

# Wellness Data Solutions-results

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*Wellness Data Solutions- Baseline to 1 year results after  
implementation of the risk score feedback report*

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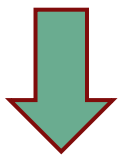
## Executive Summary

Wellness Data Solutions (WDS) provides a tool for use in corporate wellness programs to identify and provide guidance to employees in order to improve their health. The tool relies on objective measures of health risk, particularly for metabolic syndrome and chronic disease.

Metabolic Syndrome is a cluster of risk factors that elevate a person's risk for developing heart disease, diabetes, stroke and other chronic conditions<sup>1</sup>. WDS has developed a report that provides visual feedback to employees about their metabolic risk factors to help them make decisions about lifestyle changes that can reduce their risk for developing chronic disease, or improve the management of those conditions. The feedback report provides results about the components of metabolic disease in their proprietary Health Risk Index (HRI).

The results presented in this summary, are from 3 companies who have engaged WDS to measure health risk factors in their employee populations, provide health education on an individual basis to improve health, and reduce health care costs.

Overall results indicate that after 1 year, employees had:



*Significant reductions in Risk Scores*



*Significant reduction in Blood Pressure levels*



*Significant reduction in blood Glucose levels*



*Significant reduction in Waist Circumference*

The table below shows the baseline (0) and 1-year follow-up (1) readings for the metabolic metrics captured in the WDS Health Risk Index. Significance levels with an asterisk (\*) indicate statistically significant differences between the before and after values. This is for all individuals who had a reading at each time point, regardless of whether or not they were at risk at the time of the first screening.

WDS measures-- All measured baseline to 1 year later	Mean	N	Std. Error Mean	T	Significance	Mean Difference
Weight 1	197.2	268	3.1	1.72	0.09	-1.47
Weight 2	198.7	268	3.2			
Systolic BP 1	128.0	269	0.9	4.58	0.00*	-4.63
Systolic BP 2	123.4	269	0.9			
Diastolic BP 1	82.1	269	0.9	3.16	0.002*	-3.08
Diastolic BP 2	79.0	269	0.6			
Waist Circumference 1	37.6	270	0.4	2.21	0.03*	-0.71
Waist Circumference 2	36.9	270	0.5			
Blood Glucose 1	100.7	269	1.9	2.25	0.03*	-3.62
Blood Glucose 2	97.0	269	1.3			
Triglycerides 1	127.3	269	5.2	0.56	0.58	-2.35
Triglycerides 2	124.9	269	5.7			
HDL 1	50.5	269	0.9	1.52	0.13	0.95
HDL 2	51.4	269	1.0			

The Health Risk Index (HRI) is presented as a two-factor indicator, with metabolic indicators and BMI risk. WDS has repeat measurement data from baseline to one year post baseline readings for 150 individuals. The average risk score for all individuals was 1.95/1.28 with 160 individuals having 3 or more risk factors above the ideal range. After 1 year, metabolic risk scores for the entire group were significantly reduced to 1.66/1.29. BMI was not significantly changed.

A total of 160 of 270 individuals (59%) were identified as “at-risk” meaning that at least 3 of the HRI measures were outside of normal limits. At baseline, the average risk score for this group was 2.84/1.86. From the baseline reading, to a year later, there was a statistically significant reduction in blood pressure readings, waist circumference, and blood glucose levels. Risk scores were also significantly reduced, to 2.38/1.82 after 1 year.

WDS measures--	Mean	N	Std. Error Mean	T	p=	Mean Difference
<b>Risk Group measured baseline to 1 year later</b>						
<b>Weight 0</b>	223.3	159	3.9	0.71	0.48	0.81
<b>Weight 1</b>	224.1	159	3.8			
<b>Systolic BP 0</b>	131.6	160	1.3	4.43	0.000*	-6.62
<b>Systolic BP 1</b>	125.0	160	1.3			
<b>Diastolic BP 0</b>	84.3	160	0.9	3.23	0.001*	-4.03
<b>Diastolic BP 1</b>	80.2	160	1.2			
<b>Waist Circumference 0</b>	41.2	161	0.6	2.20	0.03*	-1.11
<b>Waist Circumference 1</b>	40.1	161	0.4			
<b>Blood Glucose 0</b>	107.8	160	1.7	3.17	0.002*	-7.02
<b>Blood Glucose 1</b>	100.8	160	2.9			
<b>Triglycerides 0</b>	155.9	160	8.7	0.77	0.44	-5.11
<b>Triglycerides 1</b>	150.8	160	7.6			
<b>HDL 0</b>	44.6	160	1.0	0.15	0.88	0.12
<b>HDL 1</b>	44.4	160	1.0			

Importantly, the changes in some of these metrics represent clinically meaningful reductions. Studies show that a 6mm/Hg decrease in blood pressure accounts for a 10% reduction in cardiovascular disease risk<sup>2</sup>. The blood glucose level for the group was reduced on average to normal levels.

*Disclosures: The results presented in this report are the results of a 3<sup>rd</sup> party evaluation of the WDS dataset. There was no financial compensation provided for the development of this report. The author has no disclosures, or conflicts of interest.*

#### References:

1. National Heart Lung and Blood Institute. <https://www.nhlbi.nih.gov/health-topics/metabolic-syndrome>. Accessed 07/07/2019.
2. Sleight, P. (1991). Cardiovascular risk factors and the effects of intervention. *American heart journal*, 121(3), 990-995.