
Retirement Intentions: Licensed Practical Nurses, Registered Nurses, and Nurse Practitioners

Healthcare Workforce Data Center

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INTRODUCTION

Nurses in Virginia complete a workforce survey each year that includes questions about retirement plans. The goal of this report is to examine whether nurses actually retire according to those intentions. The impetus for the study is the emerging concern of a nursing workforce shortage within the next decade or two¹. A potential nursing shortage is expected due to the increase in healthcare demand by the country's rapidly aging population, and the aging of baby boomers, that is those born between 1946 and 1964, who make up a significant proportion of the healthcare workforce. Baby boomers constitute a third of the current registered nurse workforce²; most of baby boomer RNs are expected to retire within a decade or two, leading researchers to project a severe shortage of nurses in that period. However, most of the prediction models about RNs' retirement use their retirement intentions and plans to predict their behavior, begging the question: how closely do intentions and plans correlate with behavior? This study answers this question for licensed practical nurses (LPN), registered nurses (RNs), and nurse practitioners (NPs) in Virginia.

METHODS

Data

The data for this study comes from Virginia's Licensed Practical Nurse Workforce Survey, Registered Nurse Workforce Survey, and Nurse Practitioner Workforce Survey. Virginia licensed nurses are surveyed biennially in their birth month so approximately half of licensed nurses complete a survey in any given year. In this report, nurses who reported that they intend to retire in the first survey implemented in 2013 are followed every two years to see if they have retired as they intended. Therefore, for LPNs and RNs, this study used 2013 as the base year and 2015, 2017, and 2019 as follow up years. For NPs, this study used 2014 and 2015 as base years to have sufficient sample size. The follow up years for the two cohorts are 2016 and 2018, and 2017 and 2019, respectively. It is important to note that this study can only report on the retirement status of nurses who remain licensed in Virginia. Consequently, the retirement status of nurses lost to attrition will not be reported.

The retirement variable in this study was obtained from a question in the survey that asked nurses at what age they intend to retire. Their current age was then subtracted from their intended retirement age to obtain the expected number of years to their retirement. This study only examined nurses who intended to retire within two years of the base survey. A second question asked nurses about whether they plan to do any of the following in the next two years: retire, leave profession, continue profession, decrease patient care, increase patient care, pursue additional education, decrease teaching time, and/or increase teaching time. This study selected those who expected less than two years to retirement on the first question and those who also indicated they planned to retire in two years. It excluded those who were already retired.

The respondents who indicated that they planned to retire within two years of the base year, and who had not yet retired were identified in subsequent surveys every two years to see if they had retired. The RNs and LPNs were followed for six years or three subsequent surveys and the NPs were followed for two subsequent surveys.

¹ Buerhaus, Auerbach, and Staiger (2017) How should we prepare for the wave of retiring baby boomer nurses? Health Affairs, <https://www.healthaffairs.org/doi/10.1377/hblog20170503.059894/full/>

² Human Resource Service Administration (2013). The U.S. nursing workforce: Trends in supply and education. Retrieved May 29, 2020 from <https://bhw.hrsa.gov/sites/default/files/bhw/nchwa/projections/nursingworkforcetrendsoct2013.pdf>

As shown in the following table, there were 30,752 licensed LPNs in 2013; 13,895 were eligible to be surveyed in 2013. Of the 13,895, 10,084 completed the survey that year. Of the 10,084, 303 indicated that they intend to retire within 2 years. Of the 303, 268 (88%) also selected retirement as one of their two-year plans. However, 11 of these LPNs indicated “retired” as their working status in another question so they were excluded from subsequent analysis which included 257 LPNs; these represented about 3% of the total respondents. The 257 LPNs were followed in 2015, 2017, and 2019.

	LPN	RN	NP - 2014	NP-2015	Total NP
Total licensees	30,752	99,901	7,741	7,724	15,465
Total respondents in 2013	10,084	35,767	3,055	2,657	5,712
Reported retiring within 2 years	303	1,784	150	158	308
Of those how many also reported 2-year retirement plan	268	1,614	126	115	241
% agreement between intentions and plan	88%	90%	84%	73%	78%
Number already retired	11	74	6	9	15
Number employed in profession after removing retirees	257	1,540	120	106	226

For RNs, there were 99,901 licensed in 2013; 43,608 were eligible to be surveyed. Of the 43,608, 35,767 completed the survey in 2013. Of the 35,767, 1,784 reported that they intend to retire within 2 years. Of the 1,784, 1,614 (90%) also selected retirement as one of their two-year plans. However, 74 of these RNs indicated “retired” as their working status so they were excluded from subsequent analysis which included 1,540 RNs; these constitute 4% of the total respondents. The 1,540 RNs were followed in 2015, 2017, and 2019 to see whether they had retired.

A slightly different approach was taken for the NPs because of their smaller sample size. Two years of surveys were combined and then respondents in each year were followed every two years to examine their retirement status. Further, the first available survey year for NPs was 2014. There were 7,741 licensed NPs in 2014; 3,309 were eligible to be surveyed. Of the 3,309, 3,055 completed the survey that year. Of the 3,055, 150 indicated that they intend to retire within 2 years. Of the 150, 126 (84%) also selected retirement as one of their two-year plans. However, 6 of these NPs indicated “retired” as their working status so they were excluded from subsequent analysis which included 120 NPs; these represented about 4% of the total respondents. These 120 NPs were followed in 2016 and 2018 to investigate whether they had retired.

The 2015 NP survey data was combined with the 2014 data so that the study could have sufficient sample size to examine retirement intentions, planning, and behavior among NPs. There were 7,724 licensed NPs in 2015; 3,557 were eligible to be surveyed. Of the 3,557, 2,657 completed the survey. Of the 2,657, 158 responded that they intend to retire within 2 years. Of the 158, 115 (73%) also selected retirement as one of their two-year plans. However, 9 of these NPs indicated “retired” as their working status so they were excluded from subsequent analysis which included 106 NPs; these represented about 4% of the total respondents. These 106 NPs were followed in 2017 and 2019 to investigate whether they had retired. Combined with 2014 data, the study followed a total of 226 NPs in two subsequent surveys.

Analysis

For each nursing group, the first set of analysis examined how many of the respondents who intended and planned to retire were retired at each subsequent survey year and reported the percent retired at end of the review period. Logistic regression analysis was conducted to examine the likelihood of being retired rather than not retired for each nursing group.

Measures

Dependent Variable

Respondents were asked what their working status was. For NPs, the options included whether they were: 'Employed as a nurse practitioner'; 'Employed in nursing, NOT as a nurse practitioner'; 'Retired'; 'Voluntarily unemployed (including for medical reasons)'; or 'Involuntarily unemployed'. A similar question was asked of LPNs and RNs as well. A binary variable indicating whether a respondent had retired or not (1=Yes, 0=No) was created and used in a logistic regression analysis.

Independent Variables

Initial logistics regression models included the following independent variables: a continuous measure age; dummy (1=Yes, 0=No) work sector variables indicating for-profit, federal government, and state/local government (non-profit was the reference); dummy variables (1=Yes, 0=No) for work establishment such as inpatient hospital, outpatient hospital, emergency outpatient, clinics, etc. (Others was the reference); dummy job length variables (1=Yes, 0=No) including working between three and ten year, and working at least ten years (working for less than two years was the reference); job satisfaction on a 4-point scale; dummy variables (1=Yes, 0=No) for female, several races/ethnicity (Others was the reference), and access to employer-provided retirement/health insurance benefits. The final regression model for each nursing group included any of these variables that contributed significantly to the model of the likelihood of retirement.

RESULTS

The following table presents the summary statistics of the sample at the base year. LPNs were the youngest of the nurses; with an average age of 59. NPs were the oldest with an average age of 69. NPs had the highest male proportion; 14% of NPs were males compared to 5% and 6% of LPNs and RNs, respectively. LPNs were the most racially/ethnically diverse. Nearly all LPNs held a LPN certificate or diploma whereas a majority of all NPs held at least a master's degree. A majority of the nurses were in either a full time or a 2-part time position and a majority worked between 30 and 49 hours per week.

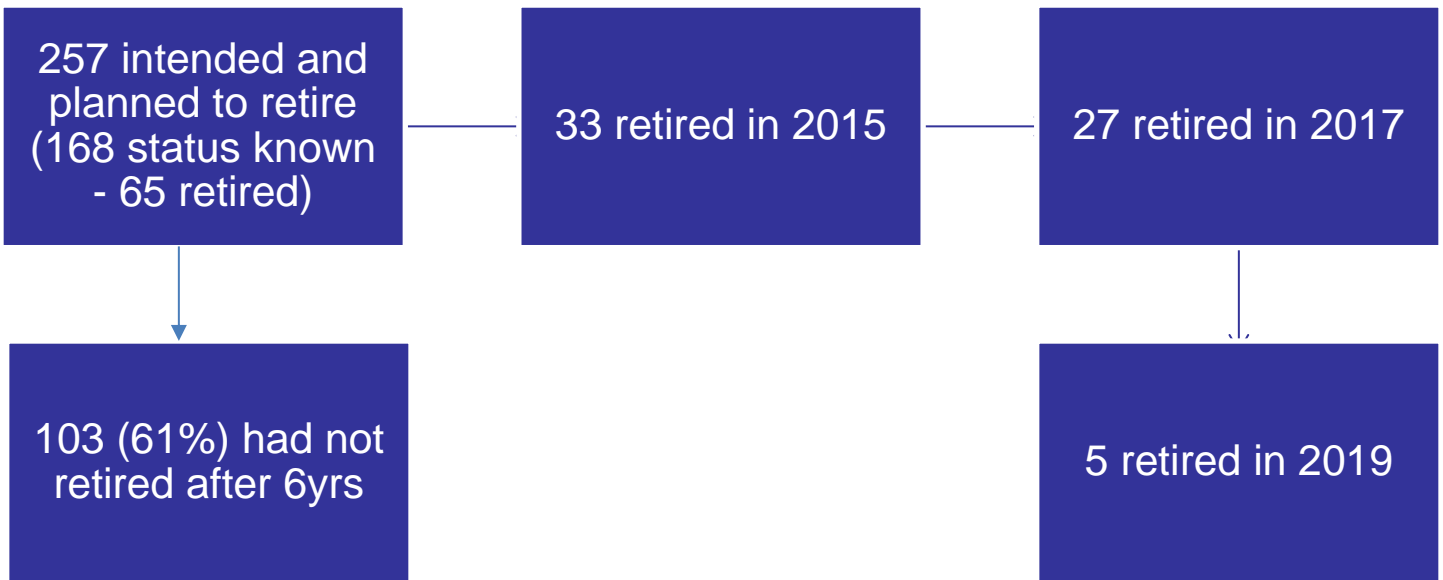
Nine out of 10 nurses were satisfied with their job. NPs reported a median income of \$80,000 to \$90,000. Next were RNs with a median income of \$60,000 to \$70,000; LPNs reported \$30,000 to \$40,000 as median income. LPNs were also the most likely to report education debt, with 11% of them reporting education debt. Their mean debt was also the highest of the three nursing professions. NPs were most likely to be licensed out of state in addition to having a Virginia license; 32% of NPs had an out-of-state license compared to 16% of LPNs and RNs. Not surprisingly, NPs were also the least likely to report working in the Virginia workforce in the year before the survey; only 86% of them worked in Virginia compared to 96% and 91% of LPNs and RNs, respectively. RNs were most likely to report receiving employer-provided benefits such as health insurance and retirement benefits.

	LPN	RN	NP
Mean age	59	62	69
% Female	95%	94%	84%
% White	65%	85%	89%
% Black	30%	8%	8%
% Hispanic	2%	1%	2%
% Asian	1%	4%	2%

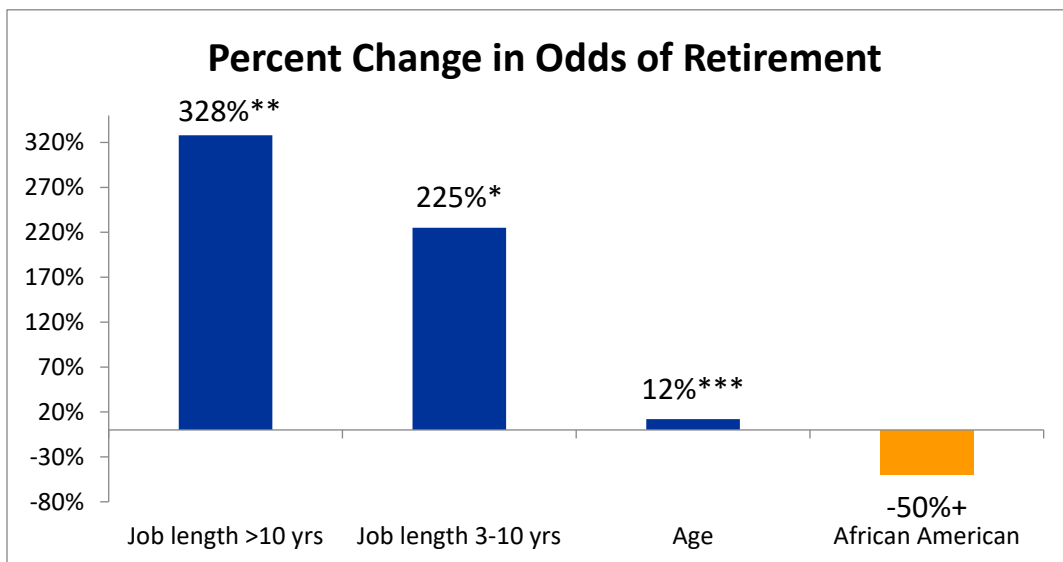
	LPN	RN	NP
% Others	2%	2%	0%
% LPN Diploma	97%	0%	0%
% RN Diploma	0%	27%	0%
% Associate	2%	28%	0%
% NP Certificate	0%	0%	32%
% Baccalaureate	1%	31%	13%
% At least a Master's degree	0%	14%	68%
% Works one part time position	12%	23%	40%
% Works full time/2 part time	75%	70%	55%
% Works more than 2 full time	13%	7%	5%
% Works <30hrs	13.0%	22.9%	34.2%
% Works 30-49 hrs	66%	57%	53%
% Works 60+ hrs	16.4%	11.6%	4.2%
% Satisfied with job	91.0%	89.6%	95.4%
Median income	\$30,000 - \$40,000	\$60,000 - \$70,000	\$80,000 - \$90,000
% Education Debt	11%	7%	7%
Median education debt	\$0	\$0	\$0
Mean education debt	\$9,272	\$8,900	\$2,083
% Licensed outside state	16%	16%	32%
% in VA Workforce	96%	91%	84%
% Employer-provided health insurance	53%	54%	52%
% Employer-provided retirement benefits	47%	58%	51%

LPNs

As seen below, at the end of 2019, of the 257 LPNs who reported that they intend and plan to retire in two years in 2013 but were not retired, the retirement status of only 168 was known; the status of the remaining 89 LPNs was unknown because they were no longer licensed in the state. Of the 168 with known status, only 65 had retired. Of those 65, 33 retired in 2015, 27 retired in 2017, and 5 retired in 2019. However, 103 of the 168 LPNs with known status had not retired. Hence, only 39% of LPNs who had a 2-year retirement intention and plan in 2013 had retired by 2019, six years after they stated their intention and plan.

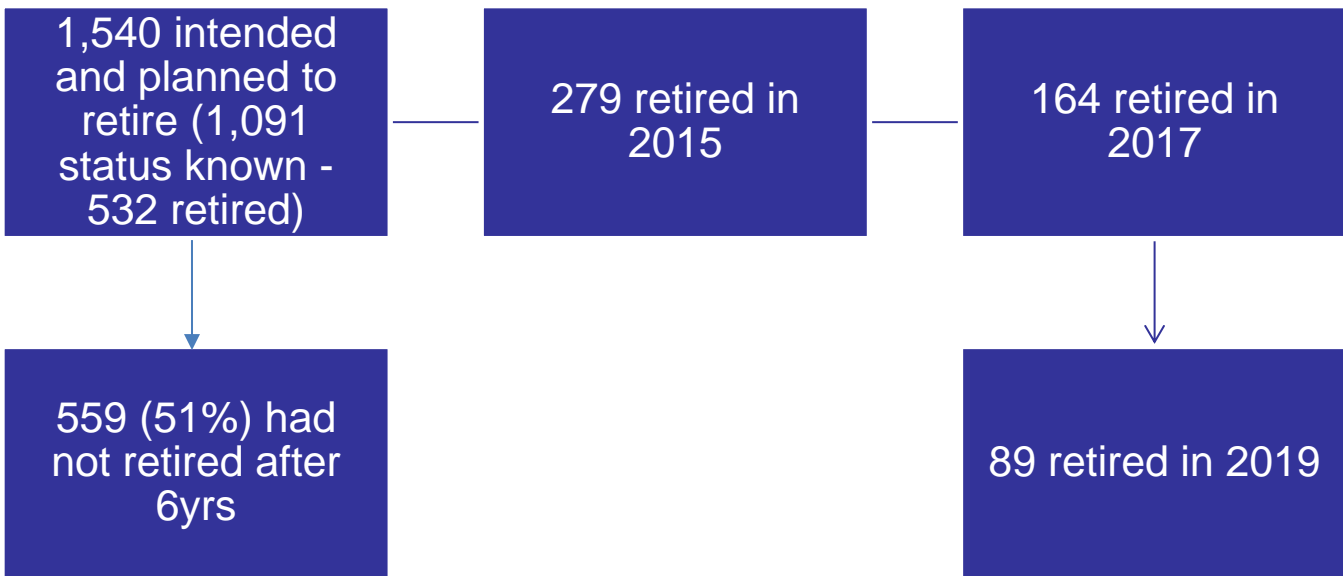


The final logistic regression for LPNs examined the factors that predicted the likelihood of retiring in a 6-year period after a LPN has stated an intention and plan to retire in two years included age, job length, and race. The following figure presents the findings from the model. As seen in the figure, having a job length of over a decade as opposed to working less than two years increased a LPN’s likelihood of retiring in the 6-year period by 328%. A job length of at least 2 years but not more than ten years as opposed to working less than two years also increased a LPN’s likelihood of retiring in the 6-year period by 225%. Further, age increased the likelihood of retiring by 12%. Race approached significance at 0.08; African American LPNs were 50% less likely to retire within the 6 year period even though they intended and planned to retire within 2 years of 2013 survey. None of the other variables were significant for LPNs.

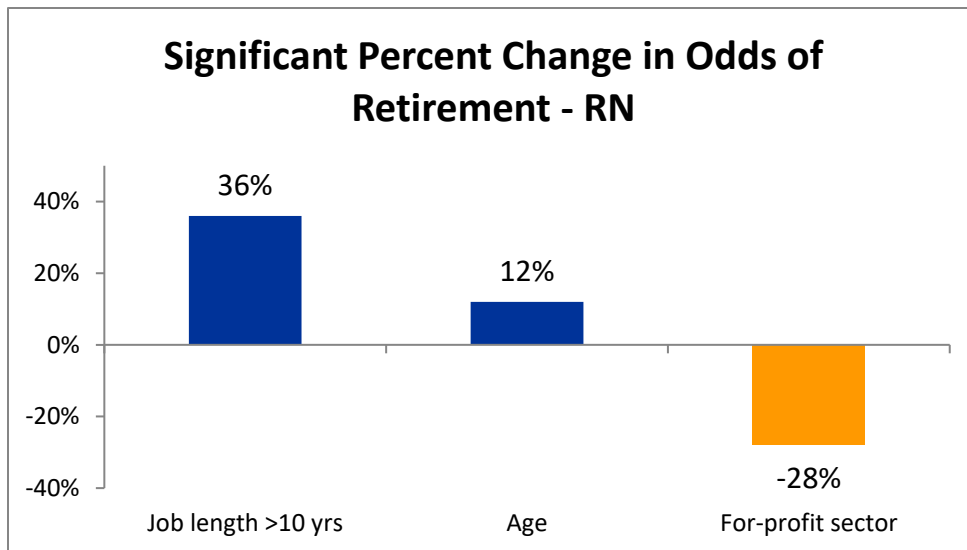


Source: VA. Healthcare Workforce Data Center
 Ordinary logistic regression: Nagelkerke R Square=0.27
 $\chi^2(n, df) = 36.7(164, 4)$
 * $p < .08$. ** $p < .05$. *** $p < .01$. **** $p < .001$

At the end of 2019, the retirement status of only 1,091 RNs was known, of the 1,614 RNs who reported that they intend and plan to retire within two years of 2013 but had not retired yet; the status for 449 RNs was unknown because they were no longer licensed as a RN in Virginia. Of the 1,091 with known status, only 532 had retired. Of those 532, 279 retired in 2015, 164 retired in 2017, and 89 retired in 2019. However, 559 of the 1,091 RNs with known status had not retired. Hence, only 49% of RNs who had a 2-year retirement intention and plan in 2013 had retired by 2019, six years after their stated intention and plan.



The final logistic regression examining factors that predicted the likelihood of retiring in a 6-year period after a RN had stated an intention and plan to retire within two years included age, job length, and work sectors. The following figure presents the findings from the model. As seen in the figure, working in the for-profit sector reduced the likelihood that a RN would retire by 28%, whereas each one year increase in age increased the likelihood of retiring by 12%. Further, only having a job length of more than a decade rather than less than 2 years was significant; it increased the likelihood of a RN retiring by 36%. None of the other variables were significant.

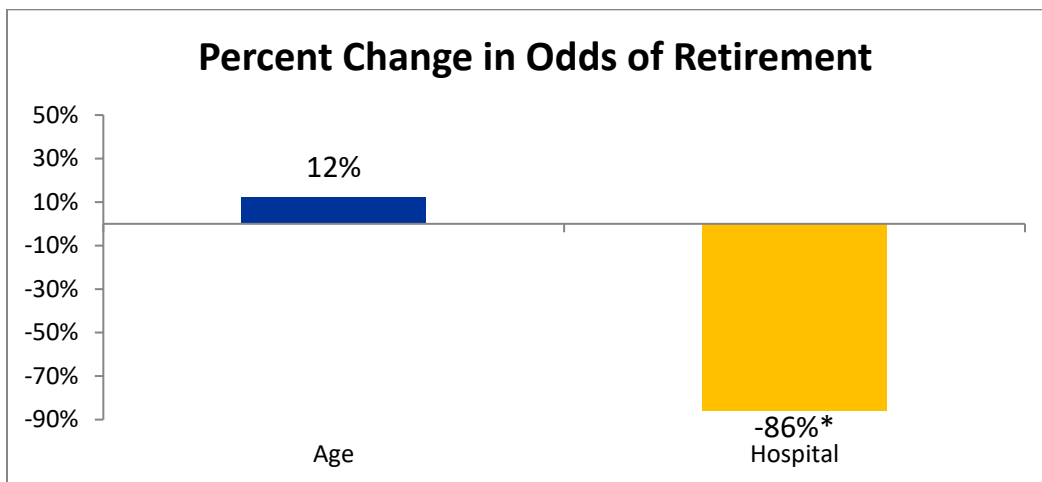


Source: VA. Healthcare Workforce Data Center
 Nagelkerke R Square=0.18
 $\chi^2(n, df) = 140.92(978, 3)$
 * $p < .05$. ** $p < .01$. *** $p < .001$

Of the 226 NPs who intended and planned to retire in 2 years in 2014/15, only 38 (17%) had retired by 2018/19. Twenty-two of these retired in 2017/18 and 16 retired in 2018/19. The majority, 95, had not retired. Further, the retirement status for 93 of the 226 NPs was not known because these NPs were no longer licensed in Virginia.



The final logistic regression examining the factors that predicted the likelihood of retiring in a 4-year period after a NP has stated an intention and plan to retire within two years included age and work establishment. The results of the model are presented in the following figure. As seen in the figure, working in a hospital reduced the likelihood that a NP would retire by 86% whereas each year increase in age increased the likelihood of retiring by 12%. None of the other variables were significant.



Source: VA. Healthcare Workforce Data Center
 Nagelkerke R Square=0.20
 $\chi^2(n, d.f) = 17.1(118, 2)$
 *p<.05. **p<.01. ***p<.001

CONCLUSION

The findings from this study are encouraging; less than half of nurses licensed in Virginia who intended and planned to retire within a 2-year period did so. The percent who retired varied by profession, with only 18% of RNs retiring in the two-year period they intended and planned; a total of 49% retired within six years of the base survey. On the other hand, only 17% of NPs who had the same intentions and plans had retired four years after they stated their intentions. LPNs are in the middle with 13% retiring in the two-year period they intended and 39% retiring within six years of the 2013 survey.

These findings are encouraging as they suggest that the projected nurses' shortage may not be as severe as anticipated in Virginia. Furthermore, this study identifies some factors that may be targeted to delay retirement. Not surprisingly, the logistics regression models revealed that the oldest nurses could be targeted to delay retirement. For LPNs and RNs, the incentives should also target those who have worked more than a decade at their current job. The results also suggest that different factors predict retirement for the different nursing groups. Thus, it is important to explore what factors predict retirement behavior for other healthcare professionals. Nonetheless, it is reassuring that, even though a lot of baby boomer nurses will be exiting the workforce, many remain past their intended and planned exit, hopefully providing more time for the pipelines to respond to their impending exits. The condition of the economy will likely also play a critical role in how closely retirement intentions and plan match behavior.