# Evolution of our Measures

In 2013 and again in 2013-14, we changed two of our composite measures to better align with current consensus regarding the control of high blood pressure. Specifically, we changed our Diabetes Outcomes measure effective with our report on 2013 data and changed our Control measure for High Blood Pressure with our report on 2013-14 data. This note briefly discusses the impact of these changes – both of which yield improved achievement of our standards by our partners, and also a recent adjustment to the way in which we aggregate data by race and ethnicity.

Updated December 2015 Thomas E. Love, PhD - Director, Data Center

## RECENT CHANGES TO OUR COMPOSITE MEASURES

Better Health has measured the care of patients with Diabetes since 2007, with Heart Failure since 2008, and with High Blood Pressure since 2009. We focus on two composites per condition, initially established by our Clinical Advisory Committee, which vetted nationally endorsed standards.

With our 2013 report, our Clinical Advisory Committee recommended a revised blood pressure control measure for our diabetes outcomes composite. With our 2013-14 report, we also revised our control measure for patients with high blood pressure.

**Each of these changes yielded a meaningful improvement in our achievement, region-wide**. As Table 1 illustrates, in our 2013-14 reporting, the difference between the old and new approach represented **2,903** additional patients (8.3% of patients with diabetes) achieving our outcomes standard, and an increase of **7,500** patients with hypertension (5.4% of all hypertension patients) in the achievement of high blood pressure control.

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TABLE 1. % MEETING "OLD" AND "NEW" BETTER HEALTH STANDARDS, 2013-14

| 2013-14 Region-Wide Results | By "Old" Standard | By "New" Standard | Difference (in % points) | Difference (in patients) |
|---|---|---|---|---|
| % meeting Diabetes Outcomes | 40.7 | 49.0 | 8.3 | 2,903 |
| % meeting High Blood Pressure Control | 69.6 | 75.0 | 5.4 | 7,500 |

## HOW THE MEASURES CHANGED: DIABETES OUTCOMES

Prior to 2013, achievement of our diabetes outcomes composite required a patient with diabetes to meet at least four of the following five standards:

[a] Hemoglobin A1c < 8, [b] Blood pressure below 140/80, [c] LDL cholesterol level < 100 or statin prescription, [d] Body-mass index below 30, [e] documented as not smoking,

where in each we refer to the most recently observed value in the reporting period. With our 2013 report, we changed the blood pressure limit in standard [b] to **140/90**. This was motivated by several reports regarding the control of blood pressure in patients with diabetes, eventually collected in the recommendations of the 8th Joint National Committee[1].

The improvement associated with the use of the 140/90 standard in diabetes outcomes appears to be approximately **8** percentage points, based on our results from the first two reports (2013 and 2013-14) with the new standard. Table 2 summarizes results.

[1] See, for instance, James PA et al 2014 Evidence-Based Guideline for the Management of High Blood Pressure in Adults. *JAMA 2014: 311(5): 507-520*.

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TABLE 2. % MEETING "OLD" AND "NEW" DIABETES OUTCOMES, 2013 AND 2013-14

| | 2013 Results | | 2013-14 Results | |
|---|---|---|---|---|
| **Measure** | "Old" Outcomes (with 140/80) | "New" Outcomes (with 140/90) | "Old" Outcomes (with 140/80) | "New" Outcomes (with 140/90) |
| **Region-Wide, %** | 41.1% | 49.1% | 40.7% | 49.0% |

Individual health systems improved by 5 to 12 percentage points in 2013-14 comparing the old and new approaches. **Those practices that improved the most on our Diabetes Outcome measure were those with a larger group of Commercially insured patients.**

Region-wide, in 2013-14, 54% of patients with diabetes had their most recent blood pressure below 140/80, as compared to 73% with blood pressure below 140/90 – a difference of 19 percentage points, or 6,640 patients. More than half of these patients (3,570, or 54%) were Commercially insured, even though Commercial patients only account for 41% of patients with diabetes in our 2013-14 report. These results mirror those seen in 2013, when of the 6,417 patients who meet the 140/90 standard but not 140/80 in diabetes, 3431 (53%) were Commercially insured.

## HOW THE MEASURES CHANGED: HIGH BLOOD PRESSURE CONTROL

Prior to our 2013-14 report, achievement of our high blood pressure control standard required a patient with high blood pressure to have their most recent blood pressure fall below 140/90.

We now split our blood pressure control standard for hypertension into two groups of patients:

For most patients, we continue to require blood pressure control below **140/90**.

For patients **without a diabetes diagnosis who are 60 years of age or older**, we now require blood pressure control below **150/90**.

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Again, this change was motivated by several reports and evidence-based guidelines regarding the control of blood pressure in adult patients, which are well summarized in the recommendations of the 8th Joint National Committee, as discussed above.

Overall, the change led to a jump of 5.4 percentage points in achievement of BP control.

TABLE 3. % MEETING "OLD" AND "NEW" HIGH BLOOD PRESSURE CONTROL STANDARD, 2013-14

| Measure | "Old" Control (140/90 for all) | "New" Control (150/90 for some patients) | Improvement due to change in measure (in % points) |
|---|---|---|---|
| All Patients with High BP | 69.6% | 75.0% | 5.4 |

Individual health systems improved by as little as 1.2 to as much as 6.5 percentage points in 2013-14 comparing the old and new approaches to measuring high blood pressure control, and naturally, this was closely related to the fraction of their patients ages 60 and older.

Improvements due to the change in measure varied substantially by patient subgroup. **Unsurprisingly, owing to the age-based change in our high blood pressure control measure, Medicare patients showed the largest improvement (9.1 points) with smaller increases for practices with a smaller share of older patients.**

Other groups of patients who improved by more than 6 percentage points as a result of this change were those of White race, females, those living in neighborhoods with high incomes, or high educational attainment, and those living outside of Cuyahoga County.

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## CHANGES IN HOW WE REPORT RACE AND HISPANIC ETHNICITY

With our 2013-14 report, Better Health updated its classification of patients by race and ethnicity to better match reported information in other venues, such as the American Community Survey. Prior to this report, our combined race/ethnicity category included four groups for reporting – White, African-American, Hispanic and Other. Our new pair of measures separately address race and Hispanic ethnicity using generally accepted definitions. All of Better Health's race and ethnicity information is based on patient self-report, and collected from the electronic health records of our partner practices.

Table 4 summarizes the distribution of patients by race and ethnicity in 2013-14 using both our old (four categories) and new approaches. The new approach yields more missing values, but enables us to build and study more useful subgroups of patients going forward.

TABLE 3. RACE AND HISPANIC ETHNICITY PATIENT DISTRIBUTIONS, 2013-14

| Condition | Diabetes | High Blood Pressure | Heart Failure |
|---|---|---|---|
| # of Patients | 35,280 | 137,617 | 7,051 |
| **NEW APPROACH** | | | |
| % with Race Available | 94.0 | 95.2 | 96.4 |
| % with Ethnicity Available | 89.8 | 90.8 | 98.0 |
| **RACE** % White | 56.1 | 64.1 | 62.6 |
| % African-American | 40.7 | 33.6 | 36.2 |
| % Asian | 1.7 | 1.2 | 0.4 |
| % Multi-Racial | 0.2 | 0.1 | 0.1 |
| % Other Race | 1.3 | 1.0 | 0.8 |
| **ETHNICITY** % Hispanic or Latino | 6.1 | 3.3 | 3.0 |
| % Not Hispanic or Latino | 93.9 | 96.7 | 97.0 |
| **OLD APPROACH** | | | |
| % with Race/Ethnicity Available | 96.7 | 96.6 | 98.0 |
| % White | 52.1 | 61.9 | 61.4 |
| % African-American | 39.4 | 33.1 | 35.6 |
| % Hispanic | 5.7 | 3.1 | 2.1 |
| % Other Race/Ethnicity | 2.8 | 2.0 | 1.0 |