

Strategic Technology Plan for
the
Hartford Research Project
2018 - 2021

Table of Contents

	<u>Page</u>
Executive Summary	1
<u>Introduction</u>	
1.1 Mission	2
1.2 Organizational Overview	2
1.3 Organization's Key Goals	3
<u>The Planning Process</u>	
2.1 Involved Parties	3
2.2 Decision Making Process	4
<u>Review of Technology Areas</u>	
3.1 Infrastructure	4
3.2 Data Management	7
3.3 Digital Communications	9
3.4 Training	11
3.5 Technical Support	12
3.6 Cybersecurity	13
<u>Technology Projects</u>	
4.1 List of Technology Projects Being Addressed	15
<u>High-Level Implementation Plan</u>	
5.1 Responsibilities of staff, consultants, and vendors	18
5.2 Timeline	19
<u>Budget</u>	
6.1 Detailed Budget – Attached Separately	
<u>Appendices:</u>	
Appendix A: Logic Models for HRP Technology Projects	
Appendix B: Quotes and comparison grids for purchases	

Executive Summary

Technology Vision: HRP's core work to investigate serious contemporary issues and contribute to finding solutions depends on using information technology for effective collection, analyses, and dissemination of research results to community stakeholders. In its programs, HRP will adopt technological tools to collect, manage, analyze, store, and share data in environments secure to the degree required by the sensitivity of that data; to construct a wider network of supportive partners; and to communicate information about HRP's work to partners, collaborators and public audiences.

HRP created a Technology Planning Team to develop and coordinate this plan with input from all HRP staff, and with input and direction from the Board of Directors.

The following lists the technology initiatives that HRP has identified as potential projects which would utilize technology to better meet its mission in the strategic technology plan period (2018-2021):

Infrastructure Upgrades:

- Replace existing server. Move from 2 to 1 esxi host with 3 virtual servers.
- Upgrade backup system to a local and off-site cloud storage solution
- Migrate email to Microsoft 365 cloud solution
- Replace approximately one-third of laptops and desktop computers to stagger lifecycles and ensure consistent performance
- Purchase two copiers with printing and scanning functionality over the next 3 years to replace existing machines upon the end of their life.
- Address needs for peripherals such as LCD projectors to replace those nearing the end of their usefulness

Data Management:

- Upgrade Sage Accounting software
- Purchase Access Licenses for staff who need Access and have computers with an Office version greater than 10.
- Purchase additional licenses and/or upgrade software continuously as needed, with emphasis on maintaining compatibility across staff/projects, and with integrated software.
- Create a file sharing mechanism that will allow sensitive documents to be shared in as secure a manner as the sensitivity of the data require
- Utilize available platforms, both physical and online, to satisfy our increasing project management needs

Digital Communications:

- Strengthen our online presence by developing protocols, procedures, and accountability for updating website and social media platforms consistently
- Establish policies outlining security and permitted use of devices in connection with HRP activities

Training

- Introduce intensive professional/contracted Cyber security training to educate staff and mitigate any damage potentially caused by cyber attacks
- Provide training on how to access, use and store emails on the Microsoft 365 cloud platform, Next Cloud File sharing and VPN.

Technical Support

- Initiate the contract with Perry Systems to replace our server, migrate our email to Microsoft 365 and install new backup system.
- Contract with Perry to participate in technology planning meetings to be held every year.

Cybersecurity

- Update backup software and hardware; adopt procedures to regularly ensure backup integrity
- Implement multi-factor authentication on all major software systems
- Update firewall and corresponding subscription services
- Update acceptable use policies and train staff on policies and cybersecurity best practices

1 Introduction

1.1 Mission

The mission of the Hartford Research Project is to conduct research in collaboration with community partners to promote justice and equity in a diverse, multi-ethnic, multi-cultural world.

1.2 Organizational Overview

The Hartford Research Project (HRP) is an independent, private non-profit 501(c) 3 community research organization located in Hartford, Connecticut. HRP focuses most of its research projects and programs on the communities in the Greater Hartford area and closely linked towns in Connecticut. HRP is committed to reducing disparities and lack of access to resources in health and education that result from economic, political, social or cultural marginalization, disadvantage and stigmatization. HRP uses research as a tool to help understand why these disparities exist and to find solutions for them.

HRP's primary areas of work include geriatric health, substance abuse, HIV/AIDS, mental health, nutrition and food justice, and youth homelessness. Ongoing research studies include: working in partnership with UCONN Dental School to study oral health self-management; working to prevent prescription drug abuse in West Hartford; using system dynamics modeling to understand and address complex processes and dynamics in the HIV/AIDS test-and-treat continuum; collaborating with Hartford Food Systems and other groups to foster youth engagement in food justice movements using participatory action research (PAR) methods; evaluating rapid re-housing programs and other services designed to help unstably housed/homeless youth in Connecticut as well as building youth leadership around advocacy for housing services for at-risk-youth. In all of these research efforts, information is HRP's goal and

its product. Project staff members collect data by interviewing, observing, interacting with, and documenting members of local communities whose knowledge and practices are so often overlooked and undervalued. HRP is committed to making the wealth of information gathered more available to a wide variety of audiences and stakeholders, as a way to communicate research findings and develop better policies through discussion and collaboration.

1.3 Organization’s Key Goals

1. Expand research in health, mental health and health disparities:
2. Expand Participatory Action Research (PAR) work with youth:
3. Enhance community research capacity:

2 The Planning Process

2.1 Involved Parties

HRP created a Technology Planning Team (TPT) to develop this plan and coordinate the process of gathering the necessary information to design and implement it. We sought input from all HRP staff regarding the technology needs, potential directions, and priorities from their perspective for this plan, and also sought their feedback on the penultimate draft. Staff input will continue to be sought throughout the implementation process for ongoing assessment of successes and problems, and for support to achieve the plan’s goals.

The Board of Directors was also part of the planning endeavor. Their input was solicited throughout the process and their approval for the prioritization of needs and for the overall technology plan was obtained. They will be updated throughout the implementation phase of the plan and will continue to provide their expertise in all future planning activities.

HRP has one primary Technology Contractor. Our IT oversight and maintenance is provided by The Perry Group. Perry provides ongoing maintenance and updates of the server, Backup and security systems, and ongoing technical support for HRP staff computers, printers and other peripherals. Ongoing consultations occurred with Perry before and during the planning phase. Additional vendor consultations were solicited which also helped to shape the direction of the plan.

The Technology Planning Team includes the following members:

<u>Name/Title</u>	<u>Role</u>
Executive Director	Direct the planning process, oversee and ensure implementation of the tech plan.
Director of Administration	Assist the Director with coordinating and organizing the tech. planning process, chair the tech planning team meetings, facilitate collection of inventory, needs assessment and staff attitude data, communicate with primary IT consultant(s), assist with research on web and other communications development options, research costs of plan components, write up of the Tech. Plan, coordinate the plan implementation.

CFO Project Director, Social Media Coordinator	Attend the Hartford Foundation for Public Giving training sessions and work with technology consultant for smooth coordination and organization of the tech planning process.
Outreach Interviewer/ Coordinator, Website	Assist with collecting information for the tech. planning process, consolidate needs assessment and staff attitude data, research costs of plan components, assist with write-up of the Tech. Plan, assist with plan implementation.
Senior Statistician Data Manager	Provide input into technology needs and protocols for advanced statistical analyses, data management and sharing systems development, and mobile and other data collection/management technologies.
Intervention Director Field Director Project Director	Provide diverse input on technological needs and protocols. Assist with developing plan implementation and communication with staff members.

2.2 Decision Making Process

The Technology Planning Team (TPT) met regularly for 3 months to plan and develop this Strategic Technology Plan and carry out the step by step process outlined in the HFPG’s strategic technology planning workshops. As with other HRP Committees and Teams, membership in the TPT included Management Team members as well as additional staff from across the organization who could provide input reflective of the needs of their particular type of work, their program area, or the overall organization. TPT members participated in all aspects of the development of the plan, and will continue to participate in oversight and assessment of the technology plan throughout the implementation process.

The decision-making process at HRP related to technology is reflective of general programming, development, and administrative decision-making for the organization. The process is organized to generate significant input and decision-making contribution from the staff. Purchases are made based on available funds and the prioritization assigned to each item. The final approval of all new technology initiatives and purchases are ultimately the responsibility of the Executive Director. This procedure is designed to include staff from different projects at HRP and different types of job responsibilities in the development and decision making processes, so that their various perspectives can be included in all new efforts.

3 Review of Technology Areas

3.1 Infrastructure

Current Status: Servers, Backup and Email at HRP

HRP currently has aging network infrastructure. HRP’s servers were installed in 2009. As of 2018 the servers are no longer supported by HP and are too old to support new software applications that require an enhanced operating system. The current system has two physical host servers supporting a total of five virtual servers. The host hardware is experiencing performance issues and is out of warranty, so parts can be difficult to obtain, and may not even be available, in the event of a hardware failure.

With regard to HRP's email, HRP is currently running Exchange 2010 on an on-premises Windows virtual server. This is an older version of Exchange that will be at the end of its life in 2020. Given this situation HRP will either have to choose to upgrade Exchange and keep email in house, or migrate email to Microsoft's Office 365 cloud solution.

Proposed Resolution:

HRP will replace the existing servers with a new server. The new host server will run the latest version of VMware ESXI (6.5). Once Exchange is migrated to Office 365 and the current Intranet server is decommissioned (as it is no longer in use) there will be three remaining virtual servers: Domain Controller, File Server, and Accounting Server. In this way, the server hardware footprint will be reduced, as only one host will be needed to sufficiently support the three remaining virtual servers. The Domain Controller and File Server will both be migrated to Windows Server 2016. The Accounting Server will be migrated to Windows Server 2012R2, so as to be compatible with the version of Sage needed by the organization.

In order to migrate email to Microsoft's subscription-based Office 365, HRP will have to secure E1 licenses which are free for non-profits. Minimal disruption to the end user will occur during migration. Once the cutover to Office 365 is complete, users will continue to login and access email the same way as they do now. While post-migration changes should be minimal, if email is accessed on cell phones the old account will need to be removed and a new Office 365 account added. Also users who access email via Outlook Web Access (OWA) will need to use a new address after the migration.

Although Microsoft 365 provides services on a redundant architecture and has limited spam filtering capabilities, it does not provide cloud-to-cloud backup of email. As part of the migration HRP will use Barracuda Complete Protection and Compliance service which offers comprehensive email security including spam filtering; protection against email-borne viruses and malware, phishing emails; and email encryption. Most importantly, it also allows for web-based management, archiving and backup recovery for email. The cost for this service is \$5.50 per user per month but due to our limited email accounts HRP can absorb this cost, particularly given the enhanced security this service provides.

Collectively, these action steps will help HRP move to a hybrid system, storing the bulk of our data in our own secure server but utilizing cloud-based solutions for backup, email and for some of our less sensitive, community-generated data which must be kept accessible to external partners. Ultimately it is likely that HRP will move to cloud-based storage and management solutions, as costs diminish and security improves on these services. Yet for the next 3-5 years the cost effective solutions described above allow for growth and better protect the organization from system failures and/or cyberattacks.

Implementation Plan:

The replacement of the servers, moving to a new backup solution and migrating our email to Microsoft 365 will be the initial projects that HRP undertakes. Ideally these related projects will be completed during the fall of 2018. Collectively, the implementation of bringing a new server online, moving to a new backup solution and migrating the organization's email to Microsoft 365 is expected to take approximately seven days and will be performed by our current IT support vendor, Perry Systems. Because project implementation of these three projects will coincide we will minimize disruption to staff productivity. HRP staff have already begun to prepare for this work by reviewing, purging and organizing their emails so that only pertinent emails are transferred over to the new system.

Current Status: Computers, Peripherals and Phones at HRP

The majority of HRP laptop computers were purchased between 2014-16 and are coming towards the end of their life, depending upon their volume of use and the number of applications run on them. Consequently, IT support is spending more time trying to keep these machines running but often at the cost of speed and functionality. The move to laptops away from desktop PCs has allowed the staff to be more mobile, which has been essential for multi-site projects and recruitment efforts. However these machines do not function as long as desktop PCs, and thus the need to replace computers more frequently is and will continue to be an ongoing challenge. As expected, staff frustration with aging laptops not working properly was certainly reflected in the staff survey conducted during the planning process.

HRP has 6 desktop PCs still in use. These computers are used by interns and core administrative staff (CFO and Director of Administration) who work primarily in the office each day. All PCs were purchased between 2009-2011. The desktop computers used by the CFO and the Director of Administration should be upgraded in the near future. The others help to support the work of interns who cycle in and out of the organization each semester and will be used until they are no longer productive.

HRP has a need to continue to develop capacity for new data collection techniques, including the use of tablets. Presently we do not have any tablets available for field data collection. HRP has one networked HP laser printer (HP laser jet P3015) and two networked HP machines (Office Jet Pro X 576DW) that are able to copy, print and scan. These machines can handle the volume of work generated on a day-to-day basis. In addition to these machines, both the Executive Director and the Chief Fiscal Officer have their own printers and the IRB Chair has her own scanner. HRP's 2 HP Office Jet Pro machines were purchased four years ago and are starting to require more frequent (2 times a year) maintenance and are therefore flagged for replacement within the next 3 years. An additional desktop scanner and printer would also be beneficial for the Director of Administration who handles sensitive HR, legal and IRB issues as well as prepares all federal electronic grant submissions.

HRP has 4 LCD projectors. LCD projectors are in high demand for project intervention work as well as other external presentations, internal meetings and web conference meetings with off-site collaborators. Two of the four LCD projectors are very old and need to be replaced within the next 2-3 years. Other peripherals such as fax machines are currently adequate.

HRP uses voip phones that are managed by the Non Profit Center. A monthly fee per phone is assessed for phone service and ongoing maintenance. In order to keep the cost to a minimum, only those employees who need an HRP phone to perform their work are provided a dedicated phone. Conference room and communal phones are deployed as needed. To date HRP has no expanded need for business phones.

Proposed Resolution:

In order to stagger the lifecycle of our laptops, HRP estimates that it needs to plan on replacing approximately one third of its laptops (approximately 8) each year. With the introduction of each new wave of computers, HRP will move away from windows 7 to windows 10 operating system, with the ultimate goal of having all computers on windows 10 by 2020 when windows 7 is no longer supported. In addition at least two new desktop PCs will be purchased for the chief administrators who are scheduled for an upgrade.

HRP proposes to purchase 2 tablets to be used by the Youth Action Hub staff and PAR project members. These projects will pilot using a tablet to conduct online surveys to see if this device is more suitable for field data collection than a laptop.

HRP will plan on purchasing two new printers over the next 3 years that can handle the organization's copy/print and scanning needs. These machines will replace the HP Jet Pro machines as they malfunction and go offline.

HRP will budget the purchase of 1 LCD projector in the next 2 years and another within 3 years.

Implementation Plan:

HRP plans to replace 8 laptops each year. All new laptops will have a solid state hard drive. We will have Perry Systems advise us on what laptops to select and they will set up all new computers and install Windows 10 and Office 16 (licenses already purchased) as well as necessary software for each user during a regular monthly visit. By replacing approximately a third of all laptops each year HRP should be able to keep up with the ongoing need for replacement laptops. In order to sustain this, all new multi-year grant budgets, when possible, will be constructed to stagger computer purchases across a few years instead of only at the start-up phase.

The purchase of tablets to be used by the Youth Action Hub and PAR project teams will occur within the next year. Perry Systems will also set up the new copy/print/scan machines so that they are accessible to all staff at the Institute and so scans created on each machine can be sent via email to the individual user. Ongoing technical support will be provided by Perry Systems but cleaning and repair maintenance will be performed by Advanced Copy Technologies, Inc., who is a preferred vendor of the Non Profit Center.

3.2 Data Management

Current Status:

Software

As a research organization, HRP uses several software programs to manage various types of data collected. Qualtrics and QDS are survey software packages that are used to create, test and manage surveys; Stata, PASS and SPSS statistical software are used for quantitative data analysis and management; Atlas.ti is used for management and analysis of qualitative/interview data; Arch View GIS is used for integrating and analyzing geographic data; UCINET/Netdraw for social network data management and analysis; Stella is used for system dynamics modelling; and, EndNote is the software used for reference management. Generally we are satisfied with the software programs in use although new or special technical software or specialized modules of existing software for data management/analysis are always being developed, which presents challenges for the organization. Indeed our biggest challenge stems from incompatibility issues that emerge frequently as higher versions of the software is created.

Perpetual software upgrades often cause the lower versions to become unsupported and/or no longer function due to incompatibility with the operating system. Often the lower level versions are suitable for our purposes but we are essentially forced to upgrade. Compatibility issues can also occur when working with our university partners who often have the most up-to-date software versions. Cloud-based subscription based software such as Microsoft E-3 licensing, that automatically upgrades to the most current version, while convenient to most users, is difficult for us to manage because of the cascade effect that can happen when changing one software version. Within the next three years we do not anticipate a critical need to change software or upgrade our current statistical and analytical software versions. What would be beneficial is to be able to purchase more licenses of both Stata and newer versions (22 or higher) of SPSS. SPSS is very expensive (over \$1,000 per license) so we only provide the highest versions of SPSS to our statisticians and data managers. SPSS 12, which is very old

and will not run on newer computers using Office 16, is currently available to everyone. SPSS 12 actually performs quite well for most required analytical functions, but staff who are interested in expanding their skill set are not able to have a dedicated license of SPSS 22 (or higher) on their machine due to cost. Stata is an alternative to SPSS for some functions (but not all) and is much less expensive.

One software upgrade that must occur in the near future is our accounting software. Currently we use Sage 100, version 2013, which is no longer supported, so a move to Sage 100, version 2018 is necessary. We have delayed moving to this server-based version because our current server's operating system must be upgraded before this software can be utilized. Additionally, with the phased-in upgrade to Windows 10 and Office 16 that will take place as we replace computers over time we will have to purchase Access licenses. The bundle of softwares included in Microsoft's office suite has changed. Access is no longer included with Word, Excel, and Powerpoint on versions beyond Office 10.

Access is used by many projects to track recruited study participants so we will plan to purchase multiple licenses but will provide it only to those staff who need this software.

File Transfer and Project Management

HRP has an increasing need to share sensitive and confidential information with external partners. More of our federal projects are considered to be clinical in nature and tend to involve work at multiple sites. Emailing sensitive documents is not an appropriate method to share information among the various partners and/or performance sites. An organizational-wide secure file sharing system is needed where sensitive and/or confidential documents can be shared securely among partners. Currently each project has tackled this problem on its own. Some Participatory Action Research (PAR) community projects which tend to deal with less sensitive information and do not have to worry about being HIPAA compliant have used or are currently using Google Drive. Other projects have opted for Dropbox. To date there is no consistent secure method established at HRP that can be used by any type or size of project. Similarly, our PAR community projects work collaboratively with several organizations and could benefit from a centralized place where all messages, files, timelines, to do/action steps, etc. can be stored and be accessible to all at any time and in real time. Having a project management system that can do this and make the work processes transparent and faster would be very beneficial for those projects and for the organization at large. Without question, galvanizing and coordinating people spread out among an array of organizations, schools and interest groups throughout the community is quite challenging and can become a communication nightmare. (This is particularly true when younger people are involved who typically are less likely to use email as a tool for communication). Having one dynamic site where all the communication messages and project information is stored and is easily accessible to everyone at any time would critically aid the success of such projects. A goal of HRP is to expand its capacity to undertake more community projects, so the need for a project management tool is increasing.

Proposed Resolution:

The Sage accounting software will be upgraded once the server is replaced and has a compatible operating system that can support the software. Access licenses for those staff who need it will be purchased as staff computers are replaced and upgraded to Windows 10 and Office 16. Beyond those scheduled upgrades, HRP will continue to address issues of software compatibility/integration in the management team in consultation with Perry Systems. Additional research is needed to determine if we will need/want to upgrade any of our current licensed data management/analytic software within the next 3 years and/or identify new developing software that might outperform or augment our existing resources. Newer software such as Stella only offer licenses that are subscription based and so funds will be expended over the

next three years to renew those licenses on an annual basis, as needed. Qualtrics is also subscription based but it is currently available to us at no cost via our association with Yale University. Moving forward we expect software licenses to be more subscription based, charging an annual or monthly use rate per user rather than a 1 time purchase. This change in how costs are structured requires us to modify/redesign our proposed grant budgets so that technology costs are spread more equally across years rather than expended primarily in year one of the grant.

After researching many file sharing options such as Google, which is not secure enough for all of our needs, Office 365, which suffers functional difficulties at the level we require, and Dropbox which is expensive, Perry Systems proposed an alternative solution. We will take advantage of having a private server and will use Next Cloud which is a software for creating and using file hosting services. Unlike Dropbox, which is a proprietary service, Next Cloud is free and is an open source file sync and share platform. Once built by our Perry technician users will be able to go to a website in order to log into the portal. This solution is HIPAA and GDPR compliant so our sensitive and confidential information will be secure. This solution can be managed by HRP and will help us keep costs down and help us decrease risks when sharing information.

After review of possible project management systems including Asana and Basecamp, HRP has decided not to purchase any of these options at this time. These products are not ideal because they are relatively expensive (Asana's free account only allows 15 users. To have greater access Asana charges per month per user and Basecamp, while it would be easier for us to manage because they charge a flat fee, costs more than we feel we can sustain). Instead we will continue to use the Trello project management tool because it is free since HRP is a non-profit. We will continue to explore options for the future but for now Trello is helping the existing community projects with team-based project management.

Implementation Plan:

The Sage Accounting software upgrade will occur when the server is being replaced during the fall of 2018. Perry Systems, in consultation with CMS who is the firm who provides Sage technical support, will install the upgrade.

Access licenses will be installed on new computers using Windows 10 and Office 16 on an as needed basis.

Secure file sharing capability will be facilitated by Perry Systems. Perry will set up the Next Cloud interface either during the installation of the replacement server or shortly thereafter during a routine monthly visit.

No additional project management web-based application will be used by HRP for the foreseeable future. Further investigation of products will occur but training on how to use the tool will be opened up to all interested staff since few staff members are familiar with Trello.

3.3 Digital Communications

Current Status:

HRP's website is used to inform and educate users about our research, programs, products and current events. Our YAH Program, Teen Drug Prevention and Food Justice Programs also have project websites hosted separately but linked to HRP's website. Regular maintenance of HRP's website is performed by Perry Systems. The HRP website was redesigned in 2013 using the user-friendly website content management system Wordpress. This choice was

intentional so that new content could be added to the site by in-house project staff. This is critical since HRP is not able to support a dedicated communications professional. Presently there are four staff members who know how to use Wordpress, but only one staff member serves as the coordinator of the website. Content emanates from the projects and the coordinator facilitates its inclusion on the website. Requests for information for the website are made at staff meetings, however new content can be hard to obtain. This is true in part because most of our research projects last for multiple years so it takes time to produce findings and write about those findings for different audiences. The staff survey administered during the planning process indicated that 15% of those polled believed the HRP website could be visually enhanced and needs to cater more equally to non- academic audiences.

In addition to the website, HRP has a small social media presence. We have Facebook and Twitter accounts that are managed by a staff member who is involved with community projects and therefore uses these outlets more frequently. Similar to the website coordinator, the social media coordinator is responsible for all postings for the organization. The number of friends and connections HRP has continues to grow but strengthening our online presence and impact is a goal the organization. Our capacity to do so is somewhat limited due to time and personnel constraints, but efforts in house are now underway to train staff on types of information that should or should not be posted. Yet due to the indirect nature of the services HRP offers, digital content is not manufactured at the same rate as a direct service organization. Nonetheless, the intention of effectively utilizing these platforms has led to an increase in connections with community organizations such that we are now disseminating information from our community projects out to their organizations and beyond through their networks.

HRP maintains a Constant Contact account as well which contains our mailing list of friends and donors. HRP tried on several occasions to produce a quarterly and then a bi- annual newsletter but the organization could not sustain that endeavor. We periodically send out letters from the Director through this mechanism but updating and validating our mailing list remains a challenge and so fewer and fewer correspondences have been sent in the last few years.

Proposed Resolution:

In the recent past HRP has concentrated on creating project websites that are linked to HRP's main website. Consequently it is time to refresh and generate more content for HRP's main website. Over the next three years we plan to create a communications strategy team, composed of staff representing all projects and functions of HRP, to review, evaluate and recommend changes/additions to the website for the purpose of increasing traffic and user engagement.

HRP would also like to enhance its online social media presence and will continue to train staff to develop a standardized reporting form to encourage projects to offer posts regularly. The transmission of our research findings and other educational programmatic information is our core business so increasing our reach and influence is critical to our mission. Dissemination of our work in peer reviewed journals is essential and is ongoing, but getting information out to members of the community who do not read such journals is also important. Platforms like Facebook and Twitter have tremendous reach and are inexpensive ways to communicate to these populations. In order to do this more effectively, the communications strategy team will look to increase our knowledge about current and future digital media practices by investigating new platforms (Instagram, SnapChat, etc.) and identifying what would work best with target populations.

Skills and knowledge to refine our use and presentation on social and other digital media will be gained through the collaboration with one project funder, the Aetna Foundation. This particular foundation has offered pro bono workshops with experts within their company intended to build

the capacity of HRP. We are requesting workshops focused on communications, in particular through the creation and dissemination of an annual report styled publication. These workshops will hone our communications and digital publication skills, improve our knowledge base to better align with current industry best practices, and allow us to generate a template for similar future publications.

Implementation Plan:

Over the next three years HRP will work hard to advance its digital presence. To do this we will establish a communications strategy team and appoint a media contact person from each project to be responsible for coordinating the messaging and content that the project would like to disseminate through digital communications each quarter. This and other content ideas will be brought forth during the staff meeting. Once in its final form, the website and media coordinators will be responsible for posting the information. An evaluation of this process will occur every 6 months whereby projects will be asked to identify barriers they face in producing and shaping content. These results will be shared in a staff meeting where collectively the group may be able to tweak and/or brainstorm some additional ways to elevate the frequency and substance of the posted content.

HRP will also work with representatives from Aetna in 2019 to develop an Annual Report template that could be printed as well as shared through digital outlets. This template could be used both on the individual project level and on the organizational level.

3.4 Training

Current Status:

There is not a formal training program at HRP with regard to technology. Initial but brief training is provided for a new staff member detailing how they access the network, what drives they have access to, what their email address and password is and how to access email both in and out of the office. They are also provided with computer use policies which they have to read and sign off on acknowledging that they understand and will abide by the policies. Beyond that all further training is handled by the supervisor and/or other members of the specific project team. The staff survey revealed the need for more and ongoing training. Many staff work across projects and find it cumbersome to try and find information needed to perform their job. In part this is true because each project independently sets up how it is going to process information and how data will be organized. Consequently, there is no standardized organizational protocol, rather each project independently determines its own organizational system or architecture. Similarly, there is no standardized naming convention in place so the same type of data across projects may be labeled differently. This leads to frustration and loss of productivity as staff search for information by guessing where it might be stored and/ or asking others how to access information.

In addition, staff are interested in obtaining more substantive training on a variety of software programs, ranging from advanced Excel functions, to statistical analysis to website/social media platforms. Currently staff training in software programs used for qualitative and quantitative data analysis, data management, and other data processing happens intermittently and as needed. Most often training occurs within projects rather than being opened up for all staff for expediency sake. Individualized training occurs on an ad hoc nature where staff members will show other staff members how to do things. Occasionally HRP has had the funds to send people to be trained on a new software but again only those people who have an immediate “need to know” are afforded that opportunity.

Proposed Resolution:

Early on in this planning process it was clear that more education and training of staff on a variety of technological levels was necessary. Additionally, the development and introduction of naming conventions and the creation of standardized project file structures are indispensable and should coincide with the replacement of the server. Not only will this be a perfect reset opportunity, but also the organization/design of the server and the network drive structure will be re-calibrated thus requiring staff instruction. In addition, the migration of email to Microsoft 365 will necessitate basic training on how to access and use email properly, and the enhanced VPN service, which expands capacity and requires two point authentication, will also require formal instruction.

Training on various software across the organization should also occur. Cross training is always important, particularly in small organizations, so HRP needs to make more of an effort to provide in-house staff development opportunities whenever possible. One cost effective proposal is to institute monthly brown bag lunch workshops whereby a staff member with a particular skill would use the time to introduce/show participating staff how to use a software. A series of workshops focusing on one software could occur over time allowing for a broad overview of the various functions one can perform. In addition to this, if a project is holding its own training this will be communicated to all staff allowing them the opportunity to sit in and observe. Lastly, as a Nonprofit Center member, HRP can take advantage of regular trainings organized through the Non Profit Alliance. Although software trainings per se are not offered, other topics such as project management, communications/marketing and social media may be valuable.

Implementation Plan:

Naming conventions and project folder construction plans are being created by the TPT and have been discussed in staff meetings over the last several months. These new structures will be completed by and ready for implementation once the new server is online, anticipated for Mid-October 2018. The creation of these guidelines has been well received by staff who have provided a great deal of input, thus adoption of these new procedures is expected to go smoothly.

A dedicated training session, led by our IT technician from the Perry Group, will be held in the fall of 2018 to review new procedures for accessing and using email, VPN, and other new or enhanced procedures related to the infrastructural network upgrades.

HRP will pilot a brown bag software training series starting in 2019. We will plan to offer 3 sessions to start and evaluate if this mechanism works. Additionally, HRP will make sure that HRP takes full advantage of trainings offered by the Alliance and whenever possible allow staff at all levels, particularly those who do not often go to present at conferences the chance to participate.

3.5 Technical Support

Current Status:

HRP has a contract with the Perry Group to provide technical support to the organization. In addition to a monthly 8 hour visit by our dedicated technician, we have 24/7 on-call support and daily monitoring services of the server and backup systems.

Perry also performs periodic maintenance for our website. Should we need additional support we can request more visitation on an as needed basis. Extra visits/time with on-site technicians require a 4-hour minimum. Typically our IT person comes on the first Tuesday of each month, however the ability to change appointment times to accommodate staff schedules and/or emergencies has been outstanding. Moreover if HRP does not need their regular technician for a full eight hours, we have been able to split up the visits so that the technician returns for a second

visit within the same month. This flexibility is essential given the nature of our work where staff members are often out in the field with their devices and/or at partner sites, so capturing everyone who needs technical support in one day can sometimes prove difficult.

Typically during monthly visits our technician addresses more day-to-day operational needs including such things as adding/removing someone from the network, providing permissions to project folders as needed as people come on/off projects, repairing/troubleshooting local laptops and desktops, setting up replacement computers, addressing any staff members individual needs and providing maintenance to the servers. Maintaining operations is of primary importance but as a result what does not happen enough is having the time to consult and use our technician as an advisor to help us plan and think ahead into the future.

Proposed Resolution:

Through this planning process we realize that we need more technical consultation on an ongoing basis. Consequently we will plan to create consulting sessions with our technician and, if need be higher level associates, where a group of people from the organization can have planning meetings annually, or more frequently if needed. This will be a time to evaluate how things are going with regard to this plan and to identify areas of improvement or refinement along with discussing computer trends, software developments and potential project technological needs. The goal is to get out in front of the eight ball as much as possible despite our limited resources.

Implementation Plan:

As of 2019 we will build into our visitation schedule the opportunity to have forward thinking consultations at least annually if not more frequently with the Perry Group.

3.6 Cybersecurity

Current status:

HRP's current backup solution is a Tape Drive utilizing Symantec Backup Exec Software. This solution provides local backups only and requires manual, daily changing of tapes. In addition, the current backup solution does not have sufficient capacity to handle future growth. A business class backup solution should have both local and off site copies of data; local for speed and efficiency when a restore is needed and off site should there be an impact to the building or hardware itself.

We are currently using our cable modem as our firewall, and it is insufficient and exposing our organization to significant risk.

We do not require our staff to use multi-factor authentication, and many staff use the same passwords across multiple systems. Staff do not indicate confidence that they would recognize a phishing attack or other attempts to breach our security through cyberattacks.

Proposed resolution:

HRP's new backup solution will allow for both local and off-site back up capabilities. StorageCraft is a business class backup software and is an industry standard. Storage Craft software will reside on HRP's file server which will backup data to a new onsite Network Attached Storage (NAS) for local backups. For the offsite component, data will replicate to StorageCraft's Data Center. While this replication will use HRP's internet, the bandwidth utilization and impact will be minimal. This solution will come with one year of StorageCraft

support and will be renewed annually. The backup process and restoration capabilities are efficient and reliable. Downtime will be minimized in the event of hardware/server failure, typically being restored within hours instead of days.

HRP examined several firewall options offered by Perry Group. After learning more about specifications, capabilities and reputation, HRP has decided that the SonicWall TZ-300 Wireless model offers the most security and the best functionality for the organization's price range. SonicWall is a well-known brand with solid financial backing and is widely used in both the small-business and non-profit communities. HRP intends to eliminate access to all network resources to users who do not use the new private VPN features that are included with the SonicWall.

Foundationally, policies regarding computer use, social media, cyber security, and the like need to be refreshed and/or created. In order to be most effective, the distribution of such policies will be accompanied by face to face training that will allow thorough review and discussion about the need and importance of these policies and their broader implications to the organization. We will implement multi-factor authentication wherever available and feasible.

Additionally, given the rise in cyberattacks, our auditors have recommended that HRP take significant steps to educate staff about these types of threats that can jeopardize the organization. Accordingly HRP obtained a quote from a company who will conduct cyber security training and then test all staff members periodically throughout the span of a year to see if they are susceptible to phishing attacks and other cyber breaches.

Implementation plan:

We will implement the new back up system with help from Perry Group in Year 1 of our tech plan.

HRP hopes to deploy this essential new SonicWall hardware security device as part of the first wave of technological improvements. Perry Group will configure for use by all users and deliver detailed instructions for authorized users on how to remotely access network resources via the new VPN protocol. HRP intends to incorporate the annual subscription costs of the device into Operating Costs for Years 2 and 3.

New policies on proper computer use, social media and cyber security have been refreshed/created by the TPT in the last few months. The policies will be reviewed in a dedicated staff meeting that will focus only on computer training.

HRP will plan to contract with a Cyber Security training service within the next three years. HRP will first provide its own in-house training on cyber security which will include face-to-face instruction by our IT technician along with links to various online educational resources. This will be followed up by contracting with a company to train again and test employees periodically. Doing this is important because a cyber threat has the potential of causing significant infrastructural damage to the organization and therefore warrants the expense.

4 Technology Projects

4.1 List of Technology Projects Being Addressed

The following lists the technology initiatives that HRP plans to develop and/or maintain by order of priority. Projects marked A are of highest priority down to those of lowest priority (C), but all are important and have therefore been included within overall plan.

Priority	What's the project?	Justification of Project	Tech Area Addressed	Which tab(s) is this in your tech plan budget?
A	Email Migration to Windows Office 365	Communication within and outside of HRP is essential to mission. Once email is migrated to Microsoft 365 HRP will never have to worry about managing its <u>email</u> again, while enhancing data security, reducing the infrastructural footprint and saving costs associated with hosting email on the premises.	Infrastructure	Project 1
A	Installation of New Server	An up-to-date server will properly support a variety of server-based softwares and improve communications, security, and data analysis within HRP and between community partners. Additionally, HRP will have doubled its capacity to enable staff to have remote access to HRP's network server through VPN, enhancing organizational flexibility and increasing efficiency.	Infrastructure	Project 2
A	Introduce New Local and Off-site backup solution	Utilizing both a <u>local and off-site backup solution</u> , HRP will be able to preserve its data should a disaster occur.	Cybersecurity	Project 3
A	Upgrade of Sage Accounting Software	Proper fiscal accounting and accountability is fundamental. The upgrade to Sage100, version 2018 will help the smooth functioning of the fiscal office and guarantee access to technical support should there be a software malfunction/issue.	Data Management	Project 5

Priority	What's the project?	Justification of Project	Tech Area Addressed	Which tab(s) is this in your tech plan budget?
A	Development and Implementation of Next Cloud File Sharing Capability	The ability to securely share sensitive and confidential documents is critical to the functioning of the organization and the protection of study participants and employees.	Data Management	Project 5
A	Hardware replacement, each year 8 laptops 2 desktop computers 2 tablets	All staff need functioning computers/tablets to perform their work. A laptop replacement schedule whereby approximately one third of all laptops are replaced annually will allow more tech time to be spent in planning and moving the organization forwards rather than working to keep the status quo.	Infrastructure	Project 4
A	Provide in-house training on computer use, social media and cybersecurity policies and develop peer training program.	Peer mentoring/training will increase staff engagement, enhance staff development and promote cross training which will strengthen organizational capacity.	Training	Projects 1, 2, 5 and 7
A	Development of Naming Conventions and Project Folder Structure	Effective training in file naming conventions and how project folders should be set up, closed down and maintained will lead to greater productivity as less time will be spent searching for files.	Data Management	Operating Costs (in-house staff)
A	Introduce an annual evaluation system of HRP's IT Systems and Support	Assessing the strengths & weaknesses of the IT systems will improve workflow, & keep HRP thinking about how technology can assist the mission	Technical Support	Operating Costs (tech support)
B	Secure Professional Cybersecurity Instruction	Training regarding cyber security will protect data integrity and protect against damage caused to computers and potentially the network. This in turn will help reduce the need for on call IT support while maintaining a safe and secure storage plan for sensitive data.	Cybersecurity	Project 6

Priority	What's the project?	Justification of Project	Tech Area Addressed	Which tab(s) is this in your tech plan budget?
B	Purchase new copier/printer/scanners	Functioning and sufficient peripherals such as printers, copiers, scanners as well as LCD projectors and phones supports the work of each staff member at HRP and allows them to perform their job more efficiently and without distraction.	Infrastructure	Project 4
C	Purchase more of or upgrade licenses of existing software (SPSS, STATA, etc.)	Securing software licenses for all project staff who need specialized software will allow work to be efficiently processed	Data Management	Project 5
C	Purchase of 2 new LCD projectors	Updating machines is critical to the day-to-day functioning of the organization	Infrastructure	Project 4

5 High-Level Implementation Plan

5.1 Responsibilities of staff, consultants, and vendors

Staff Responsibilities

The Executive Director is responsible for oversight of the technology strategic plan, monitoring the overall technology budget, and regularly reviewing the implementation process. She is also responsible for signing off on all major purchases and contracts associated with the plan.

The Director of Administration is responsible for working closely with The Perry Group to implement the plan with regard to the large-scale infrastructural projects. She will be responsible for scheduling the contracted work, all purchasing requirements, overseeing and assisting the technicians, coordinating with staff regarding their special needs and troubleshooting any individual or system-wide problems during and after the installation. Thereafter she will direct the work of the Perry technician(s) in order to ensure the completion of the remaining technological projects listed in the plan. She will also be responsible for coordinating technical training provided by IT professionals for staff.

The Chief Financial Officer is responsible for processing, tracking and reporting on any technological purchases. She will also be responsible for communication and coordination between Computer Management Services (CMS) and The Perry Group during the Sage upgrade. The CFO will also kick off the brown bag training series by providing sessions on Excel.

Project and Social Media Coordinator in conjunction with Outreach and Website Coordinator will be responsible for creating and leading the Communications management team at HRP. While general oversight of HRP's communications will be directed by the Executive Director, they will engage staff to use and experiment more with various digital communications platforms. They will create processes whereby project descriptions and reports are posted on HRP's website and social media platforms regularly. They will also work to ensure consistency of messaging and development of appropriate written and video materials for dissemination. They will also hold peer training sessions on working with Wordpress, Facebook, Snapchat and other platforms. Social Media Coordinator will also take the lead in training staff how to use Trello's project management system and Google's file creation and sharing platform.

HRP's Directors and Research Associates in charge of statistical and other quantitative and qualitative data analysis will be responsible for assessing and coordinating the need to purchase or upgrade additional analytical software throughout the plan period. They will also continue to advise on project/file set up and close out protocols and will be key leaders and participants in the peer mentoring initiative.

Contractor Responsibilities

The Perry Group will be responsible for building the new server, installing the backup system and migrating HRP's email to Microsoft Office 365. Additionally at that time they will upgrade the VPN service and work with individual users to update their machines so that they can access the server remotely and troubleshoot any specific issues any staff member may encounter. The Perry Group will also upgrade the Sage Accounting software and migrate the data and they will build and test the Next Cloud file sharing system for HRP and provide instructions for how to manage this tool.

Shortly after the large infrastructural projects are completed, Perry will offer a group staff training on how to access and use the new email system and work with users to get email to display on their cell phones if needed. The Perry Group will also oversee the workstation and software

upgrades projects, provide consultation to in-house staff regarding the IT system, and provide technical assistance as needed throughout the plan period. At least once a year, Perry will meet with the management team to evaluate HRP's system, discuss latest trends and plan for project needs that may require new software and/or new technological systems.

5.2 Timeline

Year One: 10/01/2018- 09/31/2019 Projects	Responsible Parties
<p><u>Ongoing Activities:</u></p> <ul style="list-style-type: none"> • Non Profit Alliance Trainings • Communications Strategy Team monthly meetings. • Monthly IT Support Visits 	<ul style="list-style-type: none"> • Director of Administration (DoA) will email opportunities to staff. Exec Director will approve who attends. • Coordinators of Website and Social Media • Perry Group
<p><u>Q1: October-December, 2018</u></p> <ul style="list-style-type: none"> • Server Replacement • Backup • Email • Upgrade of Sage software • VPN • Next Cloud Creation • Training by IT on VPN, Email, Next Cloud, etc. 	<p>Q1: October- December, 2018</p> <ul style="list-style-type: none"> • Perry with DoA • Perry with DoA • Perry with DoA • Perry, CMS, CFO • Perry with DoA • Perry with DoA • Perry with DoA
<p><u>Q2: January – March, 2019</u></p> <ul style="list-style-type: none"> • 4 Laptop Replacement • Buy 4 Access licenses and install • Replace 2 Desktop Computers • Purchase 1 Tablet • Formulate Communications Strategy Team • Aetna Media Pro Bono Training 	<p>Q2: January – March, 2019</p> <ul style="list-style-type: none"> • DoA with Perry • DoA with Perry • DoA with Perry • DoA with Perry • Website and Social Media Coordinators • Social Media Coordinator
<p><u>Q3: April – June, 2019</u></p> <ul style="list-style-type: none"> • In-house Training on Policies cybersecurity, file naming and project folder structure • Start Peer Training Series 	<p><u>Q3: April – June, 2019</u></p> <ul style="list-style-type: none"> • DoA and Tech Planning Committee • CFO

<u>Q4: July – September, 2019</u> <ul style="list-style-type: none"> • 4 Laptop Replacements • Buy 2 Access licenses & Install • Purchase 1 tablet 	<u>Q4: July – September, 2019</u> <ul style="list-style-type: none"> • DoA with Perry • DoA with Perry • DoA with Perry
---	--

Year Two: 10/01/2019 – 09/31/2020 <u>Projects</u>	Responsible Parties
Ongoing Activities: <ul style="list-style-type: none"> • Non Profit Alliance Trainings • Communications Strategy Team monthly meetings. • Peer Monthly Trainings • Monthly IT Support Visits 	<ul style="list-style-type: none"> • DoA will email opportunities to staff. Exec Director will approve • Coordinators of Website and Social Media • CFO • Perry Group
<u>Q1: October-December, 2019</u> Purchase and set up 1 copier/printer/scanner	<u>Q1: October-December, 2019</u> <ul style="list-style-type: none"> • Perry with DoA
<u>Q2: January – March, 2020</u> <ul style="list-style-type: none"> • Purchase 1 scanner for DoA • Renew 5 Stella Licenses • Conduct IT Planning and Evaluation Meeting • Purchase 1 STATA License • 4 Laptop Replacements • 2 Access Purchases and Install • Professional Cyber Security Training 	<u>Q2: January – March, 2020</u> <ul style="list-style-type: none"> • DoA with Perry • DoA • Management Team and Perry Group • DoA • D0A with Perry • DoA with PerryDoA with External vendor
<u>Q3: April – June, 2020</u> <ul style="list-style-type: none"> • Buy/ Set up 1 staff laser printer • Buy 1 LCD projector 	<u>Q3: April- June, 2020</u> <ul style="list-style-type: none"> • DoA with Perry • DoA with Perry
<u>Q4: July – September, 2020</u> <ul style="list-style-type: none"> • 4 Laptop Replacements • Buy and install 4 Access licenses 	<u>Q4: July – September, 2020</u> <ul style="list-style-type: none"> • DoA with Perry • DoA with Perry

Year Three: 10/01/2020 – 09/31/2021 <u>Projects</u>	<u>Responsible Parties</u>
<u>Ongoing Activities:</u> <ul style="list-style-type: none"> • Non Profit Alliance Trainings • Communications Strategy Team monthly meetings. • Peer Monthly Trainings • Monthly IT Support Visits 	<ul style="list-style-type: none"> • DoA will email opportunities to staff. Exec Director will approve • Coordinators of Website and Social Media • CFO • Perry Group
<u>Q1: October- December, 2019</u> <ul style="list-style-type: none"> • Buy and Set up 1 copier/printer • Buy 1 LCD Projector 	<u>Q1: October- December, 2019</u> <ul style="list-style-type: none"> • DoA with Perry • DoA
<u>Q2: January – March, 2020</u> <ul style="list-style-type: none"> • 4 Laptop Replacements • 2 Access Purchases and Install • Renew 5 Stella Licenses • IT Evaluation/Planning Meeting 	<u>Q2: January – March, 2020</u> <ul style="list-style-type: none"> • DoA with Perry • DoA with Perry • DoA • Management Team
<u>Q3: April – June, 2020</u> <ul style="list-style-type: none"> • Purchase 1 STATA License 	<u>Q3: April – June, 2020</u> <ul style="list-style-type: none"> • DoA
<u>Q4: July- September, 2020</u> <ul style="list-style-type: none"> • 4 Laptop Replacements • 2 Access Purchases and Install 	<u>Q4: July – September, 2020</u> <ul style="list-style-type: none"> • DoA with Perry • DoA with Perry

6 Budget

6.1 Detailed Budget – See separate HFPG budget attachment

Appendices

Appendix A: Logic Models

Appendix B: Quotes