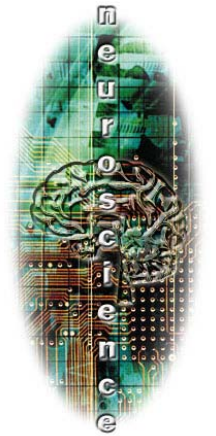


***Progress Report on Investment Plan
for Cross-Cutting Supportive
Infrastructure Across
Platform Areas***

Updated September 2003



Progress Report on Investment Plan for Cross-Cutting Supportive Infrastructure Across Platform Areas

SPECIFIC INVESTMENT REQUIREMENTS FOR CORE PLATFORM PROGRAM SUPPORT FACILITIES

Following is a summary of projected investments. It should be noted that this is a preliminary analysis and is likely to change upon more detailed planning by the institutions and individuals involved.

Based upon requests for common resources in key areas, we have aggregated the investment needs for the following key core resources for all research programs:

- Imaging center
- Animal Facilities
- Bioinformatics
- Collaborative IT Tools
- Biostatistics and Epidemiology
- Tissue Repository
- Technology Development and Commercialization
- Clinical Trials Consortium
- Special Populations Alliance

1. IMAGING FACILITIES

Need:

The use and development of imaging is a cross-cutting strength of Arizona in the biosciences, and increasingly a critical tool for advancing bioscience research.

While there are significant needs for greater availability of imaging facilities, it is also critical to recognize that imaging technology is in a constant state of development and so a complementary imaging research component is needed to ensure the state's competitive position.

In terms of greater access, there is a particular concern for ensuring dedicated time for human research, which often gets squeezed out by clinical demands.

Small animal imaging is a growing area of focus as imaging technologies become key in biomedical research. Currently there is only one such facility in the state located in Tucson, which is at or near capacity. Also, there is a need for separate facilities between human research and animal research, even beyond small animals, because of cross-species virus contamination.

Finally, the need is not only for imaging facilities, but for staffing capacity to assist with programming and image analysis. This staffing need can be provided on a shared basis.

On a development focus, specific faculty involved in developing advanced imaging technologies are needed to complement the establishment of key facilities. Research into novel imaging technologies is key for Arizona's future success, including PET radiotracers, molecular imaging and other modalities.

Another area of research advancement needed is in image analysis. One particular opportunity for Arizona is to advance the development biosignal processing to ensure that different modes of recording (PET, MRI, EEG, MEG, EMG, Ultrasound, etc.) which produce complex signals over time and space, can be better analyzed. It is widely recognized that hidden information in the spatiotemoral dynamics of such signals and systems may be the key for the modeling and elucidation of the mechanisms of observed phenomenon.

Description:

An Arizona Bioimaging Consortium is proposed that would link across the technology platform areas providing access to state-of-the-art imaging facilities and a strong cadre of faculty for developing advanced imaging technologies. Included in these facilities are: an animal imaging facility for Phoenix, PET/CT for Tucson plus augmentation of Phoenix, share programming resources for all institutions, major MRI for one site in the state. In addition, the cancer area will provide additional investments in research faculty for novel imaging technologies, such as PET radiochemistry and molecular imaging, which will benefit all of the technology

platform areas and bring the total proposed investment up to \$65 to \$75 million.

There will be staff and equipment at four sites, one site will also serve as a centralized services core for statewide initiatives.

The specific investment requirements are as follows:

Recruitment 16 academic faculty:

- Academic physician – 4 faculty
- Biomedical Engineers – 4 faculty
- Other faculty – 8

Facility Staff

- Coordinators – 3
- MRI Physicist – 3
- MRI support – 2
- Radiochemist (PET) – 1
- PET support – 3
- Engineers – 9
- Programmers-6

Pool of Funds for Equipment

- \$15M pool

Ongoing Commitment

- \$8M

Space

- 25,000 total nasf

Projected Investments

Position	Five Year Total
Facility Staff/Graduate Students	\$4.95M
Academic Faculty	\$9.4M
<i>Subtotal</i>	\$14.35M
Recruitment Packages	\$8.0M
Ongoing commitment to faculty	\$8.0M
Pooled Equipment	\$15M
Space Renovation	\$8.8M
<i>Total</i>	\$54.15M

Key Assumptions Supporting Investment Projections

Salaries & Recruitment	Equipment	Space
<ul style="list-style-type: none"> • Faculty Salaries were assumed at 100% institutional coverage. • Salary levels for academic physicians were assumed at \$200,000 (professor), \$150,000 (associate), \$110,000 (assistant). • Salary levels for biomedical engineers were assumed at \$150,000 (professor), \$120,000 (associate), \$90,000 (assistant). • Salary levels for other scientist were assumed at \$120,000 (professor), \$90,000 (associate), \$75,000 (assistant). • Benefits were assumed at 32%. • Recruitment packages were assumed at \$500,000/faculty. • Recruitment package expenditures were assumed to occur over three years. • Ongoing commitments were assumed at \$100,000/faculty/year for 16 faculty. • Salary support for major core staff (pool) was assumed at \$4.95M. 	<ul style="list-style-type: none"> • Equipment includes: fMRI, 3 clinical MRIs (1.5 T), 1 clinical MRI (3.0 T), 1 high field 7.0 T scanner, 3 small animal PET (4.7, 7.0., 9.4 T), high end PET, cyclotron, small animal in vivo imaging, SPECT, electron microscopy, CT scans, ultrasound, high end confocal microscope, duplex ultrasound, intravascular ultrasound, fluoroscopy, real time pressure volume loops, ultrasound flow probes, electrophysiology • Replacement costs/service contracts. No assumptions have been made regarding replacement of equipment or service contracts. 	<ul style="list-style-type: none"> • Renovation of space was assumed at \$350/nasf. • Operations and maintenance. No assumptions have been made for ongoing operations and maintenance.

2. ANIMAL FACILITIES

Need:

Conducting research in animal models is key for moving innovative discoveries towards translation into new therapies and medical practices. Across the Technology Platform areas, there was expressed a strong need for additional facilities to house both small and large animals, as well as more in-state capacity to develop transgenic animal models. Existing animal facilities in the state require expansion and are not well-distributed to serve the broad range of bioscience research facilities in the state. It was noted that many research institutions have to import their animal models, which is causing significant delays in their research activities.

Description:

To properly serve research institutions across the state, there is a need for at least five separate sites for housing animal models, with many having the capacity to develop transgenic animal models. The animal housing facility, or vivarium, will be a barrier facility with holding cages, procedures and surgery rooms, autoclaves, incinerators, both clean and dirty areas for small and large animals.

The specific investment requirements are as follows:

Staff (Per Team with five teams total)

- Director – 1
- Technical staff – 4
- Veterinarian – 1
- Administrative assistant – 1

Pool of Funds for Equipment

- \$3,500,000

Space

- 20,000 total nasf (includes office space for director and veterinarian)

Projected Investments

Position	Five Year Total
Staff (five teams)	\$9.7M
<i>Subtotal</i>	\$9.7M
Pooled Equipment	\$3.5M
Space Renovation	\$10.0M
<i>Total</i>	\$23.2M

Key Assumptions Supporting Investment Projections

Salaries & Recruitment	Equipment	Space
<ul style="list-style-type: none"> • Director salary was assumed at \$75,000. • Technical staff salary was assumed at 45,000. • Veterinarian’s salary was assumed at \$120,000. • Administrative assistant salary was assumed at \$35,000. • Benefits were assumed at 32%. 	<ul style="list-style-type: none"> • Equipment investment pool was assumed to include non-consumables such as cage racks and cages. • Replacement/service contracts no assumptions were made regarding regular replacement of equipment or for investments in service contracts. 	<ul style="list-style-type: none"> • New construction of space was assumed at \$500/nasf for barrier facilities. • Construction costs were assumed to include office areas and large equipment such as autoclaves, incinerators, etc. • Facilities were assumed to co-locate small animals plus transgenics at one site and small animals plus large animals at another. • Operations and maintenance. No assumptions have been made regarding ongoing operations and maintenance.

3. BIOINFORMATICS

Need:

Bioinformatics is revolutionizing bioscience research, enabling use of new tools that develop information on basic biological processes from genes to proteins. Particularly in the Cancer and Neuroscience platforms, researchers are actively using these new tools, such as micro-array analyses to genotyping. However, properly designing these tools and handling and interpreting the large data being generated are difficult tasks and require further capacity-building.

With the formation of TGEN, Arizona has a unique resource in bioinformatics. In a short time, significant research relationships between TGEN experts and Arizona bioscience researchers are being established. To leverage the expertise of TGEN, it is critical to establish a training and technical assistance resource that uses TGEN expertise even when TGEN is not closely linked to the specific research activity.

The goal is to establish a service-oriented facility with TGEN to address the full set of needs: database development, hardware and software configuration and data analysis.

Description:

The Bioinformatics facility will provide support for research platforms with resources, capacity building, training and technical assistance for all Arizona institutions. The facility will also support next generation instrument development.

The specific key investment requirements are as follows:

Recruitment 12 academic faculty

- Professors – 3
- Associate – 3
- Assistant – 6

Facilities Staff

- Director – 1
- Computer programmer – 3
- Training specialists – 1

Staff Development and Training

- \$62,000

Pool of Funds for Equipment (for facilities staff)

- \$140,000

Space

- 7,550 nasf

Projected Investments

Position	Five Year Total
Facilities Staff	\$2.5M
Academic Faculty	\$6.9M
Post-doctoral Fellows	\$1.1M
Graduate Students	\$0.5
<i>Subtotal</i>	\$11.0
Recruitment Packages	\$6.0M
Staff Development and Training	\$0.06M
Pooled Equipment (Facilities Staff)	\$0.12M
Space Renovation	\$1.5M
<i>Total</i>	\$18.62M

Key Assumptions Supporting Investment Projections

Salaries & Recruitment	Equipment	Space
<ul style="list-style-type: none"> • Faculty Salaries were assumed at 100% institutional coverage. • Salary levels for academic faculty were assumed at \$175,000 (professor), \$100,000 (associate), \$80,000 (assistant). • Salary levels for post-doctoral fellows were assumed at \$50,000. • Salary levels for graduate students were assumed at \$20,000. • Benefits were assumed at 32%. 	<ul style="list-style-type: none"> • Equipment investments are assumed for facilities staff to include 1 SUN computer, 1 UNIX box and 4 personal computers. • Equipment investments for faculty are assumed to be included in set up packages. • Replacement/service contracts no assumptions were made regarding regular replacement of equipment or for investments in service contracts. 	<ul style="list-style-type: none"> • Renovation of space was assumed at \$200/nasf. • Operations and maintenance. No assumptions have been made regarding ongoing operations and maintenance costs.
<ul style="list-style-type: none"> • Faculty set up packages were assumed at \$500,000 for all levels. • Expenditures were assumed to occur over a period of three years. 		
<ul style="list-style-type: none"> • Salary levels for facility staff were assumed at \$100,000 (director), \$80,000 (computer programmer), \$60,000 (training specialist), \$35,000 (administrative assistant) • Staff development and training costs were assumed at: Training \$2000/year/each (director and computer programmer); Travel \$3000/year/each-(director and computer programmer). 		

4. COLLABORATIVE IT TOOLS

Need:

A key emphasis of the Technology Platform is to build stronger collaborations and outreach in the research community. Given the distances found across the bioscience research institutions, there is a need to find creative ways to bring researchers together to collaborate, through the establishment of new tools such as virtual collaboration work spaces where teams of researchers can generate test results,

interpreting these results and developing papers and proposals to more typical video conferencing capabilities and web sites of researcher directories.

Description:

An Arizona bioscience-wide virtual collaboratory will be established to integrate communications and software applications, including shared computer displays, electronic

notebooks, and virtual reality collaboration spaces with videoconferencing and e-mail capabilities. These communication technologies could also be integrated with scientific and engineering resources, including instruments, data, analysis software, and the.

The Collaboratory toolkit that could be used in Arizona should include:

- **CORE2000 or Real-Time Group Collaboration** – An open, cross-platform, collaboration system for multi-tool collaborative sessions. It includes a whiteboard, a chat room, desktop videoconferencing, and application sharing of computer screens.
- **Virtual Network Computing or VNC** – A secure collaborative (remote) instrument control application tool. VNC provides the authorization control and privacy essential for the safe control of expensive instruments or the sharing of sensitive data.
- **Electronic Laboratory Notebook** – A Web version of a traditional paper laboratory notebook that collaborators can share in real time.
- **Collabrasuite** – A suite of Web-based tools that makes it easier for people from different organizations and in different locations to work together. The tools are used to manage resources, simplify coordination and development of information products, and facilitate communication and collaboration. They allow dispersed groups to work on common projects in real-time.

The specific key investment requirements are as follows:

Facilities staff

- Director – 1
- Technical specialists: grade I –III
- Technical specialists: grade II – III
- Training specialist – I
- Administrative assistant – I

Staff development and training

- \$118,500

Equipment

- \$773,000

Software/site licenses/databases

- \$765,300

Space

- 800 nasf

Projected Investments

Position	Five Year Total
Facilities Staff	\$2.3M
Staff development and training	\$0.12M
<i>Subtotal</i>	\$2.42M
Equipment	\$0.8M
Software/databases/licenses	\$0.8M
Space Renovation	\$0.16M
<i>Total</i>	\$4.18M

Key Assumptions Supporting Investment Projections

Salaries	Equipment and Supplies	Space
<ul style="list-style-type: none"> • Director salary was assumed at \$100,000. • Technical Specialist-Grade I salary was assumed at \$45,000. • Technical Specialist – Grade II salary was assumed at \$50,000. • Training Specialist salary was assumed at \$45,000. • Administrative assistant salary was assumed at \$35,000. • Benefits were assumed at 32%. 	<ul style="list-style-type: none"> • Equipment investments are assumed for Videoconferencing equipment (\$250,000), Servers (\$500,000) and personal computers (\$23,000). • Replacement/service contracts no assumptions were made regarding regular replacement of equipment or for investments in service contracts. 	<ul style="list-style-type: none"> • Renovation of space was assumed at \$200/nasf. • Operations and maintenance. No assumptions have been made regarding ongoing operations and maintenance costs.
<ul style="list-style-type: none"> • Staff development and training. Training and travel costs are assumed at \$5000/yr for Director and technical specialists. 	<ul style="list-style-type: none"> • Software licenses (for all institutions) are assumed at \$80,000/year. • Database investments are assumed at \$200,000. • Software upgrades are assumed at \$32,000. • Supplies are assumed at \$78,000. 	

5. BIostatistics and Epidemiology

Need:

Arizona has a paucity of biostatistics and epidemiology expertise to help in the design and interpretation of results from clinical research activities. Members of the Technology Platform have indicated that with earlier and more intensive involvement of biostatisticians and epidemiologists, Arizona bioscience researchers can improve the quality of their proposals for conducting clinical research and also provide a more rigorous basis for understanding risk factors and helping to direct future research inquiries.

Description:

The development of a shared capacity in biostatistics and epidemiology will support the efforts of research platforms in gaining biostatistics/epidemiology expertise and will support the establishment and implementation of an M.S./PhD. Program in biostatistics. Additional epidemiologists will be recruited for a) the Cancer Research Platform and b) the Special Populations Alliance

The specific investment requirements are as follows:

Recruitment - academic faculty:

- Professor – 1
- Associate – 1
- Assistant – 2

Facility Staff

- Program specialists: Biostatistics – 3
- Program specialists: Epidemiology – 3
- Administrative assistant – 1

Equipment and Software

- \$0.16M

Space

- 6,050 total nasf

Projected Investment

Position	Five Year Total
Academic faculty	\$2.1M
Post-doctoral fellows	\$0.32M
Graduate students	\$0.24
Facility staff	\$3.7M
<i>Subtotal</i>	\$6.4M
Staff development and training	\$0.04M
Equipment and Software	\$0.16M
Space Renovation	\$1.2M
<i>Total</i>	\$8.12M

Key Assumptions Supporting Investment Projections

Salaries & Recruitment	Equipment & Software	Space
<ul style="list-style-type: none"> • Faculty Salaries were assumed at 100% institutional coverage. • Salary levels for academic faculty were assumed at \$125,000 (professor), \$100,000 (associate), \$80,000 (assistant). • Salary levels for post-doctoral fellows were assumed at \$40,000. • Salary levels for graduate students were assumed at \$20,000. • Salary levels for program specialists were assumed at \$100,000 (biostatistics) and \$75,000 (epidemiologists). • Salary level for administrative assistant was assumed at \$35,000. • Benefits were assumed at 32%. 	<ul style="list-style-type: none"> • Equipment investments are assumed for personal computers and software/databases. • Replacement/service contracts. No assumptions were made regarding regular replacement of equipment or for investments in service contracts. 	<ul style="list-style-type: none"> • Renovation of space was assumed at \$200/nasf. • Operations and maintenance. No assumptions were made regarding ongoing operations and maintenance.
<ul style="list-style-type: none"> • Faculty set up packages. No packages were assumed, major expenses assumed to be included in capital investments. 		
<ul style="list-style-type: none"> • Staff development and training was assumed at \$2000/yr/specialist with \$2000/yr for publications. 		

6. TISSUE REPOSITORY

Need:

Related to the growth of genomics and bioinformatics is having access to tissue samples in which these research tools can be applied. Arizona is well-known for the Sun Health brain bank and other key tissue banks, but to advance future research a more comprehensive and focused approach is proposed that reaches across the state and seeks to develop broader types of tissue.

It is proposed that in addition to specific tissue repository development identified for Arizona's specific technology platform that consideration be given to establishing a more comprehensive whole organ and tissue sample repository that can enable future research activities.

A major drawback to tissue repositories is that they only provide access to fixed, dead or dying tissues. Arizona has the opportunity to be a national leader in advanced preservation science and technology, which would focus on providing Arizona researchers access to living cells and tissues. It is proposed that a key complementary effort for existing and expanded statewide tissue repositories is advancing a new research development effort for the preservation of tissue, the Arizona Bio-Preservation Center, which will support researchers across all technology platform areas in gaining access to functional, integrated tissues for their use rather than settling for measuring the presence of a molecule in a dead tissue. This access to high quality biomaterial will extend the capabilities of current diagnostics and enable novel therapeutics that are not possible at this time. The center will also focus on developing commercial

applications of cell and tissue preservation that will benefit Arizona's economy as well as health delivery system.

Description:

A central facility will provide a repository for whole organ and tissue samples.

The specific investment requirements are as follows:

Facility staff

- Director, MD – 1
- Pathologist – 3
- PhD level staff – 3
- Technical support – 10
- Administrative support – 3

Supplies and other general expenses

- \$0.1M pool

Equipment

- \$0.3M pool

Space

- 7,000

Arizona Bio-Preservation Center

A signature research & development center for Arizona focused on advancing tissue preservation science and technology.

The specific investment requirements are as follows:

Staffing:

- Faculty – 12
- Graduate students – 16
- Support staff – 19
- Business administration staff – 3

The center will have laboratories dedicated to Cryopreservation and Other Preservation Technologies, including:

- Freezing
- Vitrification
- Freeze-drying
- Dessication
- And a range of Engineering Tools including:
 - Instrumentation and device design
 - Biophysical understanding

- Mathematical models and computer predictions
- Quantitative Image Processing.
- \$5.0M pool

Projected Investments

Position	Five Year Total
Faculty	\$6.2M
Post Doc's	\$1.1M
Graduate Students	\$1.0M
Facility staff	\$3.9M
<i>Subtotal</i>	\$12.2M
Recruitment Pkgs	\$4.5M
Pooled Supplies/Operating	\$5.0M
Pooled Equipment	\$4.0M
Space Renovation	\$2.3M
<i>Total</i>	\$28.0M

Key Assumptions Supporting Investment Projections

Salaries	Equipment	Space
<ul style="list-style-type: none"> • Salaries were assumed at 100% institutional coverage for staff • Directors salary was assumed at \$100,000. • PhD staff salary was assumed at \$75,000. • Pathologists' salary was assumed at \$150,000. • Technical support staff salary was assumed at \$40,000. • Bioinformatics staff salary was assumed at \$75,000 • New Business Development, Regulatory Affairs and Comptroller staff salaries were assumed at \$70,000. • Liason staff salary was assumed at \$50,000 • Administrative support staff salary was assumed at \$35,000. • Recruitment packages were assumed at \$500,000/faculty for 9 faculty. • Benefits were assumed at 32%. 	<ul style="list-style-type: none"> • Equipment includes: upright 37° C upright incubators (6), -20° C freezers (3), small -20° C freezer (2), refrigerators (2), ultra low freezers (8), laminar flow hoods (6), liquid N₂ tanks (5), inverted microscopes (3), cameras (3), water baths (4), centrifuges (2). • Replacement/service contracts. No assumptions were made regarding regular replacement of equipment or for investments in service contracts. 	<ul style="list-style-type: none"> • Construction of new space was assumed at \$300/nasf. • Operations and maintenance. No assumptions have been made regarding ongoing operations and maintenance.

7. TECHNOLOGY DEVELOPMENT AND COMMERCIALIZATION

Need:

Major need in Arizona to create a more flexible, pro-active capability for technology commercialization that can add value in further developing and marketing of intellectual property and augment the activities in technology transfer found across research institutions. This involves undertaking market assessments, investing in proof of concept research activities and developing business plans and new ventures.

Description:

Centralized support to technology transfer activities found at individual institutions for the development and commercialization of research technologies. Support will include technology identification, market assessment and investment in technology development/proof of concept.

The specific investment requirements are as follows:

Facility staff

- Director, PhD, MBA – 1
- Technical staff – 3
- Administrative assistant – 1

Outsourcing

- Legal expenses – \$2.2M
- Marketing consultant – \$0.05M

Staff Development and Training

- \$0.1M

Development Fund

- \$5M

Equipment

- \$0.02M

Supplies

- \$0.09M

Space

- 750 nasf

Projected Investments

Position	Five Year Total
Facility staff	\$1.5
Outside specialists	\$2.25M
<i>Subtotal</i>	\$3.75M
Staff development and training	\$0.1M
Development Fund	\$5.0M
Equipment	\$0.02M
Supplies	\$0.09M
Space Renovation	\$0.15M
<i>Total</i>	\$9.11M

Key Assumptions Supporting Investment Projections

Salaries	Equipment and Supplies	Space
<ul style="list-style-type: none"> Salaries were assumed at 100% institutional coverage. Director salary level was assumed at \$150,000. Technical staff salary levels were assumed at \$75,000. Administrative assistant salary levels were assumed at \$35,000. Benefits were assumed at 32%. 	<ul style="list-style-type: none"> Equipment includes databases and software. Replacement/service contracts. No assumptions were made regarding regular replacement of equipment or for investments in service contracts. 	<ul style="list-style-type: none"> Renovation of space was assumed at \$200/nasf. Operations and maintenance. No assumptions were made regarding ongoing operations and maintenance.
<ul style="list-style-type: none"> Outsourcing of legal services was assumed at \$300,000/year. Outsourcing of marketing services and assessment was assumed at \$10,000/year. 	<ul style="list-style-type: none"> Consumable supplies and software upgrades were assumed at \$14,000/year. 	
	<ul style="list-style-type: none"> Development funds were assumed at \$1M/year. 	

8. CLINICAL TRIALS CONSORTIUM

Need:

Clinical trials activities are central for advancing new therapies and medical applications. Arizona lacks the ability to easily have its broad range of biomedical research institutions to partner and advance clinical trials in a more concerted manner. Discussions identified a need for establishing a clinical trials consortium that could facilitate and broaden the coordination of clinical trials activities across the state.

Specific types of facilitation activities the consortium might undertake include:

Development a community/statewide IRB.

Need to clarify and strategize HIPAA issues to allow access to patient tissues, clinical information and screening for potential patient entry to protocols.

Broaden base of involvement of physicians into clinical trials activities, especially Phase I and Phase II.

Description:

The core facility will provide centralized support for facilitation activities to broaden the development of clinical trials in Arizona. Services will include dissemination of information related to clinical trials and assistance with the patient consent process. Additional assistance will include identification and management of opportunities for collaborations in clinical research.

The specific investment requirements are as follows:

Facility Staff

- Director, MD – 1
- Associate Director – 1
- Administrative assistant – 1

Staff development and training

- \$0.05M

General supplies and marketing

- \$0.25M

Equipment

- \$0.06M

Space

- 1,750 nasf

Projected Investments

Position	Five Year Total
Facility staff	\$2.2M
<i>Subtotal</i>	\$2.2M
Staff training and development	\$0.08M
General supplies and marketing materials	\$0.25M
Equipment	0.05M
Space Renovation	0.35M
<i>Total</i>	\$2.9M

Key Assumptions Supporting Investment Projections

Salaries	Equipment & Supplies	Space
<ul style="list-style-type: none"> • Salaries were assumed at 100% institutional coverage. • Director salary level was assumed at \$200,000. • Associate Director salary level was assumed at \$100,000. • Administrative Assistant salary level was assumed at \$35,000. • Benefits were assumed at 32%. 	<ul style="list-style-type: none"> • Equipment includes personal computers, databases and software. • Replacement/service contracts. No assumptions were made regarding regular replacement of equipment or for investments in service contracts. 	<ul style="list-style-type: none"> • Renovation of space was assumed at \$200/nasf. • Operations and maintenance. No assumptions have been made regarding ongoing operations and maintenance.
<ul style="list-style-type: none"> • Staff development and training was assumed at \$10,000/yr (training) and \$4,000/yr/Director and Associate Director (travel); publications were assumed at \$2,000/year. 	<ul style="list-style-type: none"> • Marketing materials were assumed at \$50,000/year. 	

9. SPECIAL POPULATIONS ALLIANCE

Need:

Arizona has a significant concentration of specialized population groups, from Native Americans to Hispanics to elderly, which have unique public health issues and offer important insights into biomedical research. While there have been tangible successes, much more can be done, but only if a genuine partnership approach can be taken that actively involves these specialized communities at the start and ensures that they are helping to guide the effort.

For Native Americans, it is very important that researchers understand that they cannot just walk onto a reservation and do research. It takes two to three years of ground work in order to write a proposal; and need to be flexible and make protocol changes; and it will take longer to complete the work.

To facilitate this need for partnerships and capacity for researchers to have a ready mechanism for working with specialized population groups, it is proposed that a Special Populations Alliance be created that would support a statewide intermediary allowing for a more predictable and proactive approach, without having to recreate the partnering process.

Description:

A statewide center to work closely with state government and special population groups as “partners.”

The specific investment requirements are as follows:

Facility Staff

- Director (faculty status) – 1
- Outreach staff – 2
- Epidemiologist – 3
- Public Health Specialist, RN – 3
- Administrative Assistant – 1

Staff Travel for Alliance Projects

- \$0.03M

Outreach and Marketing Materials

- \$0.25M

General Supplies

- \$0.14M

Equipment

- \$0.04M

Space

- 1,600 nasf

Projected Investments

Position	Five Year Total
Facility Staff	\$3.05
<i>Subtotal</i>	\$3.05M
Marketing and outreach materials	\$0.25M
General supplies	\$0.12M
Projected related travel	\$0.03M
Equipment	\$0.04M
Space Renovation	\$0.3M
<i>Total</i>	\$3.8M

Key Assumptions Supporting Investment Projections

Salaries	Equipment & Supplies	Space
<ul style="list-style-type: none"> Salaries were assumed at 100% institutional coverage. Director salary level was assumed at \$100,000. Epidemiologist salary level was assumed at \$90,000. Outreach staff salary level was assumed at \$45,000. Public health specialist salary level was assumed at \$65,000. Administrative assistant salary level was assumed at \$35,000. Benefits were assumed at 32%. 	<ul style="list-style-type: none"> Equipment includes personal computers. Replacement/service contracts. No assumptions were made regarding regular replacement of equipment or for investments in service contracts. 	<ul style="list-style-type: none"> Renovation of space was assumed at \$200/nasf. Operations and maintenance. No assumptions were made regarding ongoing operations and maintenance.
<ul style="list-style-type: none"> Project related travel was assumed at \$2000/each/year for director, outreach staff and public health specialist. 	<ul style="list-style-type: none"> .General office supplies were assumed at \$2000/year (director and administrative assistant); \$3000/year (outreach and public health specialists); \$5000/year (epidemiologists). Marketing and outreach materials were assumed at \$50,000/year 	