Reviewer 1:
There has been a temporal change in using the diagnosis codes for obesity from 2011-2015. The increase in claims for pediatric obesity likely reflect the changes in the claims reimbursement policies of private payers. This should definitely be mentioned as a limitation of this report. Hence, I have reservations about the first section that reports on the “prevalence” of obesity based on these claims.

Type 2 diabetes on the other hand is more likely to be accurate. However, I would like them to verify the youngest kids by states. In my experience in NY and MA, the rates of T2D have not increased so dramatically in the early childhood and elementary school age group. It is definitely helpful to see the data from each state in the 2nd half. It may be helpful for the reader to know which states have shown the 90% rise in T2D claims in the 2-9 years age group.

Reviewer 2:
The white paper was an interesting read overall – the quality is good. I would think the white paper is worth sharing with the members of PES. I am less convinced about the infographic. A good point is that the authors tried to put their findings into perspective of existing data - whenever their data either agreed or disagreed from that in the literature, the authors addressed it to some extent.

One global comment is that much of the figures centered around “% of claims” rather than absolute numbers, which I would have found more illuminating.

A few comments:

1. Globally, the authors show that the rates of claims relating to obesity and T2DM have increased in the pediatric population between 2011-2015.

- CDC statistics have shown that the rate of obesity rate among youth has actually plateaued in the past few years (overall prevalence in youth 2-19 years has gone from 16.9% in 2009 to 17.2% in 2013-14) (Ogden CL, Carroll MD, Fryar CD, Flegal KM. Prevalence of obesity among adults and youth: United States, 2011–2014. NCHS data brief, no 219. Hyattsville, MD: National Center for Health Statistics. 2015). In the specific time period examined, obesity rates actually were stable in both 6-11 year olds (17.7% in 2011-12 and 17.4% in 2013-14, down from 19.6% in 2007-8) and 12-19 year olds (20.5-20.6% prevalence respectively, up from 18.1% in 2007-8), although the rates of obesity have risen slightly in then 2-5 year old age range, from 8.4% in 2011-12 to 9.4% in 2013-14. Interestingly, the Fairhealth group found that the smallest rate of increased occurred in those ages 3-5, opposite of the trends reported by the CDC.

- Given that prior to adoption of the WHO curves there weren’t BMI curves for those under age 2, people might have been much less likely to call an infant or toddler obese. So some of the increased obesity in that age group may be a question of definitions.
- To their credit, the authors were aware of the discrepancy between the CDC statistics and the rise in claims rates they found, and addressed it briefly (not to the extent that I did above). The possible explanation the authors advanced to explain the discrepancy is that their data is based on claims for patient with private health insurance only, excluding Medicaid patients, rather than being based on a cross section of the population. That’s it. It just that more children are being diagnosed with obesity (as opposed to “abnormal weight gain”) or being referred to specialists?
Also of note, they define “pediatric” population as ages 0-22, and note that the greatest rate of increase in T2DM-related claims occurred in those ages 19-22; most of us would define that age population as “young adults” rather than as “children” or “adolescents”.

2. Interestingly, while there were more obesity-related claims made among females than males in almost every age group, T2DM-related claims were more common in males than females. However, while the differences in obesity claim rates between the sexes were considerable in most age groups (visually, ranging from 8-50% difference), the differences in T2DM claim rates in those ages 6-22 years were marginal.

- The authors addressed differences between their data and the CDC data, and did speculate that perhaps the difference in rate of claims for female vs. male obesity has to do with different levels of societal tolerance of overweight and obesity in females vs. males, which is an interesting supposition.

- According to the SEARCH for Diabetes in Youth study, T2DM is extraordinarily rare in the prepubertal population (the entire SEARCH cohort identified 19 cases of T2DM in children under age 10 in 2009, in an article the Fairhealth white paper itself cites - http://jamanetwork.com/journals/jama/fullarticle/1866098), which leads one to wonder whether many of the cases of “T2DM” in those under age 10 were incorrectly coded.

- Given the lower frequency of obesity in young children and the definite rarity of T2DM in very young children, it’s hard to make much of differences between complaint rates in the very young children – the overall denominator of impacted children is likely quite low, magnifying any changes or differences

3. Comorbidities and common claims for children with and without T2DM clearly differ. While it’s interesting to see the differences laid out, the findings are not particularly surprising.

4. It was interesting to see which types of comorbidity claims rose in the 2011-14 years and which did not.