



## Survey of 2007 PBF Fellows

Conducted in November 2015

We conducted a survey of the eighteen 2007 PBF Fellows who completed their fellowship in June 2010. We received 17 completed surveys achieving a 94% response rate (n=17). We were able to collect funding and publication data from public databases (PubMed, NIH Reporter) and from the PBF mentor for the one fellow who did not respond to our survey (MD now in private practice).

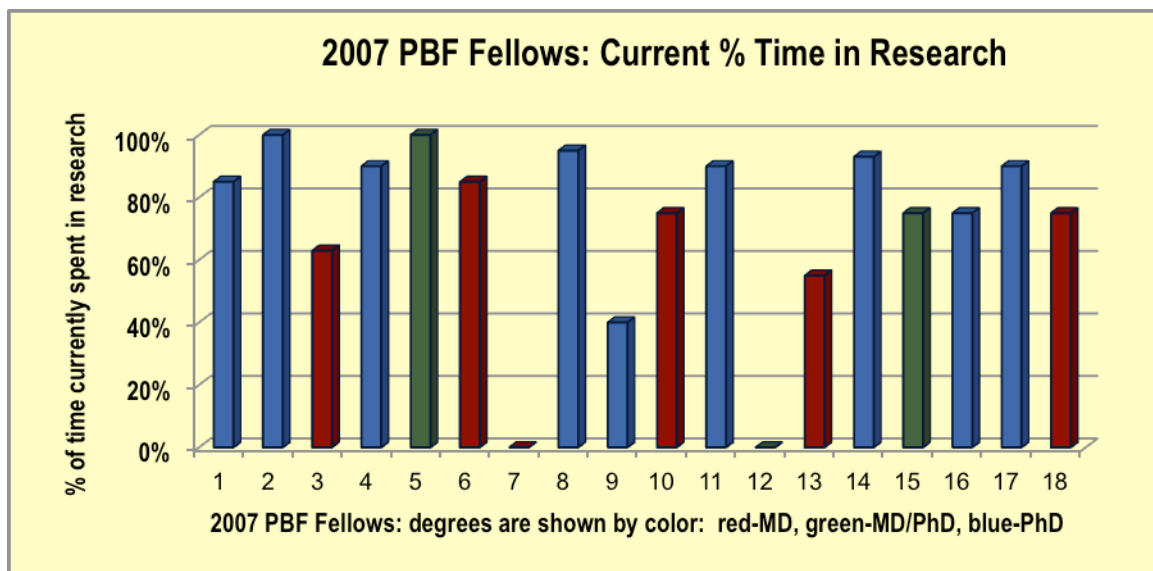
Sixteen of the 2007 fellows (89%) hold faculty positions at universities and continue pursuing research careers. One fellow, Timothy M. Moore, MD, PhD, holds a leadership position at the NIH in the Division of Lung Diseases at the National Heart, Lung, and Blood Institute.

We see significant achievement with this group, with sixteen of the eighteen 2007 PBF Fellows (89%) continuing to work in research relevant to lung diseases. Ten hold Assistant Professor positions and six have been promoted rapidly to Associate Professor.

Despite the current funding environment, the 2007 PBF Fellows have been successful in obtaining research funding with a total of \$37.8M in direct research dollars since receiving their PBF Fellowship. Three have received more than \$2M, four report more than \$2.5M, and one fellow has received more than \$9.5M.

We also see very strong publications records in this group; eight have more than three publications per year; six have more than two publications per year as 1<sup>st</sup>, 2<sup>nd</sup> or last author.

The chart below shows the 2007 PBF Fellows by the percent of time currently spent in research; the degrees held are shown by color, red for MDs, green for MD/PhDs, and blue for PhDs.



NOTE: Fellow #7 is an MD in private practice, Fellow #12 is an MD/PhD holding a leadership role at the NIH.

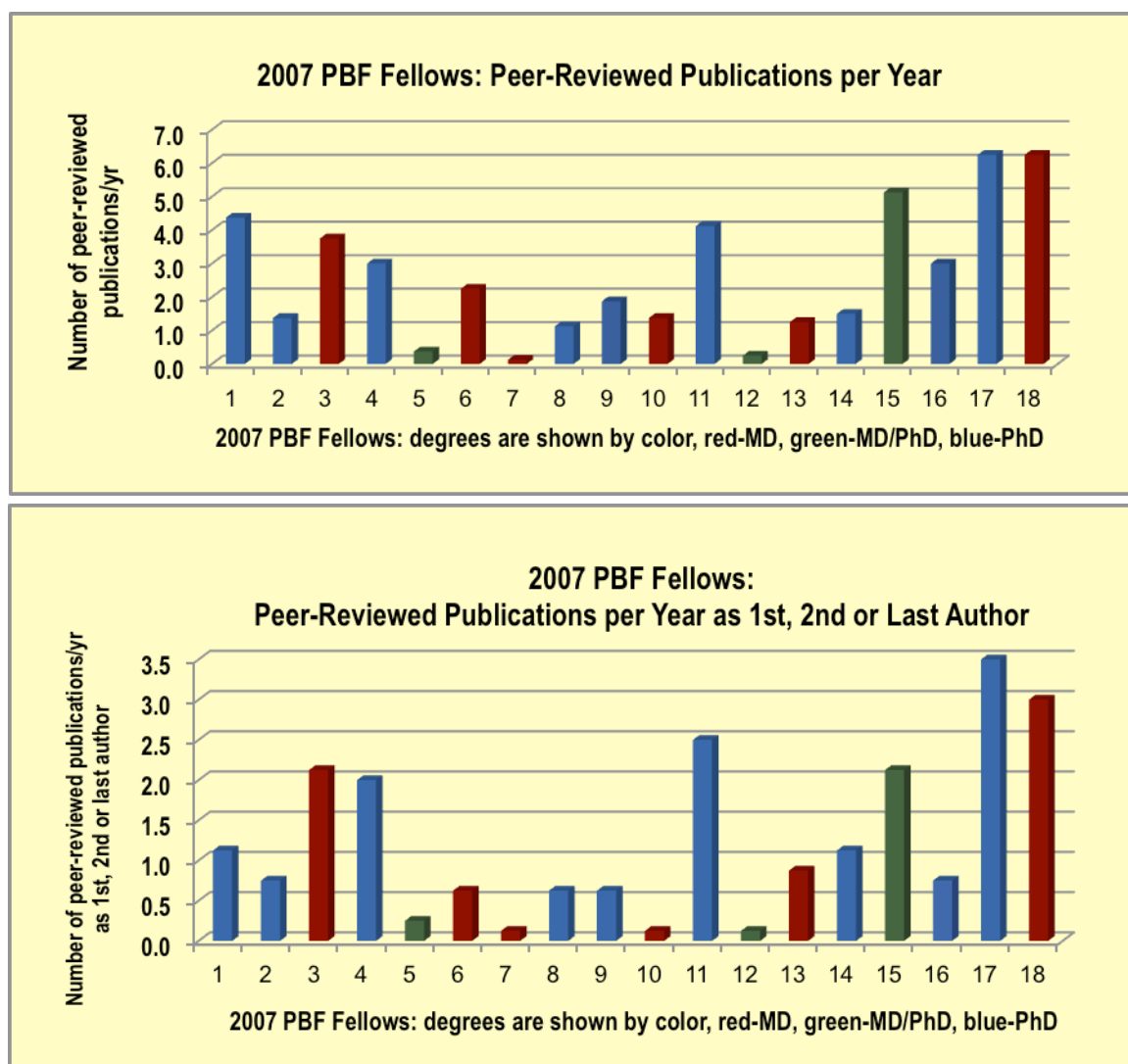
For comparison with the 2007 PBF Fellows, Table 1 below shows the five-year post-PBF Fellowship retention rates in academic research for the 2003-2006 PBF Fellows and the overall retention rate for the 1976-2006 PBF Fellows who responded to our 2009 survey.

<b>TABLE 1: Retention rates in academic research for PBF Fellows</b>						
<b>Shown are five-year retention rates for 2003-2007 fellows and overall retention rate for 1976-2006 fellows</b>						
<b>Survey Group</b>	<b>n</b>	<b>Past PBF Fellows still in academic research</b>	<b>no research effort</b>	<b>1–49% effort</b>	<b>50-74% effort</b>	<b>≥ 75% effort</b>
1976-2006 Fellows	365	83% (n=303)	17% (n=62)	27% (n=100)	23% n=84)	33% (n=119)
Class of 2003	12	100% (n=12)	0	17% (n=2)	33% (n=4)	50% (n=6)
Class of 2004	15	100% (n=15)	0	13% (n=2)	47% (n=7)	40% (n=6)
Class of 2005	17	76% (n=13)	23.5% (n=4)	6% (n=1)	47% (n=8)	23.5% (n=4)
Class of 2006	15	73% (n=11)	27% (n=4)	0	20% (n=3)	53% (n=8)
Class of 2007	18	89% (n=16)	11% (n=2)	6% (n=1)	11% (n=2)	72% (n=13)

With respect to publication productivity, the overall productivity has been high with 379 peer-reviewed publications in the eight years since the beginning of their PBF Fellowship. Forty-four percent (8 of 18) of the 2007 PBF Fellows have publication productivity higher than the averages found in our 2009 survey of 365 PBF Fellows from years 1976-2006.

<b>TABLE 2</b>			
<b>Peer-Reviewed Publications per Year</b>			
<b>Survey Group</b>	<b>n</b>	<b>Average Pubs/Yr</b>	<b>Average Pubs/Yr as 1<sup>st</sup>, 2<sup>nd</sup>, or last author</b>
PBF Fellows, years 1976-2006	365	2.7	1.8
PBF Fellows, class of 2003	12	1.7	1.3
PBF Fellows, class of 2004	15	3.9	2.1
PBF Fellows, class of 2005	17	2.1	1.3
PBF Fellows, class of 2006	15	2.5	1.6
PBF Fellows, class of 2007	18	2.6	1.2

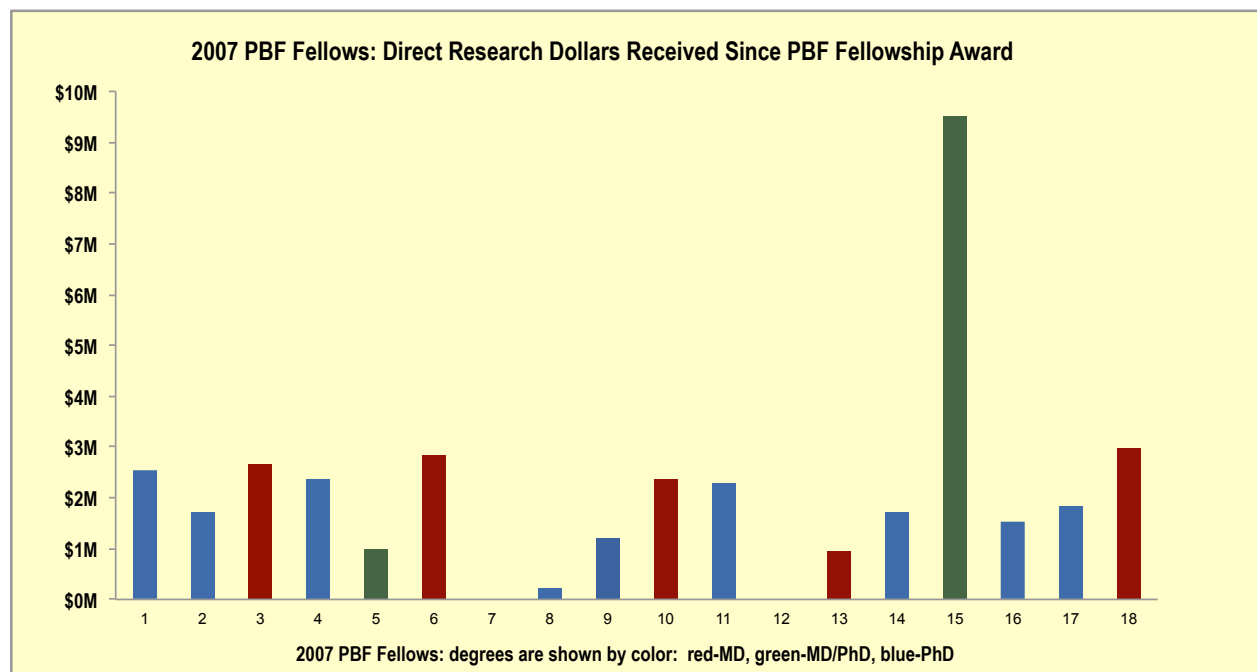
The two charts below show the number of peer-reviewed publications per year and the number of peer-reviewed publications per year in which the fellow is either 1<sup>st</sup>, 2<sup>nd</sup> or last (senior) author.



A number of the reported publications appear in high-impact scientific journals (see Table 3 below). A scientific journal's impact factor is a measure reflecting the average number of citations to recent articles. It is frequently used as a proxy for the relative importance of a journal within its field, with journals with higher impact factors deemed to be more important than those with lower ones.

TABLE 3: 2007 PBF Fellows: Peer-reviewed publications in high-impact journals since PBF Fellowship		
Journal	Impact Factor	# of Publications
New England Journal of Medicine	55.9	5
Nature	41.5	1
Journal of Clinical Investigation	13.3	6
American Journal of Respiratory & Critical Care Medicine	13.0	18
Proceedings of the National Academy of Sciences	9.7	9
Journal of Immunology	5.4	9
Am Journal of Physiology: Lung Cellular & Molecular Physiology	4.1	12
American Journal of Respiratory Cellular & Molecular Biology	4.0	16

The eighteen 2007 PBF Fellows have received \$37.8M direct research dollars in the eight years since their PBF Fellowship award. The cost of supporting this group of fellows was \$2.59M, yielding a multiplier (ROI) of 14.6M. The chart below and Table 4 show data on direct research dollars received in the eight years following the PBF Fellowship start date.



**TABLE 4**  
Direct research dollars received during 8-year period following PBF Award start date

Survey Group	n	PBF Funding for Fellows Group	Total research dollars rec'd by survey group since PBF Fellowship	ROI
PBF Fellows, class of 2003	12	\$1.73M	\$20.78M	14.5
PBF Fellows, class of 2004	15	\$1.86M	\$27.83M	14.7
PBF Fellows, class of 2005	17	\$2.24M	\$24.67M	11.0
PBF Fellows, class of 2006	15	\$2.07M	\$40.7M	19.7*
PBF Fellows, class of 2007	18	\$2.59M	\$37.8M	14.6

\* ROI reflects the extraordinarily high research funding received by two 2006 PBF Fellows. ROI for the other 13 fellows is 6.8.

## CONCLUSIONS

Sixteen of the eighteen 2007 PBF Fellows continue conducting research relevant to lung diseases in academic environments. One 2007 Fellow holds a leadership position at the NIH in the Division of Lung Diseases at the National Heart, Lung, and Blood Institute.

The 2007 PBF Fellows have been productive, both in terms of publications and grant funding. Twelve of the 18 fellows have received one or more NIH K or R level awards (for a total of 11 R01 and 5 K awards). The eighteen 2007 awardees have received more \$37.8M in direct research funding in the eight years since receiving the PBF Fellowship award. The cost of supporting this group of fellows was \$2.59M. In other words, with an ROI of 14.6, this group has already received more than 14 times the research funding the Francis Family Foundation invested to support their fellowships.

**A few comments from the 2007 PBF Fellows on what the PBF Fellowship meant to their careers (in response to our survey questions):**

The Parker B. Francis fellowship is widely recognized in the field as one of the most prestigious fellowships for junior pulmonary scientists. After being awarded the fellowship for my post-doctoral project, I distinctly remember being congratulated by several past PBF fellows, from members of my division and from leadership within my institution. I'm certain that my ability to obtain subsequent funding was in part due to having obtained a PBF fellowship early in my career.

The PBF Fellowship was my first grant and a stepping stone for my career. I could not have reached the level I am now without PBF support. The PBF Fellowship allowed me to establish my own independent niche in the pulmonary research and helped me to obtain many more grants.

The Parker B. Francis Fellowship Program has been critical to my success as an independent physician-scientist. The PBF Fellowship award was invaluable to me during the critical juncture in my career when I was transitioning towards becoming an independent investigator. With the support of the Francis Family Foundation, I made substantial progress in my research and career development. Recognition as a Parker B. Francis Fellow allowed me to successfully attain K08 and subsequently R01 funding from the NIH and accelerated my career development into an independent physician-scientist. In addition, support from the Parker B. Francis Fellowship Program aided in my successful academic promotion. Funding from the Parker B. Francis Fellowship Program has been critical to my research career development and is key to my success as an independent physician-scientist.

The PBF Fellowship enabled me to learn new laboratory techniques, establish collaborations and collect preliminary data which I am using in current pending NIH R01 applications.

The PBF was instrumental in supporting me when I needed it most during my post-doctoral years. It was during these years that I was able to really start to establish an independent research program.

The PBF fellowship was a critical step in my development toward becoming an independent investigator. It allowed me to focus on my science, generate high quality research and grow as a researcher.

The PBF Fellowship award provided key financial support for me during the transition period between postdoc / fellowship training and being a faculty investigator. It allowed me to do basic science research that built a solid foundation for subsequent work.

The PBF Fellowship allowed me the freedom to pursue my own research ideas while a post doctoral fellow, leading directly to the research trajectory I am on now.

Receipt of the PBF fellowship was a crucial component in my transition from fellow to junior faculty. Though my first academic appointment did not require this type of award, this fellowship made my application much more competitive, and also provided evidence regarding my ability to obtain extramural funding.

The PBF fellowship ensured protected time for research and also provided for networking and a peer-group of sorts that was very valuable at that early career stage.