

# Gauging Progress toward a Healthier IU: Focus on IU Northwest

A Comparison of the IU Workplace Health and Wellness Survey Results from 2013 and 2015

## 1 INTRODUCTION

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In 2013, Indiana University implemented the first university-wide survey of employee health and wellness. In support of building a culture of health and wellness across all campus locations, the aims of the IU Workplace Health & Wellness Survey were to:

- 1) establish baseline measures of workplace health to gauge the impact of the Healthy IU initiative over time;
- 2) understand how well IU workplaces are supporting the health of employees;
- 3) identify health advantages and challenges of this university community;
- 4) identify opportunities for change that are actionable from an organizational standpoint.

In 2015, the survey was repeated. This report focuses on the first aim, as we systematically compare 2013 survey results with 2015 results for IU Northwest to assess our progress toward a healthier IU.

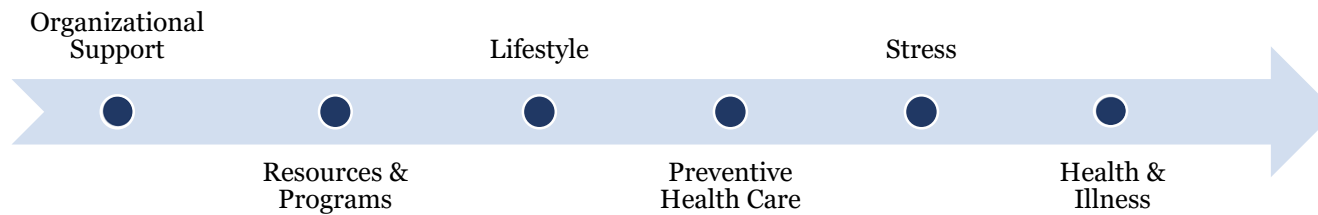
## 2 METHODS

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### 2.1 SURVEY CONTENT

The wording of most questions in the 2015 survey remained consistent with 2013 wording, enabling valid year-to-year comparisons. Some questions were modified, deleted, or added to improve the value of information for organizational planning. Please note in the tables that follow, “NA” identifies questions that were Not Asked or Not Asked in a comparable way in both years.

The survey’s main content areas are shown on the diagram below along a continuum of change. Moving from left to right along the continuum, the difficulty and time required for change increases. Areas further to the left represent the greatest potential for rapid change when organizational interventions are implemented; right-most areas are anticipated to take far longer to reflect change. We will consider the changes observed at IUNW between 2013 and 2015 in the context of this continuum.





## 2.2 COMPARATIVE ANALYSIS & INTERPRETATION

A total of 92 IUNW employees responded to our survey, yielding a 23.5% response rate. Quantitative data were analyzed using IBM SPSS Statistics 23.0 (IBM Corp., 2015). For valid comparison, survey data for both survey years (2013 and 2015) were weighted to the 2013 employee population using two weighting variables: sex (female or male) and job type (faculty or staff). Respondent demographics compared to the employee population overall are shown in the table below. There is consistency in the demographic characteristics of respondents in 2015 compared to 2013. In both years, there were proportionally more females than males in the respondent group than in the employee population on the whole, and the distribution by job type varies by year. The weighting process compensates for such differences.

	2013		2015	
Demographics	Respondents	Full-Time Employees*	Respondents	Full-Time Employees
<b>Sex</b>				
Female	75%	58%	76%	58%
Male	25%	42%	24%	42%
<b>Job Type</b>				
Staff	63%	71%	69%	71%
Faculty	27%	29%	31%	29%

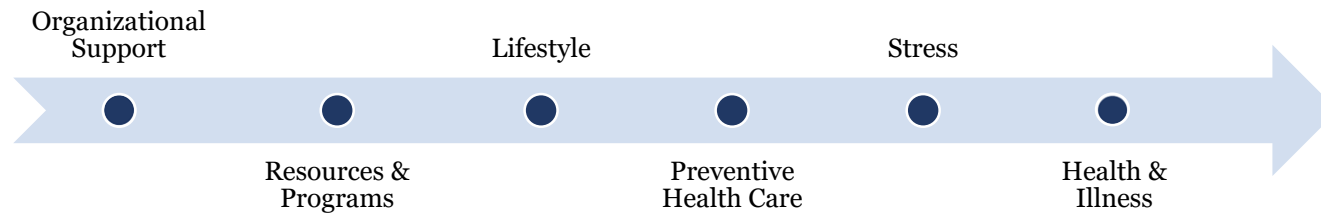
*\*2013 Full-Time Employee proportions have been corrected since originally reported*

For each question being compared, we calculated and considered two measures of change, described and explained in the table below: 1) absolute change, and 2) relative change. Further, we considered both the statistical and practical significance of these changes in the rates. Chi-square testing was conducted to assess whether the absolute difference in rates was *statistically significant*. However, given the large number of respondents to our survey University-wide (4,314), differences may be statistically significant though not practically meaningful, so criteria were set for both statistical and practical significance. The benchmark set for practical significance was  $\geq 10\%$  relative change, either better or worse.

	Absolute Change	Relative Change
<b>Meaning</b>	The simple difference between the two rates being compared	Expresses the change <i>relative</i> to the starting point; <b>allows us to compare the degree of change across factors that vary widely in prevalence</b>
<b>Calculation</b>	= 2015 Rate - 2013 Rate	= $\frac{(2015 \text{ Rate} - 2013 \text{ Rate})}{2013 \text{ Rate}}$
<b>Example 1:</b> Employees told they have pre-diabetes or borderline diabetes	= 7.5% - 5.6% = 1.9% A small absolute change but... 	= $\frac{(7.5\% - 5.6\%)}{5.6\%} = \frac{1.9\%}{5.6\%}$ = 33.9% A large relative change
<b>Example 2:</b> Employees who participated in some physical activities or exercises...in the past month	= 87.9% - 83.9% = 4.1% A larger absolute change than in example 1 but... 	= $\frac{(87.9\% - 83.9\%)}{83.9\%} = \frac{4.1\%}{83.9\%}$ = 4.9% A much smaller relative change
<b>Significance of Differences</b>	Statistical significance evaluated at $\alpha=0.05$ using Chi-square testing	Practical significance if $\geq \pm 10\%$ relative change

### 3 COMPARATIVE RESULTS

The IUNW comparisons between 2015 and 2013 IU Workplace Health & Wellness Survey results are presented in this section, primarily in the form of tables. Each section focuses on a content area, proceeding from left to right along the continuum of change.



In comparing the survey measures comprehensively, we color-coded our interpretations based on the combination of statistical and practical significance. The color-coding is intended to provide a quick visual impression of the strength and degree of change observed in each content area.

	Improvement is statistically and practically significant
	Worsening is statistically and practically significant
	Change lacks statistical and/or practical significance

Also, the tables reflect whether or not there were interventions being implemented at IUNW that focused on that aspect of workplace health in the two-year period. Such interventions were provided by a variety of groups, and information regarding these interventions was provided to the survey team by Healthy IU. Emblems distinguish between two levels of intervention:

 Face-to-face intervention provided

 Communication only provided

### 3.1 ORGANIZATIONAL SUPPORT

TABLE 1. ORGANIZATIONAL SUPPORT	COMPARISON						
	2013	2015	Absolute Change	Relative Change	p-value	Change Code	Intervention Provided
Q10. Overall, how <b>supportive is IU</b> of your personal health? (Percent rating 7-10 on scale of 1-10)	54.8%	71.6%	16.8%	30.7%	<0.001*		▲
Q9. Overall, how <b>safe do you think</b> your workplace is? (Percent rating 7-10 on scale of 1-10)	78.3%	71.1%	-7.2%	-9.2%	0.010*		
Q20. All in all, how <b>satisfied</b> would you say you are with your job? (Percent satisfied/very satisfied)	87.9%	85.2%	-2.7%	-3.1%	0.204		
<b>Q11. Employees who Agree or Strongly Agree...</b>							
The people you work with take a <b>personal interest</b> in you.	NA	66.4%					
In your workplace, your <b>co-workers</b> support your efforts to be healthy.	56.4%	59.3%	2.9%	5.1%	0.365		▲
Your <b>supervisor</b> is concerned about the welfare of those under him or her.	NA	64.3%					
In your workplace, <b>management</b> considers workplace health and safety to be important.	52.7%	63.0%	10.3%	19.5%	0.001*		
IU has provided you with the opportunity to <b>be physically active</b> .	42.4%	60.9%	18.5%	43.6%	<0.001*		▲
IU has provided you with the opportunity to <b>eat a healthy diet</b> .	31.0%	40.6%	9.6%	31.0%	0.002*		
IU has provided you with the opportunity to <b>live tobacco free</b> .	84.9%	80.2%	-4.7%	-5.5%	0.051		▲
IU has provided you with the opportunity to <b>manage your stress</b> .	26.5%	35.9%	9.4%	35.5%	0.001*		Ψ
IU has provided you with the opportunity to <b>work safely</b> .	59.9%	65.1%	5.2%	8.7%	0.082		

\*Statistically significant; NA = not asked/not comparably asked in given year

The content area of Organizational Support showed statistically and practically significant improvements in five measures (green). The greatest relative improvement (43.6% increase over 2013) was in the percentage of employees who say that IU has provided them with the opportunity to be physically active. Significant improvement was also seen in opportunities to manage stress (35.5% relative change). Levels of stress reported by employees in the initial 2013 survey were a top concern, and subsequent efforts were focused on improving this area of wellness. There was also a 31.0% increase over 2013 in the percentage of employees who say that IU has provided them with the opportunity to eat a healthy diet. Perceptions of University support for personal health was also statistically and practically significant. Finally, significantly more employees reported that management considered workplace health and safety to be important. Remaining measures did not show significant practical change.

### 3.2 RESOURCES & PROGRAMS

TABLE 2. Q12: Are the following PROGRAMS OR RESOURCES currently available at your workplace? (Percent who said yes)	COMPARISON						
	2013	2015	Absolute Change	Relative Change	p-value	Change Code	Intervention Provided
Access to clean drinkable water	NA	94.7%					
Opportunities to buy fresh fruits and vegetables	49.9%	70.5%	20.6%	41.3%	<0.001*		
Healthy food options in vending machines	18.3%	28.6%	10.3%	56.3%	<0.001*		
Healthy food options to purchase in the cafeteria or other food service	65.8%	75.5%	9.7%	14.7%	0.001*		
	NA	79.3%					Ψ
Stress management or stress reduction classes/programs	9.1%	47.0%	37.9%	416.5%	<0.001*		Ψ
A convenient place to work out or exercise (2015) - A place to work out or exercise such as an onsite exercise room (2013) †	72.5%	74.6%	2.1%	2.9%	0.452		Ψ
A place to bike or walk	69.9%	80.7%	10.8%	15.5%	<0.001*		Ψ
A walking program	10.3%	48.2%	37.9%	368.0%	<0.001*		Ψ
Ergonomics (work station or computer setup, proper lifting, etc.)	26.4%	40.9%	14.5%	54.9%	<0.001*		
Flu shots at work	95.1%	96.2%	1.1%	1.2%	0.401		▲
Employee Assistance Program (access to professional counseling)	67.8%	78.6%	10.8%	15.9%	<0.001*		Ψ
Programs to help people stop smoking (of current smokers)	80.0%	90.0%	10.0%	12.5%	0.228		▲
Healthy weight/weight loss programs	35.6%	51.0%	15.4%	43.3%	<0.001*		
Blood pressure monitoring device available for self assessment	51.1%	68.3%	17.2%	33.7%	<0.001*		Ψ
A true smoke-free workplace	92.4%	71.6%	-20.8%	-22.5%	<0.001*		▲
A private area/lactation room for moms who are breast-feeding (of women aged 18-44)	0.0%	74.3%	74.3%	--	<0.001*		▲
Signs that encourage stair use	14.4%	17.8%	3.4%	23.6%	0.151		▲
Markers that identify walking trails	NA	18.1%					
Easy to access maps of walking trails	NA	20.9%					Ψ
A designated person who communicates health and wellness information to your work group	NA	45.2%					▲

\*Statistically significant; NA = not asked/not comparably asked in given year

Improving employee awareness and access to health-supporting Resources & Programs at their IU workplace was identified in 2013 as an opportunity for rapid change and organizational action. The numerous intervention emblems shown in the final column of this table reflect the broad action taken in this

area. Healthy change is clearly evidenced in the broad improvements seen – improvements that are both statistically and practically significant. In fact, 11 measures showed significant improvement, and relative increases of over 100% were measured for walking programs and stress management programs. Of note, the reported presence of a lactation area increased from 0% agreement in 2014 to 74.3% agreement in 2015. While a relative change cannot be calculated, this substantial increase is reflective of the addition of such areas on the IUNW campus. Only the percentage of employees with access to “a true smoke-free workplace” significantly worsened (by 22.5% relative to 2013). Four measures did not change substantially per our criteria: access to a convenient place to exercise, access to flu shots at work, availability of programs to help people stop smoking, and presence of signs that encourage stair use.

### 3.3 LIFESTYLE

TABLE 3. LIFESTYLE INFLUENCES ON HEALTH	COMPARISON						
	2013	2015	Absolute Change	Relative Change	<i>p-value</i>	Change Code	Intervention Provided
Q22. Employees getting enough restful <b>sleep</b> to function well in job and personal life - always/most of the time	63.5%	61.7%	-1.8%	-2.8%	0.558		Ψ
Q64 & Q65. Employees whose <b>BMI falls within normal range</b> (18.5-24.9)	30.4%	33.4%	3.0%	9.9%	0.361		Ψ
Q23. Employees who do <b>not smoke</b> cigarettes	93.3%	90.4%	-2.9%	-3.1%	0.104		▲
Q24. Current smokers who stopped smoking for one day or longer because they were <b>trying to quit</b>	63.6%	41.4%	-22.2%	-34.9%	0.072		
Q25. Employees who participated in <b>some physical activities</b> or exercises...during the past month	73.5%	85.2%	11.7%	15.9%	<0.001*		Ψ
Q26 and 27. Employees meeting the <b>aerobic</b> physical activity guidelines	57.0%	69.3%	12.3%	21.6%	<0.001*		
Q28. Employees meeting the <b>strength-training</b> guidelines	50.0%	53.7%	3.7%	7.4%	0.296		
Q26-28. Employees meeting both aerobic and strength-training guidelines	40.0%	50.0%	10.0%	25.0%	0.004		
Q33. (Of those who mostly sit on the job) Employees who are able to <b>get up and move</b> around 8 or more times during a usual 8 hour work day	53.5%	47.9%	-5.6%	-10.5%	0.139		Ψ
Q18. Employees who Always/Usually get the social and emotional support they need	60.5%	48.6%	-11.9%	-19.7%	<0.001*		Ψ

\*Statistically significant; NA = not asked/not comparably asked in given year

The content area of Lifestyle Influences on Health moves us toward the middle of the continuum of change. Three of the changes in lifestyle measures met our criteria for being both statistically and practically significant for improvement: employees getting some physical activity in the past month,

employees meeting strength-training guidelines, and employees meeting both aerobic and strength-training guidelines. One measure met the criteria for being significantly worse in 2015 compared to 2013: the percentage of employees reporting always or usually getting the social and emotional support they need. The remaining 6 measures were stable over the time period.

### 3.4 PREVENTIVE HEALTH CARE

TABLE 4. PREVENTIVE HEALTH CARE	COMPARISON						
	2013	2015	Absolute Change	Relative Change	<i>p-value</i>	Change Code	Intervention Provided
Q34. Employees who visited a doctor for a routine checkup within the past 2 years	85.4%	92.3%	6.9%	8.1%	0.001*		
Q35. Employees who had blood pressure checked by a health professional within the past year	85.9%	89.9%	4.0%	4.7%	0.052		Ψ
Q36. Employees who last had a cholesterol test less than 5 years ago	91.5%	93.1%	1.6%	1.7%	0.363		Ψ
Q37. Employees who had a lab test for high blood sugar or diabetes within the past 3 years	79.7%	78.6%	-1.1%	-1.4%	0.669		Ψ
Q38. Employees who had a seasonal flu vaccine during the past 12 months	58.8%	55.1%	-3.7%	-6.3%	0.250		▲

\*Statistically significant; NA = not asked/not comparably asked in given year

2015 Preventive Health Care survey measures were overall stable and consistent with 2013 measures. Changes were not practically significant. Given the excellent baseline rates reported by IUNW employees for routine checkups, blood pressure checks, and cholesterol testing, there is little room for improvement in this area. Blood sugar testing and flu shots do show room for improvement.



### 3.5 STRESS

TABLE 5. IMPACT OF STRESS	COMPARISON						
	2013	2015	Absolute Change	Relative Change	<i>p-value</i>	Change Code	Intervention Provided
Q21. Employees who said <b>stress</b> (from all sources at work or at home) had <i>a lot</i> or <i>some</i> impact on their health in the past year	72.6%	69.4%	-3.2%	-4.4%	0.277		Ψ
<b>Q19. Employees who responded Always/Often</b>							
How often do you find your work stressful?	42.6%	48.5%	5.9%	13.8%	0.075		Ψ
How often do things going on at <u>work</u> make you tense or irritable at home?	NA	31.3%					
How often do things going on at <u>home</u> make you tense or irritable at work?	NA	10.8%					
How often in past month have you felt used up at the end of the day?	52.4%	47.8%	-4.6%	-8.8%	0.157		Ψ

\*Statistically significant; NA = not asked/not comparably asked in given year

Measures of the impact of stress persisted from 2013 to 2015 with little change overall. In 2015, we added two new measures to help us better understand the interplay of stress between home and work. Based on these results, work stress affects employees at home more often than home stress affects employees at work. Despite greater reported access to opportunities to manage stress (as seen in Table 3.1), we do not yet see a reduction in the impact of that stress on employees' health.

### 3.6 HEALTH & ILLNESS

TABLE 6. HEALTH & ILLNESS	COMPARISON						
	2013	2015	Absolute Change	Relative Change	p-value	Change Code	Intervention Provided
Q14. Employees rating their health as fair or poor	14.5%	21.4%	6.9%	47.6%	0.006*		
Q15. Employees with one or more days of poor physical health in past 30	40.4%	32.7%	-7.7%	-19.1%	0.014*		
Q16. Employees with one or more days of poor mental health in past 30	38.4%	38.2%	-0.2%	-0.5%	0.946		
Q17. Employees with one or more days in past 30 when poor physical/mental health interfered with usual activities	24.5%	26.2%	1.7%	6.9%	0.583		
<i>[Employees responding yes - Have you EVER been told by a doctor, nurse, or other health professional that you have...]</i>							
Q39. High blood pressure	33.6%	31.7%	-1.9%	-5.7%	0.524		Ψ
Q39. Borderline high or pre-hypertensive	11.7%	5.8%	-5.9%	-50.4%	0.001*		Ψ
Q42. High blood cholesterol	47.7%	47.3%	-0.4%	-0.8%	0.915		Ψ
Q45. Diabetes	9.0%	13.1%	4.1%	45.6%	0.058		
Q45. Pre-diabetes or borderline diabetes	5.6%	13.6%	8.0%	142.9%	<0.001*		Ψ
Q48. Asthma - ever	15.4%	13.1%	-2.3%	-14.9%	0.323		
Q49. Asthma - among those ever diagnosed, those who <i>currently</i> have asthma	NA	92.3%					
Q51. Arthritis	41.9%	43.0%	1.1%	2.6%	0.738		
Q53. Arthritis-related activity limitations	32.1%	47.3%	15.2%	47.4%	0.004*		
Q57. Depressive disorder	16.5%	25.0%	8.5%	51.5%	0.002*		▲
Q60. Heart disease	6.1%	5.1%	-1.0%	-16.4%	0.488		▲
Q61. Carpal tunnel syndrome	8.1%	11.7%	3.6%	44.4%	0.071		
<i>[Employees who self-identified having ...]</i>							
Q54. Chronic or recurrent low back pain	20.1%	36.0%	15.9%	79.1%	<0.001*		
Q64 and Q65. Obesity (calculated BMI ≥30.0)	43.3%	42.4%	-0.9%	-2.1%	0.795		Ψ
Q64 and Q65. Overweight (calculated BMI 25.0-29.9)	26.2%	23.4%	-2.8%	-10.7%	0.340		
Q62. Health problems they think may be due to physical surroundings at workplace	NA	23.8%					

\*Statistically significant; NA = not asked/not comparably asked in given year

The final content area, to the far right of the continuum of change, describes the Health & Illness measures of IUNW employees. In this content area, the color-coded changes cannot be interpreted in the same straightforward manner as in previous sections. Some of the measures coded red (for significant increases) may, in fact, be positive and health-promoting. For example, an increase in those diagnosed with pre-diabetes or borderline diabetes may mean that employees are being screened and made aware of their risk at an earlier point where prevention of full disease is possible.

In general, more employees rated their health as fair or poor in 2015 compared to 2013, and significant increases in the proportion of employees ever diagnosed with arthritis-related activity limitations, chronic back pain, and depression were reported. As most of these conditions develop over a period of years, a leveling-off of disease rates is considered success through fewer new diagnoses among employees, as it is essentially impossible for employees who have once been diagnosed with a condition to be “un-diagnosed.” Stabilization of these rates is a long-term aim.

Despite the challenge of addressing these illnesses, two areas of improvement were noted: the percentage of employees reporting one or more days of poor physical health in the past month (a 19.1% relative decrease) and the percentage of employees reporting having pre-hypertension (a 50.4% decrease).

## 4 CONCLUSIONS

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What does this comparison of the 2013 and 2015 survey results tell us?

- Statistical and practical significance, as well as consistency between 2013 and 2015, give us confidence that observed changes (for better or worse) are **real changes** in the IUNW community.
- **Clear improvements** are seen particularly – and as anticipated – in those content areas to the left of the continuum of change.
- Where interventions were implemented, on the whole, more change occurred. In contrast, fewer measures were significantly improved if they did not have an associated intervention.
- We **held our ground** in some longer-term outcomes, but **worsened in others** during the 2-year period. The most challenging outcomes, especially disease rates, take longer to show improvement, as chronic diseases typically develop over a period of years, and once an employee is diagnosed, they cannot revert back to the undiagnosed group. Holding ground in long-term outcomes such as disease rates is, therefore, success.
- We still have work to do, but we are moving in the right direction.





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A team within the **IU Richard M. Fairbanks School of Public Health at IUPUI** designs, conducts, and analyzes the IU Workplace Health & Wellness Survey on behalf of the multi-campus IU community. We are a team committed to employee confidentiality and quality data that drive healthy change. *Any questions? Contact us at [bhealthy@iu.edu](mailto:bhealthy@iu.edu)*

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