that this does not allow the PI to request new funds. It should be noted that any unused funds, whether from an original overestimate of costs or from denial of budget adjustments, will be returned to Carilion upon

completion of the project. Funds are not available to "roll-over" to another grant nor can funds be used by the investigator for non-research purposes.

Extension Requests

RAP awards are not intended to provide ongoing, long-term support for a project. At the end of one year, from the latter of award notification or IRB approval, the PI should have completed the project and have enough data to submit for an extramural award. The Merit Committee is aware that occasionally complications arise that require a project to be extended. If a PI has met most benchmarks and has submitted all reports to date, an extension request may be made to the committee. These extensions are for time only; **no additional funds will be awarded**. A PI can request only one extension for up to 6 months.

To request a project extension, the PI must contact the Research and Development Office. The PI must fully explain the justification for the extension request. Requests should be submitted to Research and Development no later than two months **before** the scheduled project end date

Selection Criteria & Scoring

Submissions will be evaluated based on quality and merit, alignment with Carilion's care objectives, education, and research, as well as the likelihood of extramural support. The Merit Committee will also consider the scope of the submissions and give consideration to those that have a manageable aim in terms of timeline, data gathering and contribution to overall knowledge of the subject matter. Only applications that follow the specified guidelines will be considered for award. The application with attachments must stand alone. Incomplete applications, including project narratives that do not adequately describe the methodology of the project, will not be considered for award. When reviewing submissions, the following criteria are

RAP GRANT SCORING SYSTEM

Application Title:

Reviewer Last Name:

Principal Investigator(s):

Overall Impact score = (1 – 9, 1=Exceptional/9=Poor)

Reviewers will provide an overall impact score to reflect their assessment of the likelihood for the project to exert a sustained, powerful influence on the research field(s) involved, in consideration of the following six scored review criteria, and additional review criteria. An application does not need to be strong in all categories to be judged likely to have major scientific impact.

Overall Impact: Write a paragraph summarizing the factors that formed your Overall Impact score.

Scored Review Criteria

Reviewers will consider each of the five review criteria below in the determination of scientific and technical merit, and give a separate score for each.

1. <u>Significance</u>	Score (1-9)
Strengths	
•	
Weaknesses	
•	

2. Innovation	Score (1-9)
Strengths	
•	
Weaknesses	
•	

3. <u>Approach</u>	Score (1-9)
Strengths	
•	
Weaknesses	
•	

4. Dissemination	Score (1-9)
Strengths	
•	
Weaknesses	
•	
5. Investigative Team	Score (1-9)
Strengths	
•	
Weaknesses	
•	
6. <u>Feasibility</u>	Score (1-9)
Strengths	
•	

Weaknesses

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Additional REVIEW CRITERIA

Budget and Period of Support	Acceptable
Recommended budget modifications or possible overlap identified: •	Not Acceptable
•	Acceptable with revisions (suggestions required)

Additional Comments to Applicant

Reviewers may provide guidance to the applicant or recommend against resubmission without fundamental revision.

Additional Comments to Applicant (Optional)

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Section Elaboration:

<u>Section 1 – Significance</u>

Specific aims of the proposed work are clearly stated and understandable to a non-specialist reader.

The research objectives would be a significant achievement and represent a meaningful advance in science and/or quality of care.

The research objectives are reasonable and attainable given the time period and requested support.

The application successfully demonstrates the potential impact of the project. The issues addressed are important and timely. The severity and prevalence of the issue make the proposal compelling.

The application is consistent with and would contribute to Carilion's care objectives and clearly describes how the proposed work may advance knowledge or practice in the field (i.e., the work addresses gaps in the literature, advances the state of scholarship, and/or adds value in some other way).

Demonstrates that this is an area of interest for extramural sponsors.

Section 2 – Innovation

Does the application challenge and seek to shift current research or clinical practice paradigms by utilizing novel theoretical concepts, approaches or methodologies, instrumentation, or interventions?

Section 3 – Approach

The descriptive, analytical, and other proposed research methods are clearly articulated and sufficiently detailed so that a non-specialist reader understands how the applicant will conduct the proposed work.

The application persuades general readers that the proposed methods are reasonable, appropriate, and likely to result in the accomplishment of the research objectives. The Principal Investigator and research team are capable of performing all research procedures and tasks.

The work plan states realistic benchmarks and proposed timeline for completing the tasks required to achieve the research objectives.

There are no immediately identifiable concerns regarding compliance, including IRB or biosafety committee approvals.

The application includes description of collaborative efforts within Carilion and/or with external partners.

The application contains information about the extent to which Carilion's infrastructure is capable of supporting the project.

Section 4 – Dissemination

Describe expected outcomes and how the findings will be used to inform future work. Indicate expected modes of dissemination of the study findings (publications, presentations, patents, etc).

The application contains information pertaining to next steps including potential extramural applications or dissemination of new approaches to care across Carilion Clinic and other health systems.

Section 5 – Investigative Team

The application contains information about how the expected results will likely provide meaningful support to a larger program of research

The PI and team demonstrate appropriate background and understanding of the research question and proposed methods to achieve a successful completion of the project.

Section 6 – Feasibility

The research project is feasible from a Human Resource standpoint (personnel).

The research project is feasible from a subject recruitment standpoint (have patient population in excess of recruitment goal).

The research project is feasible to be completed within the 12 month funding period.

The research project appears feasible according to the data acquisition and analytic plan.

Budget Section

The proposed expenditures are clearly stated and reasonable.

The proposed expenditures are necessary for achievement of the stated research objectives and the budget is consistent with the work plan.

Overall Impact or Criterion Strength	Score	Descriptor
	1	Exceptional
HIGH	2	Outstanding
	3	Excellent
	4	Very Good
MEDIUM	5	Good
	6	Satisfactory
LOW	7	Fair
	8	Marginal
	9	Poor

Further Questions

Any questions regarding the RAP process and application requirements should be directed to Carilion's Department of Research & Development, 540-985-8510 / research@carilionclinic.org. Interested applicants are encouraged to contact Research and Development and schedule time to discuss the application process and procedures.