Kenai Peninsula Borough

Project Reach*

How many Alaskans will be served by the project?

10,000-24,999

Populations Served*

What populations will be served by your project? Select all that apply.

Alaska Native peoples
Alaskans with complex care needs
Alaskans with or at risk of chronic disease
Elders and older Alaskans
Health care workforce
Rural Alaskans

Serving Rural Alaskans*

Please describe how your project will improve access, quality, or sustainability of health care for rural, remote or frontier communities.

South Peninsula Hospital (SPH) is owned by the Kenai Peninsula Borough and operated by South Peninsula Hospital, Inc., a locally governed 501(c)(3), and one of only three independent Critical Access Hospitals remaining in Alaska. SPH serves a population of 15,000 that substantially swells during the summer. The 16 communities in the SPH service area are spread across hundreds of square miles and include Alaska Native villages accessible only by boat or plane, remote Russian Old Believer communities, as well as hub and unincorporated communities.

Rural communities are being left behind by important medical advances that represent the future of healthcare. One of these advances is robotic-assisted surgery, a minimally-invasive type of surgery technique in which surgeons use a console to control robotic arms equipped with precision tools and a 3D high-definition camera. Robot-assisted surgeries typically result in smaller incisions, less pain, and faster recovery time. This project will purchase, install and provide training to staff to launch robot-assisted intra-abdominal surgeries at SPH.

Addition of this technology will deliver a triple bottom line for healthcare in our region:
1. Improved healthcare quality: Robotic surgeries, which are minimally invasive, can reduce hospital stays by 1 - 2 days, and lead to estimated 45% fewer complications, 75% fewer transfusions, and 30% fewer infusions than open surgeries.
2. Improved healthcare access: Each year, people in our service area seek care elsewhere because robotic surgeries are not available. Currently, 35% of our patients are seeking abdominal surgeries elsewhere as opposed to 8.9% of patients at our closest peer hospital (Central Peninsula Hospital) which offers robotic abdominal surgeries.
3. Improve workforce recruitment and retention: Robotic surgeries are being broadly adopted by hospitals and medical schools nationwide. Many physicians expect to have access to surgical robots for certain procedures. Implementation of this technology will be a powerful recruitment tool at SPH.
4. Improve sustainability of healthcare: Because of the high precision of robotic-assisted surgery, and the ability of these tools to leverage powerful data sets, patient outcomes can be profoundly better with robotic

surgeries, which means that healthcare costs for patients can be significantly lower. In addition, robotic surgeries will enable SPH to capture revenues currently being lost to other facilities.

Project Overview

Project Concept Opportunity*

Briefly describe the problem or opportunity you want to address with this project.

Residents of rural communities are often not able to receive gold standard surgical care close to home because most rural facilities do not have access to modern surgical technologies. When patients in the South Peninsula Hospital service area can't find the care they need locally, they must travel 150 miles roundtrip on a highway that is dark and icy half the year to the next closest hospital or seek care in Anchorage or beyond. This represents an extraordinary cost and inconvenience for many. For others, lack of local access means they delay or simply forego the care entirely. We have heard directly through Press Ganey surveys that patients in our region are seeking robotic surgeries elsewhere. This presents a risk to the future of healthcare as loss of revenues threatens already tight margins.

The Kenai Peninsula is rapidly aging, and many urologic conditions increase with age (e.g., benign prostatic hyperplasia, incontinence, and kidney stones.) SPH is already seeing a huge increase in demand for urology services–up 123% since 2021. Urology is one of the fields in which robotic-assisted surgeries can be most effective.
Our communities want and expect robotic-assisted surgery capabilities in their care. And SPH leadership and medical staff are enthusiastically onboard with integrating this new technology into their care.

Project Concept Approach*

Please describe your proposed approach to the above problem or opportunity.

To transform SPH's ability to address rising healthcare needs, SPH will purchase an intra-abdominal surgical robot and train its medical workforce to use it. These systems are commonly used for urological, gynecological, and general surgeries. Robot-assisted surgery has been broadly adopted by teaching hospitals and increasingly by hospitals around the country. Robotic surgeries offer finer dissection leading to a higher level of precision, less tissue manipulation and damage, lower pain levels, and easier healing. Today, robotic surgeries are standard of care for many types of common surgeries in this country (e.g., appendectomy, cholecystectomy, hernia repair), and patients as well as providers seek out these technologies when considering where to receive and provide care.

The Kenai Peninsula's population is older than the state overall and the nation, and a continued rise in this population sector is projected—peaking in 2030 – 2035 at nearly ¼ of the population. This means that healthcare needs in our region are growing, and growing in complexity–the need for urology services (which typically address issues that increase with age), for example, has more than doubled since 2021. And as people age, the incidence of numerous disorders requiring abdominal surgery increase, such as gallstone disease, diverticular disease, and colorectal cancer.
Our communities want robot-assisted surgeries. In 2024, SPH launched robotic orthopedic surgeries, and in the following year, saw a 45% increase in demand for total knee arthroplasties (knee replacements) relative to the average of the two years prior.
Surgical robots will help stabilize SPH's surgical workforce and expand its capacity. Estimates indicate that this technology will increase urological volumes enough to hire a full-time urologist who can provide

consistent care. Inevitably, locums surgeons take their patients to other facilities that have surgical robots, undermining overall healthcare sustainability. Robotic orthopedic surgery enabled SPH to triple its orthopedic staffing and expand the types of surgeries offered locally.

Driven by strategies to address key findings of SPH's recent Community Health Needs Assessment, this project addresses Initiative #2, Health Care Access and is an allowable use of RHTP funds. This technology will position SPH to better provide a continuum of care for residents in the region, including dual eligible seniors and those with or at risk of chronic disease.

Project Concept Preliminary Outcomes*

What change would you expect to see if this project is successful and on what timescale?

SPH's Surgery Department will launch a robust monitoring and evaluation process with the SPH Quality Assessment team. This process will involve collection of patient outcome and workforce data, data analysis to see whether SPH is on target to meeting the metrics outlined below, and adapted management as needed. We anticipate a wide range of clinical outcomes, from reduced blood loss during surgeries to shorter hospital stays. We have listed a small set of anticipated outcomes below that are directly supported by the literature.

Within 12 - 24 months of launch of robot-assisted abdominal surgeries:
Patient Outcomes:
1. 25% reduction in operative time
2. 30% reduction in intraoperative complications
3. 15% reduction in patient recovery time
4. Reduced travel burden on elders and others who would otherwise seek surgical care elsewhere.

Workforce & Sustainability
1. SPH anticipates hiring a full-time urologist within 12 - 24 months of launch of the new services to provide consistent care in our service area.
2. Abdominal surgery volumes increase by one-third.
3. Improved surgical workforce recruitment.

The Surgical and Quality Departments will track progress on these metrics through Epic and RLDatix occurrence reporting systems, analyze quarterly and adjust workflows as necessary.

Note: Anticipated outcomes based in part on Jack Ng Kok Wah, "The Rise of Robotics in AI-Assisted Surgery in Modern Healthcare," Journal of Robotic Surgery. 2025, 19(1): 311. doi: 10.1007/s11701-025-02485-0

Project Concept Sustainability*

How will the change initiated by this project persist after the project ends?

Currently, 73% of surgical referrals originating on the Kenai Peninsula are out migrating to other areas. A surgical robot allows surgeons to perform more procedures locally keeping patients close to home. The robot is estimated to increase surgical volumes resulting in an annual increase of $1.2 million in surgical revenue annually, which will more than offset subscription and service contracts, estimated at $250,000 annually. The demand for surgery is expected to increase with our aging demographic. Additionally, having a surgical robot reduces lengths of stay and reduces a patient's risk of exposure to hospital acquired infections. The robot is also sustainable as it will improve provider satisfaction and reduce provider recruitment needs. As providers

retire, it will improve the ability to recruit physicians as new grads are primarily trained to utilize robots for procedures as opposed to previous focus on laparoscopic approaches. When recruitment is difficult, facilities are forced to utilize locum coverage which costs at least 20% more above an employed provider's wages. Locums coverage also limits the willingness of residents to build trust in a provider, which can reduce utilization of local hospitals. Not only will the robot increase access by opening up the ability for current staff to perform additional procedures, but it will be sustainable due to the revenue it generates and also preserve volumes and improve the ability to recruit specialists to our facility.

Project Concept Key Risks or Uncertainties*

What potential risks do you anticipate, and what is your plan to mitigate them?

Supply chain issues, delivery delays, and weather interruptions always present uncertainties in rural Alaska with projects that depend on the delivery of materials as well as expertise from out of state. We also know that these instruments are in high demand nationally by rural communities that are dedicating RHTP funds to purchasing them. We are ready to launch an RFP process in order to ensure timely delivery of the robotic surgery system. Once the system is launched, SPH anticipates surgical volumes to increase, which could pose workforce challenges. SPH will anticipate staff needs and launch robust recruitment efforts in tandem. This project is part of SPH's overall effort to expand and scale up healthcare services to meet growing needs in the region, and works in tandem with our plans to launch an automated medication dispensing system in the SPH Pharmacy and hire a Housing Coordinator to streamline temporary housing management as we scale up staffing alongside new services. Combined, these efforts will drive a transformative expansion of local healthcare access and a meaningful increase in SPH capacity to provide expanded care.

Project Partnerships*

Do you have key partners identified for this project?

No, partners are not needed for this project.

Readiness & Scope Snapshot

Stage of Development*

Please assess the current stage of your proposed project. Your answer does not commit your LOI to a specific funding pathway but rather informs understanding of the project's development stage.
RHTP funding is available for all pathways.

Concept Formation: The project is taking shape, but key elements are still being developed. Scope, partners, budget and workplan details have not yet been established. Funding at this stage would support refining the project concept, early coordination, and building administrative readiness to prepare for a full project application.

Defined Approach: The project has a defined approach that aligns with RHTP goals. The scope and deliverables are partially defined, there is a general sense of the budget, partners have been identified, and roles are generally understood. Some administrative, staffing, and evaluation infrastructure capacity is in place. Early thought has been given to long-term sustainability and scalability. Funding at this stage supports critical planning efforts to strengthen and refine a detailed project workplan to prepare for implementation.

Ready to Launch: The project has a complete plan aligned with RHTP goals, with clear scope, objectives, budget, milestones, and deliverables. Partners are committed, roles and responsibilities are clearly defined, and staffing,

resources, and infrastructure are in place. The approach is supported by data collection, evaluation, and monitoring systems. Project sustainability is built into the design. Funding at this stage supports immediate execution of projects that advance rural health transformation goals.

Ready to Launch

RHTP Initiative Areas*

RHTP funding supports projects aligned with Alaska's six RHTP initiatives. Funded projects may work across more than one initiative. Based on your current project approach, select all that apply.

Health Care Access
Healthy Communities
Spark Technology & Innovation

RHTP Allowable Uses*

RHTP projects must align with and advance Alaska's goals and six RHTP initiatives and strengthen access, quality, coordination, and sustainability of health care, particularly in rural and remote communities. Federal law allows RHTP funds to be used for the activities listed below in support of these initiatives. Based on your current project concept, select all that may apply. (Note: for more information on the RHTP allowable uses, see the Alaska Department of Health RHTP webpage).

Appropriate care availability
Capital expenditures and infrastructure
Innovative care
Prevention and chronic disease

Estimated Project Duration*

Based on your project concept, how long do you anticipate needing to complete the proposed work?

12 months

Project Duration*

Please explain if your project has multiple phases, dependencies, or other nuances to the project duration.

We anticipate this project to take 12 months. We are ready to release an RFP for purchase of the surgical robot.

Estimated Funding Range for First Year of Funding*

While RHTP is a five-year initiative, funding will be awarded annually. For the project scope you outlined, what resources do you anticipate needing for this funding round's project period?

$1M-$5M

Future Funding Needs*

Please describe future funding needs for this project (beyond this project period). If you are unsure of future funding needs, please indicate that below. If you do not have funding needs beyond this project period, please write "N/A."

None

Potential Support Needs*

In addition to grant awards, RHTP will include opportunities for grantee learning and support. To gauge potential offerings, what potential support might you be interested in?

None at this time

Acknowledgements & Certifications

Acknowledgements & Certifications*

I understand that submission of this Registration & LOI does not guarantee funding and may result in an invitation to submit a Full Proposal, a request for refinement, or deferral to a future cycle.

I certify that:

- No funds received under this award will be used for lobbying activities.
- I will not attempt to influence government officials on decisions related to this award or other legislative or administrative matters using awarded funds.
- Awarded funds will not be used for religious proselytizing or activities intended to promote or discourage adherence to a particular religious faith.

Yes

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