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Research Note

Local Partnerships for Health on National Forests

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Abstract

The USDA Forest Service has recently piloted health partnerships that facilitate therapeutic outdoor experiences on national forests, building on the growing evidence of the multiple health benefits of activities and time spent in nature. This article presents brief case studies of three pilot partnerships between national forests and health organizations in California, Indiana, and Georgia (USA). These partnerships deliver nature-based programming for the general public as well as those who are in recovery from major surgeries, have been diagnosed with cancer, and face chronic health challenges. To help recreation managers and policy makers understand the potential for such local health partnerships in a federal context, we describe the programs' enabling conditions, their incorporation of service and stewardship activities, and the challenges and successes they have faced. Insights inform an expanding variety of health partnership models that advance the interconnectedness of human and ecosystem health on public lands as a fundamental dimension of sustainable recreation management.

Keywords

Public health, public land, partnerships, recreation, stewardship, USDA Forest Service

Introduction and Background

Many have suggested that public lands management has entered a new era in its evolution, focused on the mutual and interconnected health of people and ecosystems (Dustin et al., 2018; Hendricks et al., 2019; Rice et al., 2020; Romagosa et al., 2015). While the previous era treated outdoor recreation amenities as non-essential, "nice to have" resources, this new era channels evidence and momentum for recreation's central role serving fundamental human health needs. In some ways, this returns to foundational thinking in the creation of parks in the early 20th century as "breathing places" for an urbanizing population (Hendricks et al., 2019). This new era is inspired in part by Western society's contemporary human health challenges (e.g., sedentary

lifestyles, stress, chronic diseases), that are shaped by everyday patterns of life that have rescripted people's relationships with natural environments.

Research has shown the importance of nature—in all its forms—for maintaining people's health, as well as promoting recovery after stressful events (Frumkin et al., 2017; Thomsen et al., 2018). This growing body of work has evaluated multiple mental and physical health outcomes from engagements with different natural environments, considering pathways through stress reduction, attention restoration, increased physical activity, social connectivity and cohesion, and improved immune function (Frumkin et al., 2017; Thomsen et al., 2018). These studies have examined different kinds of nature, different social environments, and different activities, and have begun to examine the effects of various doses of nature exposures and activities, and the duration of those effects.

The scientific evidence on nature and human health has prompted a variety of programs on public lands, with nature being seen as "an under-utilized public resource in terms of human health and well-being, with the use of parks and natural areas offering a potential gold mine for population health promotion" (Maller et al., 2006, p. 52). In 2013, the American Public Health Association formally recommended that health professionals partner with public land agencies (American Public Health Association, 2013). Nature-health programs facilitate outdoor experiences in "public nature," often relying on partnerships among private and public entities, engaging staff from hospitals, universities, non-profit organizations, and land management agencies to develop, implement, and evaluate programs (Mowen et al., 2009; Thomsen et al., 2013). By building on the skills and networks of health organizations and land managers, these partnerships have fostered new alliances at the interface of public lands and public health. They also require institutional learning around organizational cultures, competencies, and processes that often present bureaucratic and logistical challenges.

Some land management agencies have adopted national-scale implementation of health programming. The US National Park Service, for example, began its "Healthy Parks, Healthy People" program in 2010, and similar national programs have been initiated in park systems in Australia, Canada, Spain, and elsewhere (Rice et al., 2020; Romagosa et al., 2015). U.S. nonprofit organizations such as Parks Rx America connect individual health care providers with tools (such as prescriptions) to encourage their patients to visit nearby parks and other natural areas (Seltenrich, 2015). Some programs focus on building individual habits around physical activity and nature connections, and others on building community around shared activities in shared spaces.

While human health is increasingly seen as an important objective of sustainable recreation in land management agencies (Cerveny et al., 2020), operationalizing sustainable recreation has varied in practice (Selin, 2017). Sustainable recreation management draws on multi-dimensional concepts of sustainability, defined as "the provision of desirable outdoor opportunities for all people, in a way that supports ecosystems, contributes to healthy communities, promotes equitable economies, respects culture and traditions, and develops stewardship values now and for future generations" (Cerveny et al., 2020, p. 10). This definition, explicitly mentioning healthy communities, considers sustainability more broadly than agencies' more typical focus areas, which include sustainable operations, budgetary limits, conservation of natural resources, and other operational and ecological factors (Ma et al., 2020; Selin, 2017).

Recreation partnerships have become an established way of accomplishing work in land management agencies (Seekamp & Cerveny, 2010), and sustainable recreation strategies position such partnerships in central roles (Selin, 2017). Unified or coordinated approaches to health partnerships, however, have yet to be adopted by many agencies, and questions persist around implementation and standards of practice. Research has explored these partnerships and programs in the context of county and municipal parks, and national-scale efforts (Liechty et al., 2014; Mowen et al., 2009; Razani et al., 2016; Rice et al., 2020; Romagosa et al., 2015), but there has been little focus on how local health partnerships have been operationalized in federal land management contexts. To fill this gap, the aim of this research note is to help land managers and policy makers understand the local context and potential for such health partnerships, focusing on brief case studies of grassroots pilot partnerships on national forests in California, Indiana, and Georgia (USA).

Case Studies

The three case studies presented are a set of local partnerships that were awarded competitive funds (about $6,000 each) through the Forest Service's national office in 2018, the first health partnerships in the agency to receive such dedicated funding. We used published reports, public presentations, and internal program documents to understand the key elements of each partnership. These were supplemented by unstructured phone and email conversations with key staff from the national forests and partner organizations to better understand contextual factors, such as the conditions that have enabled partnerships, institutional and funding supports, challenges and successes, the development of evaluation components, and potential future directions. Key elements of the three case studies are summarized in Table 1.

Table 1
Health Partnership Case Studies: Program Details

Program	Land Management Partner	Health Partner	Primary Activities	Supplementary Activities
Community Wellness Outings (CA)	Lake Tahoe Basin Management Unit	Barton Health	Walking, snowshoeing, skiing, interpretation	Accessibility evaluations, staff wellness/ safety clinics
Healthy Hoosier Hikes (IN)	Hoosier National Forest	Indiana University Health	Hiking	Staff wellness sessions, service day
Casting for Recovery-Georgia Retreats (GA)	Chattahoochee-Oconee National Forests	Casting for Recovery	Fly fishing	Hiking, mindfulness activities

Health Partnership 1: Community Wellness Outings (California)

In 2016, a physician with Barton Health, a nonprofit health provider in South Lake Tahoe, California, proposed an idea to the forest supervisor and public services staff on the Lake Tahoe Basin Management Unit (LTBMU). The idea—to jointly host wellness outings on local trails—was prompted by concerns that community members were not getting sufficient physical activity, and that a common barrier was a lack of confidence in pursuing outdoor activities. Managers on the LTBMU, who oversee most lands in the Lake Tahoe Basin, saw an opening to better serve local communities. The partnership that emerged—and which has become a model for other national forests—was motivated by a desire to "unite health providers and public land managers to deliver health benefits for at-risk populations," propelling health care toward a proactive promotion of wellness through community resources (e.g., parks and forests), rather than just treating illness (Bannar et al., 2017). The budget for program delivery per year is about $10,000, and is facilitated through a "Challenge Cost Share Agreement," a Forest Service agreement that allows both entities to contribute funds and other resources to pursue mutual partnership goals. For the first years of the partnership, this has been done entirely through non-cash and in-kind contributions from both partners to staff outings and manage programming.

The partnership's primary activity is to provide vulnerable and at-risk populations with no-cost, hour-long guided and interpretive outings on the LTBMU, promoting the therapeutic experience of nature and movement, with the reassuring presence of health care professionals (see Figure 1). The LTBMU supports logistics and identifies appropriate locations for outings, and Barton Health recruits participants, manages liability, and provides the medical support for the outings. For some specialized outings, registration is necessary, while others are geared toward drop-ins. Between 2016 and 2019, 25 outings were attended by hundreds of participants, held at popular sites such as Camp Richardson Resort, Taylor Creek Visitor Center, and Tallac Historic Site. In addition to outings for the general public, outings are designed for several distinct populations, including (a) "end of life healing" outings for people in the end-of-life phase, (b) "getting back into the groove" outings for patients recovering from orthopedic surgeries, (c) "finding comfortability with nature" outings for at-risk youth, and (d) "freedom to explore the outdoors" outings for emotionally and behaviorally challenged youth. Tailored activities for the outings include sensory-focused interpretation, ski and snow-shoe walks, and unstructured play. Barton Health has led the program's research and evaluation component, including participant surveys for studying health outcomes.

Additional partnership activities have included engaging wellness outing participants in a program to provide feedback on accessibility challenges at developed recreation sites, to inform improved site designs. Barton staff have hosted clinics and trainings for LTBMU staff to teach best practices for reducing exposure to environmental hazards and avoiding occupational injuries, as well as guiding forest-based practices for reducing stress and aiding relaxation. Outdoor healing spaces are currently being planned in facility designs on the Barton campus and the LTBMU.

While the first years of the partnership have received accolades, it recently has faced challenges related to changes in leadership and staffing from both partner organizations. This has led to institutional gaps in knowledge, and the need to rebuild the team for program delivery. Coupled with the cancelation of all programs in 2020 because of COVID-19, the partnership has lost some momentum while waiting to

Figure 1
Forest Service Staff and Barton Health Patients at the first Community Wellness Outing on the Lake Tahoe Basin Management Unit

safely reinitiate programming. An ongoing and related institutional focus for Barton has been managing program risks, which are highly scrutinized in health care contexts, especially when many participants are elderly or recovering from surgeries, and may be venturing into outdoor environments they haven't experienced in many years. Partners have remained committed to managing risk while trying to ensure the beneficial challenges of real-life environments remain, staffing activities with experienced health care providers, selecting sites with appropriate access and facilities, and ensuring emergency contingencies are in place (Proctor, 2020).

Health Partnership 2: Healthy Hoosier Hikes (Indiana)

Inspired by the early successes of the Barton-LTBMU partnership model, a recreation staff member on the Hoosier National Forest (HNF) proposed a partnership to the Community Health Department at Indiana University Health-Bloomington in 2018, hoping to serve nearby communities faced with chronic health issues. The ensuing partnership—Healthy Hoosier Hikes—has taken advantage of the reach of Indiana University Health's network and has also connected with the School of Public Health at Indiana University-Bloomington. This situates the partnership well for an integrated promotion of health through public lands recreation, taking advantage of the School of Public Health's uncommon disciplinary structure, in which the School of Public Health houses the Parks and Recreation Management program. This partnership was also facilitated through a Challenge Cost Share Agreement; the start-up year was seeded by $6,500 in Forest Service funds, supported by in-kind contributions by Indiana University Health.

In 2019, the partners began offering free community wellness outings at the Pate Hollow Trail and the Hardin Ridge Recreation Area on the HNF, about 15 miles from Bloomington. The hikes, hosted in the fall and spring, typically last 1-2 hours and are facilitated by HNF staff, Indiana University interns (paid through partnership funds), and an Indiana University Health physician or staff member. Each outing has a physical or mental health theme, such as the benefits of exercise, mindfulness, and connection to nature. Participants are recruited from pre-existing programs within and outside the Indiana University Health system, including Walk with a Doc, Getting Onboard Active Living, and the Center for Rural Engagement (see Figure 2 for sample promotional materials). Participants register in advance online. The School of Public Health is designing a research component to assess the mental and physical outcomes of participation in the wellness outings, including a pre- and post-outing survey.

Figure 2
Sample Outreach Materials for Healthy Hoosier Hikes

In addition to the public component to the partnership, stewardship and wellness opportunities have also been hosted for staff at the partnering institutions. The HNF hosted a service day in 2019, engaging over 50 Indiana University Health and 20 HNF staff members in stewardship activities at an HNF campground (supported by $5,500 in funding from Indiana University Health). Additional staff opportunities have in-

cluded wellness sessions provided by Indiana University Health staff for HNF staff, geared toward integrated considerations of the needs of individuals working outdoors.

The main challenges for Healthy Hoosier Hikes have been program funding, a lack of HNF staff capacity to support community partnership development, and the recruitment of medical professionals to attend outings. COVID-19 meant partners had to re-envision service delivery to find new ways to engage with participants in 2020, since group outings were canceled. Alternative engagement methods included sending hardcopy mailings to former and prospective participants describing the benefits of outdoor activities and opportunities individuals could pursue independently. The program is also increasing its social media presence, creating new opportunities for virtual public engagement. In the future, the partners plan to seek opportunities to connect with park prescription programs and reduce transportation-related barriers to programming. They hope to focus outings on targeted groups and expand their outreach/recruitment network, including veterans who are engaged in Wounded Warrior, elders experiencing isolation, and individuals with autism.

Health Partnership 3: Casting for Recovery-Georgia (Georgia)

The Chattahoochee-Oconee National Forests' (C-ONF) partnership with Casting for Recovery-Georgia supports fly-fishing retreats for women who have been diagnosed with breast cancer. The local program is nested in a national structure of retreats that are held at no cost to participants around the country, with the goal of providing "opportunities for women to find inspiration, discover renewed energy for life, and experience healing connections with other women and nature" (Casting for Recovery, 2018). Casting for Recovery-Georgia began hosting its 2.5-day annual spring retreat in 2012, using lodging facilities at Smithgall Woods State Park, in Helen, Georgia. At the suggestion of a volunteer in the retreat's first year, program organizers introduced themselves to the public affairs staff from the adjacent C-ONF, which prompted the ongoing partnership.

Retreat activities rotate across the state park, national forest, and river frontage owned by a local outfitter, introducing women to fly fishing skills and ethics, and empowering them to explore the outdoors. The program also includes a mindfulness hike at the Dukes Creek Falls Recreation Area on the C-ONF. Fourteen women are served each year through the spring retreat, and since 2017, a second fall retreat has served 10 women who have been diagnosed with stage IV (metastatic) breast cancer. Program organizers conduct outreach to prospective participants across Georgia through hospitals, doctors' offices, breast cancer support groups and other organizations; many participants are referred by prior participants. Between 2012 and 2019, 141 women attended the retreats, with most attendees driving from within a 2- to 3-hour radius.

Each retreat costs an estimated $10,000, fundraised locally through grants, corporate sponsorships, and individual donations. These costs cover lodging and meals for participants and volunteers. An all-volunteer staff includes licensed medical social workers, medical oncologists and oncology nurses, fly-fishing instructors, and other facilitators. Casting for Recovery provides training for all volunteers and holds liability insurance for volunteers and participants. C-ONF public affairs staff provide photography services, and other C-ONF staff volunteer as river helpers, helping participants navigate the river channel (see Figure 3). In 2018, the C-ONF used an agreement to authorize the purchase and transfer of 12 fly rods for the program, providing stability for the program, which had previously used loaned equipment. An important component of the partnership has been the co-development of a safety protocol, addressing

concerns about the health and safety of program participants, whose immune systems may be reduced due to ongoing treatments, as well as specialized concerns for guides and assistants.

Figure 3
Participants and Volunteers with Casting for Recovery

Photo by U.S. Forest Service/Steven Bekkerus

Casting for Recovery's national office provides program materials for the retreats, including evaluations for participants and staff. These ask about the quality of programming and perspectives on mindfulness activities, nature, and connections with other breast cancer survivors. The program continues to follow up with participants at regular intervals following the retreat. In 2017, in national surveys conducted six months following their retreat, 100% of participants reported that they continued to feel a healing connection with nature and/or positive feelings toward outdoor experiences (Casting for Recovery, 2017). In 2020, a survey of all participants from the prior three years found that 78% of participants reported that they had continued to spend more time in nature following the retreat (Casting for Recovery, 2020).

Casting for Recovery-Georgia has faced capacity challenges related to equipment and volunteers, and is at its organizational capacity providing its two annual retreats, despite routinely having more applicants than it can serve. In future years, the C-ONF intends to expand its role engaging staff as river helpers. As with the first two case studies, no retreats could be held in 2020 due to COVID-19, and programming in 2021 will likely be modified. A future priority is to host a stewardship service day on the C-ONF for volunteers who are eager to give back to the special places that are central to the retreat.

Discussion

The partnerships in these case studies share some baseline commonalities: they all take place outside on public lands and waters, and all provide participants with a support network for learning new activities. They are relatively inexpensive, especially compared to other health care costs, and take advantage of the trusted and influential roles that physicians and nurses offer, as well as the local place-based knowledge held by land managers. This convergence of people and place outside of health care's traditional clinical settings builds on the notion of healing or therapeutic landscapes. It reframes public lands as an "upstream" or preventative medicine public health resource (Maller et al., 2006), and elevates them as therapeutic landscapes that host restorative outdoor experiences (Havlick et al., 2021). Furthermore, these programs increase access and inclusivity on public lands, reaching people who may not be physically able, emotionally prepared, or technically skilled to participate in outdoor activities independently. Since programs engage local populations, many participants can return to program sites on their own, equipped with the confidence for independent experiences. Future program evaluation and research opportunities exist to understand the new behaviors successfully fostered by programs.

The case studies also highlight the variation in how health partnerships have been initiated. Each was proposed by a different institutional champion—a physician from Barton Health, a recreation manager from the HNF, a program organizer from Casting for Recovery. Each proposal led to a successful partnership connection, the first of several enabling condition for the partnership. This initial connection is a common stumbling block for many partnerships (Liechty et al., 2014); this suggests it would also be valuable to study attempted partnerships that have not succeeded. While general approaches have been suggested for public health agencies for partnering with land managers (Razani et al., 2016), the need for more guidance has been identified, especially for the "exploring" phase of partnership initiation (Liechty et al., 2014). Land managers have many potential partners in this phase—at all levels, agencies tasked with managing recreation have sibling public health agencies (federal, state, local) in addition to local medical institutions with which to spark potential synergies. The Forest Service is currently developing a toolkit (modeled after the present case studies) that will help fill needs for guidance, and recently the National Environmental Education Foundation published a guide for initiating community health and wellness events (NEEF, 2020). As more programs are developed, there are important opportunities to engage credentialed recreational therapy professionals in program design and implementation. High-quality, scalable program evaluations will be needed to understand the types of engagements that result in meaningful and enduring outcomes for participants. Research-management partnerships are critical to measuring local outcomes in a way that helps understand parallels and divergences to other programs nationally and internationally.

Another enabling condition in the case studies was that Forest Service staff were able to step outside of their typical roles to advance a new idea; none of the health partnership roles staff played were "duties as assigned." While having the latitude to take on new "extra-curricular" roles allowed for these partnerships to be piloted, appropriately staffing partnerships will be important to program sustainability. The support of institutional leadership allows for partnership goals to be pursued in the first place, but responsibilities often rest on mid-level staff and volunteers to convene a team and

drive the program. Ensuring continuity with the partnerships has been challenging, as staff turnover and transitions result in losses in institutional knowledge. This highlights the need identified by Seekamp and Cerveny (2010) for mechanisms for sharing institutional knowledge within and across partnerships; such collaborative learning has the potential to advance the vision for sustainable recreation management on multiple scales (Selin, 2017). Partnerships require committed staff time from all partners, not just for staffing events, but also for nurturing the partnership. Since these are not generally formally assigned duties, gaps appear at times of staff transitions that can lead to partnerships being overlooked. How positions are designed, funded, and function to meet community needs may need to be reimagined, and might benefit from creative financing and position-sharing models. In addition, at higher levels of administration, there are opportunities to emphasize human health in strategic plans and account for the value of societal and institutional outcomes of health partnerships when grading the "performance" of land management units; this could help elevate their importance in agency cultures and practices. It is especially relevant for these outcomes to be measured in multiple use agencies such as the Forest Service, so that they can be visible alongside other metrics such as timber production and fuels treatments that are so often central to agency decisions (Schultz et al., 2019).

The holistic and reciprocal approach to human and ecosystem health in these partnerships supports human healing while cultivating environmental and stewardship ethics. These connections promote an understanding that the health of people and the health of the environment are deeply intertwined in social-ecological systems (Dustin et al., 2018; Hendricks et al., 2019; Maller et al., 2006). These partnerships extend care-taking ethics, in terms of people taking care of people, people taking care of public lands, and in turn, public lands taking care of people's mental and physical needs. These practices and benefits have many layers; for example, the volunteerism component of these programs is itself related to health benefits (Wilson, 2012). Benefits extend to partner organizations as well, including investments in the wellbeing and expertise of staff members. These multiple benefits from the interconnected caretaking for people and place warrant explicit examination in future programming, evaluation, and research.

In conclusion, this article's case studies demonstrate how national forests have offered an important setting and context for community-building, health-promoting, stewardship-supporting partnerships. A new era of interconnected human and ecosystem health offers promising opportunities to realize the potential of public land systems for promoting health, and recognize their embeddedness in the sustainability of local communities. The case studies show how local actors are experimenting to align missions and resources to develop program models that meet this potential. They also show, however, that the "local champion" role can be a precarious one, where staff members work outside of their usual duties to catalyze needed partnerships. If land managers—whether part of a national organization or an entity with a smaller geographic scope—are committed to advancing sustainable recreation goals through health partnerships, they will need to empower partnerships with appropriate staffing, funding, and guidance. Such institutional commitments to support and recognize the value of such partnerships could help put aside the trappings of the "nice-to-have" recreation era, and equip local land management units as they pursue partnerships for better health.

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