Dear Dr. Meyre,

Thank you very much for giving us the opportunity to revise our manuscript. The comments of the reviewers have been very helpful.
Please see below for our responses to the reviewers' comments.

Sincerely,

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Response to reviewer comments

Reviewer 1

I did not see a statement about conflicts of interests or funding but presume it has been submitted separately.

> Yes, the COI and funding statements have been submitted separately.

One of the probabilities used at Step 6 (0.001) needs to be confirmed as I suspect the incorrect denominator may have been used.

> Yes, you are correct! Thank you so much for picking that up. We are now using the number of obese children in Canada *entering Step 6* (121,000) as the denominator. We have also clarified in the text how the estimates were calculated.

There is also an inconsistency between the probabilities of Step 7 between the text and the Figure (see my notes on the PDF file).

> Thank you for pointing that out. The text for Step 7 was corrected to reflect the probabilities presented in Figure 1 and used in the calculation.

My only other minor concern is the description of the statistical analysis which suggests the use of simulations without describing the method in details. In fact, simulations are not needed since one is able to calculate the cumulative probability by multiplying the probabilities at each stage within each of the 4 possible "paths" (one split at Step 2 + one split at Stage = 4 possible scenarios) of the flowchart and then calculating the sum of those 4 probabilities. I would therefore suggest removing any reference to modelling and simulations as those terms suggest more complex computations than what is required here.

> Thank you. We fully agree. The corresponding section has been reworded according to your suggestions.

I have added some notes/comments directly in the manuscript PDF (see attached).

> Thank you, we have made the suggested edits to the text and figure.

Reviewer 2

It would be beneficial for the reader if the sentence in line 28–31 was more concise/clearer.

> We have edited this paragraph for greater clarity.

At the end of the sentence in line 37–39 it states e.g., with refs (5–8). Would be useful to note some examples and then back up with the references, or, get rid of the e.g. (5–8) and just reference the statement.

> We have removed the "e.g."

Lines 44–55: rather than listing these it might be preferable to just refer to the figure

> We acknowledge the redundancy but the steps are a key component of the paper and we would therefore prefer to keep the description in the text.

Line 69: replace with - aged 12 years

> Done.

The authors do acknowledge in the discussion the limitations with the accuracy of probabilities, however, my main comment on the methods/results is the use of 'assumptions'. The term assumption is used repeatedly in the result section and is not a v scientific term.

> Due to the very limited evidence and data available from the literature, it was not always possible to use scientific rigour in determining the probabilities for the various steps and the use of the word "assumption" was meant to reflect this fact. We have now replaced the words "assume" and "assumption" with "estimate" or "use" throughout.

Some improvements could be made, for example, in step 2 lines 107–108 the authors reported an average of 2 PCP visits – is it not possible to have used the data to calculate the range of visits as opposed to saying we assumed 3 and 1 visit as best/worst case estimates? If this is what the authors did it is not clear and should be re-worded.

> The number of PCP visits in the CCHS data ranged from 0 to 35. 27% had 0 visits, and 85% had 0 to 3 visits. Using 0 visits would have resulted in 0% cumulative probability (and hence would have made the worst case scenario calculation useless), while 4+ visits probably indicate some health problem in the child. Since we were more interested in well-child visits or visits for minor ailments, where there is some chance that the issue "obesity" is brought up chose the estimates as presented in the paper.
> We acknowledge that the estimates may be somewhat arbitrary but that is often the case when performing scenario analyses, and does not invalidate such an approach as described in the Discussion.

Line 140: 'will likely be limited to' – can this be changed to include what topics are covered in the discussion and so remove the 'assumption'

> We have edited this sentence.

I'm not convinced that 'what are the odds?' at the end of the title is suitable.

> We agree that the second part of the title does not jive with the first part, and we have therefore reworded the title to "Successful childhood obesity management in primary care in Canada: What are the odds?". If the reviewer is concerned about the term "odds", we would like to point out that the aim of the paper was to estimate the probability of achieving clinically meaningful weight management outcomes in a primary care setting in Canada. While not

exactly identical, odds and probability describe the same concept. Moreover, for small probabilities (as in the current analysis), the probability and the corresponding odds are virtually identical. For p = 0.001, odds(p) are 0.001 / 0.999 = .001001001. We therefore have a strong preference to use the (revised) title.