

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

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 East to assess our progress toward a healthier IU.

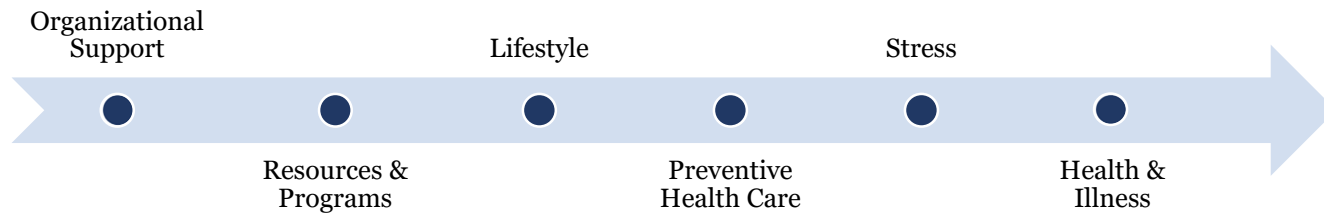
## 2 METHODS

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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 IUE between 2013 and 2015 in the context of this continuum.



## 2.2 COMPARATIVE ANALYSIS & INTERPRETATION

A total of 86 IUE employees responded to our survey, yielding a 32.6% 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 and staff employees in the respondent group than in the employee population on the whole. The weighting process compensates for such differences.

	2013		2015	
Demographics	Respondents	Full-Time Employees*	Respondents	Full-Time Employees
<b>Sex</b>				
Female	72%	64%	78%	66%
Male	28%	36%	22%	34%
<b>Job Type</b>				
Staff	77%	72%	79%	73%
Faculty	23%	28%	21%	27%

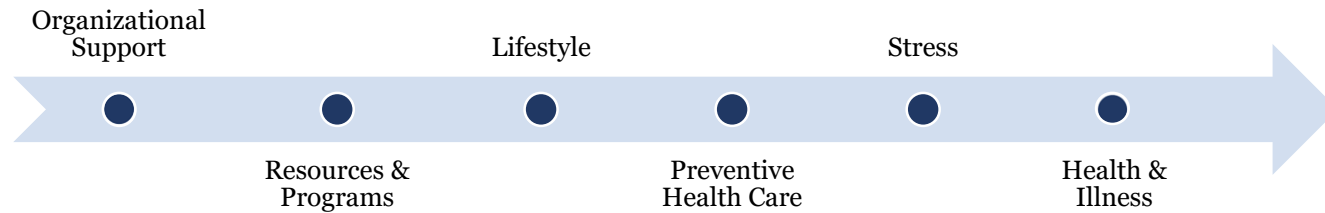
\*2013 Full-Time Employee proportions have been corrected since originally reported

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 University-wide survey (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 IUE 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 in the 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</b> is IU of your personal health? (Percent rating 7-10 on scale of 1-10)	67.4%	79.5%	12.1%	18.0%	0.001*		▲
Q9. Overall, how <b>safe do you think</b> your workplace is? (Percent rating 7-10 on scale of 1-10)	89.8%	79.7%	-10.1%	-11.2%	0.001*		
Q20. All in all, how <b>satisfied</b> would you say you are with your job? (Percent satisfied/very satisfied)	85.4%	89.2%	3.8%	4.4%	0.161		
<b>Q11. Employees who Agree or Strongly Agree...</b>							
The people you work with take a <b>personal interest</b> in you.	NA	73.8%					
In your workplace, your <b>co-workers</b> support your efforts to be healthy.	62.8%	63.3%	0.5%	0.8%	0.908		▲
Your <b>supervisor</b> is concerned about the welfare of those under him or her.	NA	71.1%					
In your workplace, <b>management</b> considers workplace health and safety to be important.	59.8%	62.7%	2.9%	4.8%	0.460		
IU has provided you with the opportunity to <b>be physically active</b> .	58.6%	61.3%	2.7%	4.6%	0.509		Ψ
IU has provided you with the opportunity to <b>eat a healthy diet</b> .	57.9%	48.0%	-9.9%	-17.1%	0.016*		
IU has provided you with the opportunity to <b>live tobacco free</b> .	94.6%	91.3%	-3.3%	-3.5%	0.113		▲
IU has provided you with the opportunity to <b>manage your stress</b> .	30.7%	45.4%	14.7%	47.9%	<0.001*		Ψ
IU has provided you with the opportunity to <b>work safely</b> .	71.7%	78.0%	6.3%	8.8%	0.073		

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

The content area of Organizational Support showed statistically and practically significant improvements in two measures (green). The greatest relative improvement (47.9% increase over 2013) was in the percentage of employees who say that IU has provided them with the opportunity to manage their stress. 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. Changes in perceptions of University support for health were both statistically and practically significant, although to a much lesser extent. Worsening occurred for two measures, including perceptions of workplace safety and IU providing the opportunity to eat a healthy diet. Neither of these areas had a corresponding intervention associated with it. 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	90.5%					
Opportunities to buy fresh fruits and vegetables	64.5%	65.1%	0.6%	0.9%	0.882		
Healthy food options in vending machines	11.0%	22.6%	11.6%	105.5%	<0.001*		
Healthy food options to purchase in the cafeteria or other food service	78.7%	75.2%	-3.5%	-4.4%	0.341		
1-on-1 nutritional counseling	NA	41.9%					Ψ
Stress management or stress reduction classes/programs	18.3%	39.4%	21.1%	115.3%	<0.001*		
A convenient place to work out or exercise (2015) - A place to work out or exercise such as an onsite exercise room (2013) †	82.6%	68.8%	-13.8%	-16.7%	<0.001*		Ψ
A place to bike or walk	83.9%	71.3%	-12.6%	-15.0%	0.001*		Ψ
A walking program	47.6%	55.5%	7.9%	16.6%	0.066		Ψ
Ergonomics (work station or computer setup, proper lifting, etc.)	23.8%	34.3%	10.5%	44.1%	0.008*		
Flu shots at work	96.4%	91.4%	-5.0%	-5.2%	0.019*		▲
Employee Assistance Program (access to professional counseling)	69.3%	83.7%	14.4%	20.8%	<0.001*		Ψ
Programs to help people stop smoking (of current smokers)	/	/					▲
Healthy weight/weight loss programs	40.4%	52.4%	12.0%	29.7%	0.006*		
Blood pressure monitoring device available for self assessment	25.3%	67.5%	42.2%	166.8%	<0.001*		Ψ
A true smoke-free workplace	87.7%	85.3%	-2.4%	-2.7%	0.412		▲
A private area/lactation room for moms who are breast-feeding (of women aged 18-44)	37.7%	32.6%	-5.1%	-13.5%	0.517		▲
Signs that encourage stair use	9.2%	72.2%	63.0%	684.8%	<0.001*		▲
Markers that identify walking trails	NA	28.6%					
Easy to access maps of walking trails	NA	26.0%					Ψ
A designated person who communicates health and wellness information to your work group	NA	61.6%					▲

\*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 in 7 areas– improvements that are both statistically and practically significant.

In fact, relative increases of over 100% were measured for presence of signs that encourage stair use, blood pressure self-monitoring devices, stress management programs, and healthy food options in vending machines. Worsening occurred in two areas: availability of a convenient place to exercise and presence of a place to bike or walk. The remaining measures did not change substantially per our criteria.

### 3.3 LIFESTYLE

TABLE 3. LIFESTYLE INFLUENCES ON HEALTH	COMPARISON						
	2013	2015	Absolute Change	Relative Change	p-value	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	69.4%	59.2%	-10.2%	-14.7%	0.005*		Ψ
Q64 & Q65. Employees whose <b>BMI falls within normal range</b> (18.5-24.9)	18.0%	15.0%	-3.0%	-16.7%	0.539		Ψ
Q23. Employees who do <b>not smoke</b> cigarettes	97.4%	98.9%	1.5%	1.5%	0.149		▲
Q24. Current smokers who stopped smoking for one day or longer because they were <b>trying to quit</b>	/	/					
Q25. Employees who participated in <b>some physical activities</b> or exercises...during the past month	76.9%	80.7%	3.8%	4.9%	0.182		Ψ
Q26 and 27. Employees meeting the <b>aerobic</b> physical activity guidelines	56.3%	72.9%	16.6%	29.5%	<0.001*		
Q28. Employees meeting the <b>strength-training</b> guidelines	41.9%	52.2%	10.3%	24.6%	0.123		
Q26-28. Employees meeting <b>both aerobic and strength-training guidelines</b>	36.0%	48.8%	12.8%	35.6%	0.029*		
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	56.0%	48.5%	-7.5%	-13.4%	0.237		Ψ
Q18. Employees who Always/Usually get the social and emotional support they need	56.8%	73.6%	16.8%	29.6%	<0.001*		Ψ

\*Statistically significant; NA = not asked/not comparably asked in given year; / = insufficient sample size for analysis

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 improvement, being both statistically and practically significant. These included meeting aerobic activity guidelines, meeting both aerobic and strength-training guidelines, and getting the social and emotional support needed. However, one measure—getting enough restful sleep—met the criteria for being significantly worse in 2015 compared to 2013. The remaining areas showed no significant changes.

### 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	86.6%	87.6%	1.0%	1.2%	0.956		
Q35. Employees who had blood pressure checked by a health professional within the past year	94.3%	93.7%	-0.6%	-0.6%	0.329		Ψ
Q36. Employees who last had a cholesterol test less than 5 years ago	97.7%	95.2%	-2.5%	-2.6%	0.084		Ψ
Q37. Employees who had a lab test for high blood sugar or diabetes within the past 3 years	88.2%	73.6%	-14.6%	-16.6%	<0.001*		Ψ
Q38. Employees who had a seasonal flu vaccine during the past 12 months	45.9%	56.4%	10.5%	22.9%	0.163		▲

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

Most 2015 Preventive Health Care survey measures were overall stable and consistent with 2013 measures, as changes were not practically significant. However, significantly fewer employees reported having a diabetes test in the past 3 years, with a relative change of -16.6%. Given the excellent baseline rates reported by IU employees for routine checkups, blood pressure checks, and cholesterol testing, there is little room for improvement in this area. There is room for improvement in the proportion of employees who report getting a seasonal flu vaccine.



### 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	72.3%	64.9%	-7.4%	-10.2%	.034*		Ψ
<b>Q19. Employees who responded Always/Often</b>							
How often do you find your work stressful?	38.9%	38.0%	-0.9%	-2.3%	0.985		Ψ
How often do things going on at <u>work</u> make you tense or irritable at home?	NA	22.0%					
How often do things going on at <u>home</u> make you tense or irritable at work?	NA	9.6%					
How often in past month have you felt used up at the end of the day?	45.9%	47.8%	1.9%	4.1%	.048*		Ψ

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

One measure of the impact of stress significantly improved: fewer employees reported stress impacting their health a lot or some in the past year, with a relative change of -10.2%. Two other measures of the impact of stress persisted from 2013 to 2015. Of note, 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. .

### 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	8.2%	7.0%	-1.2%	-14.6%	0.587		
Q15. Employees with one or more days of poor physical health in past 30	41.4%	31.3%	-10.1%	-24.4%	0.016*		
Q16. Employees with one or more days of poor mental health in past 30	43.6%	34.0%	-9.6%	-22.0%	0.032*		
Q17. Employees with one or more days in past 30 when poor physical/mental health interfered with usual activities	28.0%	24.5%	-3.5%	-12.5%	0.347		
<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	33.5%	28.4%	-5.1%	-15.2%	0.018*		Ψ
Q39. Borderline high or pre-hypertensive	4.2%	13.7%	9.5%	226.2%	<0.001*		Ψ
Q42. High blood cholesterol	31.6%	39.6%	8.0%	25.3%	0.229		Ψ
Q45. Diabetes	12.2%	10.8%	-1.4%	-11.5%	0.052		
Q45. Pre-diabetes or borderline diabetes	1.7%	7.6%	5.9%	347.1%	<0.001*		Ψ
Q48. Asthma - ever	17.3%	17.5%	0.2%	1.2%	0.604		
Q49. Asthma - among those ever diagnosed, those who <i>currently</i> have asthma	NA	69.3%					
Q51. Arthritis	28.8%	40.3%	11.5%	39.9%	0.042*		
Q53. Arthritis-related activity limitations	33.9%	33.3%	-0.6%	-1.8%	0.147		
Q57. Depressive disorder	21.6%	16.8%	-4.8%	-22.2%	0.339		Ψ
Q60. Heart disease	2.9%	2.5%	-0.4%	-13.8%	0.421		▲
Q61. Carpal tunnel syndrome	13.7%	15.3%	1.6%	11.7%	0.203		
<i>[Employees who self-identified having ...]</i>							
Q54. Chronic or recurrent low back pain	30.6%	36.1%	5.5%	18.0%	0.266		
Q64 and Q65. Obesity (calculated BMI ≥30.0)	51.6%	50.9%	-0.7%	-1.4%	0.869		Ψ
Q64 and Q65. Overweight (calculated BMI 25.0-29.9)	29.4%	30.9%	1.5%	5.1%	0.699		
Q62. Health problems they think may be due to physical surroundings at workplace	NA	19.6%					

\*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 IU employees. In this content area, the color-coded changes cannot be interpreted in the same straightforward manner as in previous sections. While measures such as poor physical and mental health in the past month showed significant improvements as indicated in green, other measures coded red (for significant worsening) may, in fact, be positive and health-promoting as well. For example, an increase in those diagnosed with borderline high or pre-hypertension as well as 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. A significant increase in the proportion of employees ever diagnosed with arthritis was reported.

In general, as most of the assessed conditions develop over a period of years, a leveling-off of disease rates is considered success through fewer new diagnoses among employees, since it is essentially impossible for employees who have once been diagnosed with a condition to be “un-diagnosed.” As such, stabilization of these rates is a long-term aim. One exception to this can be seen in our findings, with significantly fewer employees reporting ever having a diagnosis of high blood pressure.

## 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 IUE community.
- **Improvements** are seen throughout the continuum of change. **Worsening** on some measures can be seen throughout as well.
- Where interventions were implemented, on the whole, more change occurred.
- We **held our ground** in some longer-term outcomes, but **worsened in others** during the two-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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