

# Final Progress Report for Research Projects Funded by Health Research Grants

Instructions: Please complete all of the items as instructed. Do not delete instructions. Do not leave any items blank; responses must be provided for all items. If your response to an item is “None”, please specify “None” as your response. “Not applicable” is not an acceptable response for any of the items. There is no limit to the length of your response to any question. Responses should be single-spaced, no smaller than 12-point type. The report **must be completed using MS Word**. Submitted reports must be Word documents; they should not be converted to pdf format. Questions? Contact Health Research Program staff at 717-783-2548.

1. **Grantee Institution:** UPMC McKeesport
2. **Reporting Period (start and end date of grant award period):** 1/1/2011-6/30/2012
3. **Grant Contact Person:** Chris Stockhausen, MBA
4. **Grant Contact Person’s Telephone Number:** 412-664-2528
5. **Grant SAP Number:** 4100054876
6. **Project Number and Title of Research Project:** Outcomes of Disparate vs. Non-disparate Cancer Patients Undergoing Patient Navigation
7. **Start and End Date of Research Project:** 1/1/2011 – 6/30/2012
8. **Name of Principal Investigator for the Research Project:** Dwight Heron, MD
9. **Research Project Expenses.**

9(A) Please provide the amount of health research grant funds spent on this project for the entire duration of the grant, including any interest earned that was spent:

\$ 21,667

9(B) Provide the last names (include first initial if multiple individuals with the same last name are listed) of **all** persons who worked on this research project and were supported with health research funds. Include position titles (Principal Investigator, Graduate Assistant, Post-doctoral Fellow, etc.), percent of effort on project and total health research funds expended for the position. For multiple year projects, if percent of effort varied from year to year, report in the % of Effort column the effort by year 1, 2, 3, etc. of the project (x% Yr 1; z% Yr 2-3).

Last Name	Position Title	% of Effort on Project	Cost
Stockhausen	Project Coordinator	1%	1,656
Timmons	Project Coordinator	1%	443
Klewien	Data Manager	15%	12,000
Weinman	Data Manager	3%	1,951
Shutt	Biostatistician	2%	1,284

9(C) Provide the names of **all** persons who worked on this research project, but who *were not* supported with health research funds. Include position titles (Research Assistant, Administrative Assistant, etc.) and percent of effort on project. For multiple year projects, if percent of effort varied from year to year, report in the % of Effort column the effort by year 1, 2, 3, etc. of the project (x% Yr 1; z% Yr 2-3).

Last Name	Position Title	% of Effort on Project
Heron	PI	1%

9(D) Provide a list of **all** scientific equipment purchased as part of this research grant, a short description of the value (benefit) derived by the institution from this equipment, and the cost of the equipment.

Type of Scientific Equipment	Value Derived	Cost
None		

**10. Co-funding of Research Project during Health Research Grant Award Period.** Did this research project receive funding from any other source during the project period when it was supported by the health research grant?

Yes \_\_\_\_\_ No

If yes, please indicate the source and amount of other funds:

### 11. Leveraging of Additional Funds

11(A) As a result of the health research funds provided for this research project, were you able to apply for and/or obtain funding from other sources to continue or expand the research?

Yes \_\_\_\_\_ No

If yes, please list the applications submitted (column A), the funding agency (National Institutes of Health—NIH, or other source in column B), the month and year when the application was submitted (column C), and the amount of funds requested (column D). If you have received a notice that the grant will be funded, please indicate the amount of funds to be awarded (column E). If the grant was not funded, insert “not funded” in column E.

Do not include funding from your own institution or from CURE (tobacco settlement funds). Do not include grants submitted prior to the start date of the grant as shown in Question 2. If you list grants submitted within 1-6 months of the start date of this grant, add a statement below the table indicating how the data/results from this project were used to secure that grant.

A. Title of research project on grant application	B. Funding agency (check those that apply)	C. Month and Year Submitted	D. Amount of funds requested:	E. Amount of funds to be awarded:
None	<input type="checkbox"/> NIH <input type="checkbox"/> Other federal (specify: _____) <input type="checkbox"/> Nonfederal source (specify: _)		\$	\$

11(B) Are you planning to apply for additional funding in the future to continue or expand the research?

Yes \_\_\_\_\_ No X

If yes, please describe your plans:

**12. Future of Research Project.** What are the future plans for this research project?

None at this time

**13. New Investigator Training and Development.** Did students participate in project supported internships or graduate or post-graduate training for at least one semester or one summer?

Yes \_\_\_\_\_ No X

If yes, how many students? Please specify in the tables below:

	Undergraduate	Masters	Pre-doc	Post-doc
Male				
Female				
Unknown				
<b>Total</b>				

	Undergraduate	Masters	Pre-doc	Post-doc
Hispanic				
Non-Hispanic				
Unknown				
<b>Total</b>				

	Undergraduate	Masters	Pre-doc	Post-doc
White				
Black				
Asian				
Other				
Unknown				
<b>Total</b>				

**14. Recruitment of Out-of-State Researchers.** Did you bring researchers into Pennsylvania to carry out this research project?

Yes \_\_\_\_\_ No X

If yes, please list the name and degree of each researcher and his/her previous affiliation:

**15. Impact on Research Capacity and Quality.** Did the health research project enhance the quality and/or capacity of research at your institution?

Yes X No \_\_\_\_\_

If yes, describe how improvements in infrastructure, the addition of new investigators, and other resources have led to more and better research.

In addition to enhancing the skill set of the current UPMC McKeesport staff in the art of research, the project also provided the chance to utilize community resources, and other facilities in finalizing our findings. We are aware that our service area includes a population that is mostly minority, low income, limited education, and elderly (2010 US Census data). Research infrastructure and associated processes provide the tools that community hospitals required to address and evaluate questions related to effectiveness of programs that attempt to resolve health disparities. This and other research funding has helped to develop a culture and staff that may not have been aware of the issues facing this type of population. Considering that many underserved groups gravitate to their community hospitals as their sole source of medical care, we bear significant responsibility to understand and address the nature of health disparities in general.

**16. Collaboration, business and community involvement.**

16(A) Did the health research funds lead to collaboration with research partners outside of your institution (e.g., entire university, entire hospital system)?

Yes \_\_\_\_\_ No X

If yes, please describe the collaborations:

16(B) Did the research project result in commercial development of any research products?

Yes \_\_\_\_\_ No X

If yes, please describe commercial development activities that resulted from the research project:

16(C) Did the research lead to new involvement with the community?

Yes \_\_\_\_\_ No X

If yes, please describe involvement with community groups that resulted from the research project:

**17. Progress in Achieving Research Goals, Objectives and Aims.**

List the project goals, objectives and specific aims (as contained in the grant application's strategic plan). Summarize the progress made in achieving these goals, objectives and aims for the period that the project was funded (i.e., from project start date through end date). Indicate whether or not each goal/objective/aim was achieved; if something was not achieved, note the reasons why. Describe the methods used. If changes were made to the research goals/objectives/aims, methods, design or timeline since the original grant application was submitted, please describe the changes. Provide detailed results of the project. Include evidence of the data that was generated and analyzed, and provide tables, graphs, and figures of the data. List published abstracts, poster presentations and scientific meeting presentations at the end of the summary of progress; peer-reviewed publications should be listed under item 20.

This response should be a DETAILED report of the methods and findings. It is not sufficient to state that the work was completed. Insufficient information may result in an unfavorable performance review, which may jeopardize future funding. If research findings are pending publication you must still include enough detail for the expert peer reviewers to evaluate the progress during the course of the project.

Health research grants funded under the Tobacco Settlement Act will be evaluated via a performance review by an expert panel of researchers and clinicians who will assess project work using this Final Progress Report, all project Annual Reports and the project's strategic plan. After the final performance review of each project is complete, approximately 12-16 months after the end of the grant, this Final Progress Report, as well as the Final Performance Review Report containing the comments of the expert review panel, and the grantee's written response to the Final Performance Review Report, will be posted on the CURE Web site.

**There is no limit to the length of your response. Responses must be single-spaced below, no smaller than 12-point type. If you cut and paste text from a publication, be sure symbols print properly, e.g., the Greek symbol for alpha ( $\alpha$ ) and beta ( $\beta$ ) should not**

**print as boxes (☐) and include the appropriate citation(s). DO NOT DELETE THESE INSTRUCTIONS.**

**Research plan and expected goals:**

The stated goals of the project are as follows:

- Review data collected on 542 patients from 3 underserved communities between January 2005 and May 2008, relative to gender, age, race and stage of disease in an attempt to discern possible indicators for the apparent excess mortality rates;
- Report on types of cancer and evaluate insurance coverage to support determination of socio-economic status of our patients;
- Report frequency ratios of follow-up status in terms of age and gender to define the population considered disparate (minority, elderly, low socio-economic status);
- Compare data to state and national averages.

To achieve these goals, our plan was to obtain the following data elements for statistical analysis:

- Referral mechanism
- Age at initial consent
- Gender
- Race
- Insurance status
- Cancer type (diagnosis)

Expected outcomes are as stated:

The information and data we were tasked to analyze represents patients with various forms of cancer from communities with high minority, elderly, and low income populations. It is our hypothesis that clinical outcomes for these patients will not compare favorably to national and regional averages. Outcome results for this analysis can be identified as successful, or unsuccessful, although there are varying degrees of each category. The analysis will attempt to discern possible indicators for the resulting survival rates, including referral mechanism, age, gender, race, insurance status, socio-economic status, and cancer type. The research will allow for a better picture of the populations studied and more targeted treatment strategies.

**Personnel:**

- Principle investigator: Dwight E. Heron, MD
- Data manager: Scott Weinman (Sr. Financial Analyst) / Barb Klewien (Grant Administrator)
- Biostatistician: Ross Shutt (Sr. Financial Analyst)
- MCK Coordinators: Laurene Timmons, Director of Finance, UPMC McKeesport / Chris Stockhausen, CFO, UPMC McKeesport

**Methods:**

- Data collection and cleaning was performed by Ross Shutt and Barb Klewien.

- Of the 542 patient records collected, only 395 had complete result data; those records with results indicating “Died because of Other Causes” or N/A were ignored.
- The records were sorted into successful and unsuccessful treatments and analyzed by referral mechanism, age, gender, race, insurance status, socio-economic status, cancer type.
- Successful outcomes were defined as “Alive without Cancer”; Unsuccessful outcomes were defined as “Alive with Cancer” or “Died because of Cancer.”
- An insufficient number of records had completed referral mechanism data, so this metric was ignored.
- Where possible, these results were compared to state and national survival rates via the National Cancer Institute (NCI):  
[http://seer.cancer.gov/csr/1975\\_2009\\_pops09/results\\_merged/topic\\_survival.pdf](http://seer.cancer.gov/csr/1975_2009_pops09/results_merged/topic_survival.pdf)

**Findings:**

**Population statistics via US Census Bureau American Fact Finder database (proposal)**

	<b>Black/ African American</b>	<b>65 and Over</b>	<b>Below Poverty Level</b>
<b>Data Population</b>	22.5%	48.1%	40.8%*
<b>Pittsburgh</b>	25.2%	14.9%	21.7%
<b>New Castle</b>	10.0%	19.3%	19.3%
<b>McKeesport</b>	24.2%	18.0%	29.3%
<b>State</b>	10.4%	15.3%	21.1%
<b>National</b>	13.0%	12.4%	13.0%

*\*Estimated based on low socio-economic status*

For the data set analyzed, the following outcomes were observed:

**1<sup>st</sup> Follow-up Status**

	<b>Number of Patients</b>	<b>% of Data Population</b>
Successful Treatment	148	37.5%
Unsuccessful Treatment	247	62.5%
<b>Total</b>	<b>395</b>	<b>100.0%</b>

**Success Rate by Age**

	<b>% of Data Population</b>	<b>Success Rate</b>
Under 65	51.9%	35.6%
65 and Over	48.1%	39.5%
<b>Total</b>		<b>37.5%</b>

### Success Rate by Insurance Status

	% of Data Population	Success Rate
Insured	86.3%	39.2%
Uninsured	13.7%	24.1%
<b>Total</b>		<b>37.5%</b>

### Success Rate by Socio-Economic Status

	% of Data Population	Success Rate
Mid or High	59.2%	41.0%
Low	40.8%	32.3%
<i>Medicaid</i>	26.3%	35.6%
<i>Self-Pay/None</i>	14.4%	26.3%
<b>Total</b>		<b>37.5%</b>

### Success Rate by Gender

	% of Data Population	Success Rate	Survival Rate via NCI (U.S.)
Female	54.4%	42.3%	64.8%
Male	45.6%	31.7%	65.9%
<b>Total</b>		<b>37.5%</b>	<b>65.4%</b>

### Success Rate by Race

	% of Data Population	Success Rate	Survival Rate via NCI (U.S.)
White	75.2%	39.7%	66.0%
Black	22.5%	30.3%	58.3%
Other	2.3%	33.3%	N/A
<b>Total</b>		<b>37.5%</b>	<b>65.4%</b>

### Success Rate by Cancer Type

	% of Data Population	Success Rate	Survival Rate via NCI (U.S.)
Breast	23.0%	52.7%	88.9%
Lung	22.0%	13.8%	15.9%
Prostate	9.4%	56.8%	99.2%
Colon	5.6%	27.3%	64.3%
Brain	3.3%	38.5%	33.5%
Other	36.7%	38.6%	N/A
<b>Total</b>		<b>37.5%</b>	<b>65.4%</b>

## Conclusions:

As expected, the population in the study included a higher percentage of minority, elderly and low socio-economic patients. African Americans represented 22.5% of the data set, compared to 13.0% and 10.4% for the U.S. and Pennsylvania respectively, Patients over 65 were 48.1% of the data set, compared to 12.4% and 15.3% for the U.S. and Pennsylvania respectively, and low socio-economic was estimated to be 40.8% compared to poverty levels of 13.0% and 21.1% for the U.S. and Pennsylvania respectively.

Of the 395 patients analyzed, only 148 (37.5%) were successful, or “Alive without Cancer”, at the conclusion of the study, significantly lower than the national 5-year survival rate of 65.4% according to the National Cancer Institute. Additional analysis revealed that age did not appear to be a significant factor predicting treatment outcomes. Those under 65 years of age reported a success rate of 35.6%, compared to 39.5% for those over 65. Insurance status and socio-economic status indicated slightly more disparate outcomes, however. Uninsured patients survived at a rate of 24.1%, versus 39.2% for insured patients, and patients classified with low socio-economic status (Medicaid or Self-Payers) survived at a rate of 32.3%, versus 40.8% for those with middle or high socio-economic status.

When compared to national base rates from the National Cancer Institute, the study’s patient population exhibits noticeably lower survival rates across gender, race, and cancer type. One potential conclusion would be that race and socio-economic status negatively impact survival rates at these 3 locations. As a result, lessons learned from other patient navigation studies could be leveraged on the cancer patient population. This may include a focus on low-income minority populations to best improve successful treatment rates for those patients seemingly at the highest risk for failure.

**18. Extent of Clinical Activities Initiated and Completed.** Items 18(A) and 18(B) should be completed for all research projects. If the project was restricted to secondary analysis of clinical data or data analysis of clinical research, then responses to 18(A) and 18(B) should be “No.”

18(A) Did you initiate a study that involved the testing of treatment, prevention or diagnostic procedures on human subjects?

Yes  
 No

18(B) Did you complete a study that involved the testing of treatment, prevention or diagnostic procedures on human subjects?

Yes  
 No

**If “Yes” to either 18(A) or 18(B), items 18(C) – (F) must also be completed.** (Do NOT complete 18(C-F) if 18(A) and 18(B) are both “No.”)

18(C) How many hospital and health care professionals were involved in the research project?

\_\_\_\_\_Number of hospital and health care professionals involved in the research project

18(D) How many subjects were included in the study compared to targeted goals?

\_\_\_\_\_Number of subjects originally targeted to be included in the study  
\_\_\_\_\_Number of subjects enrolled in the study

**Note:** Studies that fall dramatically short on recruitment are encouraged to provide the details of their recruitment efforts in Item 17, Progress in Achieving Research Goals, Objectives and Aims. For example, the number of eligible subjects approached the number that refused to participate and the reasons for refusal. Without this information it is difficult to discern whether eligibility criteria were too restrictive or the study simply did not appeal to subjects.

18(E) How many subjects were enrolled in the study by gender, ethnicity and race?

Gender:

\_\_\_\_\_Males  
\_\_\_\_\_Females  
\_\_\_\_\_Unknown

Ethnicity:

\_\_\_\_\_Latinos or Hispanics  
\_\_\_\_\_Not Latinos or Hispanics  
\_\_\_\_\_Unknown

Race:

\_\_\_\_\_American Indian or Alaska Native  
\_\_\_\_\_Asian  
\_\_\_\_\_Blacks or African American  
\_\_\_\_\_Native Hawaiian or Other Pacific Islander  
\_\_\_\_\_White  
\_\_\_\_\_Other, specify: \_\_\_\_\_  
\_\_\_\_\_Unknown

18(F) Where was the research study conducted? (List the county where the research study was conducted. If the treatment, prevention and diagnostic tests were offered in more than one county, list all of the counties where the research study was conducted.)

**19. Human Embryonic Stem Cell Research.** Item 19(A) should be completed for all research projects. If the research project involved human embryonic stem cells, items 19(B) and 19(C) must also be completed.

19(A) Did this project involve, in any capacity, human embryonic stem cells?

Yes  
 No

19(B) Were these stem cell lines NIH-approved lines that were derived outside of Pennsylvania?

Yes  
 No

19(C) Please describe how this project involved human embryonic stem cells:

**20. Articles Submitted to Peer-Reviewed Publications.**

20(A) Identify all publications that resulted from the research performed during the funding period and that have been submitted to peer-reviewed publications. Do not list journal abstracts or presentations at professional meetings; abstract and meeting presentations should be listed at the end of item 17. **Include only those publications that acknowledge the Pennsylvania Department of Health as a funding source** (as required in the grant agreement). List the title of the journal article, the authors, the name of the peer-reviewed publication, the month and year when it was submitted, and the status of publication (submitted for publication, accepted for publication or published.). Submit an electronic copy of each publication or paper submitted for publication, listed in the table, in a PDF version 5.0.5 (or greater) format, 1,200 dpi. Filenames for each publication should include the number of the research project, the last name of the PI, the number of the publication and an abbreviated research project title. For example, if you submit two publications for PI Smith for the “Cognition and MRI in Older Adults” research project (Project 1), and two publications for PI Zhang for the “Lung Cancer” research project (Project 3), the filenames should be:

Project 1 – Smith – Publication 1 – Cognition and MRI

Project 1 – Smith – Publication 2 – Cognition and MRI

Project 3 – Zhang – Publication 1 – Lung Cancer

Project 3 – Zhang – Publication 2 – Lung Cancer

If the publication is not available electronically, provide 5 paper copies of the publication.

**Note:** The grant agreement requires that recipients acknowledge the Pennsylvania Department of Health funding in all publications. Please ensure that all publications listed acknowledge the Department of Health funding. If a publication does not acknowledge the funding from the Commonwealth, do not list the publication.

Title of Journal Article:	Authors:	Name of Peer-reviewed Publication:	Month and Year Submitted:	Publication Status (check appropriate box below):
1. None				<input type="checkbox"/> Submitted <input type="checkbox"/> Accepted <input type="checkbox"/> Published

20(B) Based on this project, are you planning to submit articles to peer-reviewed publications in the future?

Yes \_\_\_\_\_ No X

If yes, please describe your plans:

**21. Changes in Outcome, Impact and Effectiveness Attributable to the Research Project.**

Describe the outcome, impact, and effectiveness of the research project by summarizing its impact on the incidence of disease, death from disease, stage of disease at time of diagnosis, or other relevant measures of outcome, impact or effectiveness of the research project. If there were no changes, insert “None”; do not use “Not applicable.” Responses must be single-spaced below, and no smaller than 12-point type. DO NOT DELETE THESE INSTRUCTIONS. There is no limit to the length of your response.

None.

**22. Major Discoveries, New Drugs, and New Approaches for Prevention Diagnosis and Treatment.**

Describe major discoveries, new drugs, and new approaches for prevention, diagnosis and treatment that are attributable to the completed research project. If there were no major discoveries, drugs or approaches, insert “None”; do not use “Not applicable.” Responses must be single-spaced below, and no smaller than 12-point type. DO NOT DELETE THESE INSTRUCTIONS. There is no limit to the length of your response.

None

**23. Inventions, Patents and Commercial Development Opportunities.**

23(A) Were any inventions, which may be patentable or otherwise protectable under Title 35 of the United States Code, conceived or first actually reduced to practice in the performance of work under this health research grant? Yes \_\_\_\_\_ No X

If “Yes” to 23(A), complete items a – g below for each invention. (Do NOT complete items a - g if 23(A) is “No.”)

a. Title of Invention:

- b. Name of Inventor(s):
- c. Technical Description of Invention (describe nature, purpose, operation and physical, chemical, biological or electrical characteristics of the invention):
- d. Was a patent filed for the invention conceived or first actually reduced to practice in the performance of work under this health research grant?  
 Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, indicate date patent was filed:

- e. Was a patent issued for the invention conceived or first actually reduced to practice in the performance of work under this health research grant?  
 Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, indicate number of patent, title and date issued:

Patent number:

Title of patent:

Date issued:

- f. Were any licenses granted for the patent obtained as a result of work performed under this health research grant? Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, how many licenses were granted? \_\_\_\_\_

- g. Were any commercial development activities taken to develop the invention into a commercial product or service for manufacture or sale? Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, describe the commercial development activities:

23(B) Based on the results of this project, are you planning to file for any licenses or patents, or undertake any commercial development opportunities in the future?

Yes \_\_\_\_\_ No

If yes, please describe your plans:

**24. Key Investigator Qualifications.** Briefly describe the education, research interests and experience and professional commitments of the Principal Investigator and all other key investigators. In place of narrative you may insert the NIH biosketch form here; however, please limit each biosketch to 1-2 pages. *For Nonformula grants only – include information for only those key investigators whose biosketches were not included in the original grant application.*

# BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Dwight Earl Heron, MD, FACRO, FACR		POSITION TITLE Professor Radiation Oncology Otolaryngology, Head and Neck Surgery	
eRA COMMONS USER NAME (credential, e.g., agency login) HeronDE			
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	MM/YY	FIELD OF STUDY
Fairfield University, Fairfield, CT	BS	1987-1991	Biology, Pre-Medicine
University of Rochester School of Medicine and Dentistry, Rochester, NY	MD	1991-1995	Medicine
Winthrop-University Hospital SUNY-Stony Brook School of Medicine, Mineola, NY		1995-1996	Medical Internship
Thomas Jefferson University Hospital Bodine Center for Cancer Treatment Department of Radiation Oncology, Philadelphia, PA		1996-2000 1999- 2000	Radiation Oncology Residency Chief Resident

## A. Personal Statement

As a clinical scientist interested in novel techniques for identifying and accurately treating tumors in a variety of disease sites, I have focused my research over the last 12 years on the following areas: 1.) Functional imaging on the diagnosis, treatment planning and assessment of response using PET/CT, MRI and MRS. 2.) Use of highly focused advanced image-guided radiotherapy techniques such as stereotactic ablative radiotherapy (SABR) for a variety of diseases. Our group has pioneered the use of SABR/SRS for spine tumors, recurrent head & neck cancer, pancreatic tumors to name a few. My clinical investigation has bridged the basic research side through collaboration of translational and basic scientists who are evaluating the tissue effect of novel SBRT in combination with targeted and cytotoxic chemotherapy regimens. The results of these efforts are embodied in the numerous peer reviewed literature detailing the role and outcome of these novel treatment and surveillance strategies for challenging disease states.

## B. Positions and Honors

### Positions and Employment

2000 to 2005	Assistant Professor, Department of Radiation Oncology, University of Pittsburgh School of Medicine
2000 to present	Associate Residency Program Director, Radiation Oncology, University of Pittsburgh School of Medicine
2004 to present	Institutional Data Safety Monitoring Board Member, University of Pittsburgh Medical Center
2002 to present	Director of Head, Neck and Thoracic Radiation Therapy, UPMC Shadyside, Radiation Oncology
2004 to present	Director, Radiation Oncology, University of Pittsburgh Cancer Institute
2004 to present	Chairman, Department of Radiation Oncology, UPMC Shadyside Hospital
2004 to present	Chairman Radiation Safety Committee, UPMC Shadyside
2004 to present	D3 Chief Medical Officer

2004 to present	Vice Chairman for Clinical Affairs, UPMC CancerCenter, Department of Radiation Oncology
2004 to present	Scientific Reviewer 2004-2005 Research Grant Review cycle – Susan G. Komen Breast Cancer Foundation, Treatment Study Section
2005 to 2010	Associate Professor, Department of Radiation Oncology, University of Pittsburgh School of Medicine
2009 to Present	Professor, Department of Radiation Oncology, Department of Otolaryngology Head and Neck Surgery

### Awards

1993	Edward A. Robinson Memorial Award
1995	Upjohn Award for Outstanding Achievement in Medical Education
2000	Radiologic Society of North America (RSNA) Research Award
2002	Teacher of the Year Award, Association of Residents in Radiation Oncology (ARRO)
2003	Presidential Award – Society of Gynecologic Oncology – Best Abstract, Poster & Plenary Paper
2005	Omega Psi Phi Fraternity, Inc. 2005 Exemplary Service Award for Medicine 2005 Annual Achievement Awards
2008	Fellow of the American College of Radiation Oncology, American College of Radiation Oncology (Accelerated Fellowship)
2012	Fellow of the American College of Radiology

### **C. Selected Peer-reviewed Publications** (Selected from 130 peer-reviewed publications)

1. Bhatnagar A, Heron DE, Kondziolka D, Lunsford LD, Flickinger JC. An Analysis of Repeat Stereotactic Radiosurgery for Progressive Primary and Metastatic CNS Tumors. *Int J Radiat Oncol Biol Phys* 2002;53(3):527-532, 2002, PMID: 12062593. *Expert Opin Biol Ther.* 2012 Apr;12(4):517-28. PMID: 22413826.
2. Andrade RS, Heron DE (senior/corresponding author), Degirmenci B, Filho PA, Branstetter BF, Seethala RR, Ferris RL, Avril N. Posttreatment Assessment of Response Using FDG-PET/CT for Patients Treated with Definitive Radiation Therapy for Head and Neck Cancers. *Int J Radiat Oncol Biol Phys* 65(5):1315-1322, 2006, PMID: 16750327.
3. Nayak JV, Walvekar RR, Andrade RS, Daamen N, Lai SY, Argiris A, Smith RP, Heron DE, Ferris RL, Johnson JT, Branstetter BF 4th. Deferring planned neck dissection following chemoradiation for stage IV head and neck cancer: the utility of PET-CT. *Laryngoscope* 117(12):2129-2134, 2008, PMID: 17921898.
4. Coon D, Gokhale AS, Burton SA, Heron DE, Ozhasoglu C, Christie N. Fractionated Stereotactic Body Radiation Therapy in the Treatment of Primary, Recurrent, and Metastatic Lung Tumors: The Role of Positron Emission Tomography/computed Tomography-based Treatment Planning. *Clin Lung Cancer* 9(4):217-221, 2008, PMID: 18650169.
5. Heron DE (senior/corresponding author), Andrade RS, Beriwal S, Smith RP. PET-CT in Radiation Oncology The Impact on Diagnosis, Treatment Planning, and Assessment of Treatment Response. *Am J Clin Oncol* 31(4):352-362, 2008, PMID: 18845994.
6. Gokhale AS, McLaughlin BT, Flickinger JC, Beriwal S, Heron DE (senior author), Ferris RL, Johnson J, Gibson MK, Argiris A, Smith RP. Clinical and Dosimetric Factors Associated with a Prolonged Feeding Tube Requirement in Patients Treated with Chemoradiation (CRT) for Head and Neck Cancer. *Anal of Oncol* 21(1):145-51, 2009, PMID: 19602566.
7. Pennathur A, Luketich JD, Heron DE, Schuchert MJ, Burton S, Abbas G, Gooding WE, Ferson PF, Ozhasoglu C, Gilbert S, Landreneau RJ, Christie NA. Stereotactic radiosurgery for the treatment of

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#### **D. Research Support**

##### **Ongoing Research Support**

U10 CA021661-33 (Curran)

01/01/09-12/21/14

NIH/NCI

Radiation Therapy Oncology Group

Goal is to conduct multicenter, multidisciplinary clinical trials that systematically test novel radiotherapy approaches against cancer

Role: PI

##### **Completed Research Support**

1U54CA142318 (Heron)

09/01/09-07/31/11

UPMC McKeesport – RCOG II Sustained community clinical trial

Continue to address a significant problem, enhancing clinical trial enrollment among minority and underserved populations residing in Western Pennsylvania. Additional aims focus on enhancing clinical trial infrastructure(advanced tracking measures, expansion of the patient navigation model, initiation of investigator initiated clinical trials and solidifying plans for long term program sustainment).

No Number (Huq, Sontag) Varian/D3/UPMC Research and Collaboration Agreement	03/01/09-03/25/11
<p>The goals of this clinical research are to evaluate the outcomes and tumor response for early stage non-small lung cancer (NSCLC) patients undergoing Stereotactic Body Radiation Therapy (SBRT) using four dimensional (4D) Positron Emission Tomography (PET) and Computed Tomography (CT), Cone-Beam Computed Tomography (CBCT), Real-Time Position Management (RPM™) and body immobilization system. Specifically, the effect of image-guided SBRT treatment on clinical tumor response rate, local control and progression-free survival will be studied. This study will also examine target volumes and relevant margins determined by an assessment using 4D PET and repeated 4D CT. These data will allow us to evaluate and determine the impact of the body immobilization system on the planning target volume (PTV) margins, patient's breathing pattern, target motion, and inter-treatment targets shifts.</p>	
Role: Co-PI	
U56 CA105486 (Heron) NCI	10/01/03-02/02/10
<p>Cooperative Planning Grant for the Cancer Disparities Research Partnership Five-year federally funded cooperative grant to assess, identify and formulate solutions to cancer disparities in Western Pennsylvania.</p>	
Role: PI	
No Number (Heron) Shadyside Hospital Foundation	01/2008-06/2009
<p>Cancer Treatment Decisions by Dementia Patients and Their Family Implications for Care and Patient Safety</p>	
Role: PI	
No Number (Heron, Henderson) Accuray Corporation	01/01/09-12/31/09
<p>Spinal Radiosurgery Outcome at Georgetown University and University of Pittsburgh Cancer Center Goal is to compare the effectiveness of single and multi-session stereotactic radiosurgery (SRS) for the treatment of spine metastases. Single session and multi-session treatment regimens are both effective means of treating spine metastases. While single session provides greater pain control and overall equivalent toxicity, multi session appears to offer greater tumor control and less need for re-treatment in long-term survivors.</p>	
Role: PI	
Companion grant to CDRP 1-U56 CA 105 486-01 NCI	10/1/03-6/30/09
<p>Center to Reduce Cancer Disparities Patient Navigator Program Companion grant to the Cooperative Planning Grant for the Cancer Disparities Research Partnership to assist racially and socioeconomically disadvantaged patients navigate health systems to obtain timely and appropriate radiation therapy cancer care.</p>	
Role: PI	
No Number (Heron) Pennsylvania State Health Formula Funds	01/01/08 – 06/30/09
<p>Analysis of pilot data of community "inreach" related to cancer screening practices in McKeesport</p>	
Role: PI	