

## On the Subject of WBS or BRM<sup>1</sup>

### LETTER TO THE EDITOR

26 August 2024

Ref: Smith, K. (2024). *Musing on Milestones: To Weight, or Not to Weight? That is the Question!* *PM World Journal*, Vol. XIII, Issue VIII, August. Available online at <https://peworldlibrary.net/wp-content/uploads/2024/08/pmwj144-Aug2024-Smith-musings-on-weighted-milestones.pdf>

Dear Editor,

I was very interested in Dr Kenneth Smith’s “musings” on work breakdown structures and the value or otherwise of assigning weights, with examples from programs/projects with which he had been associated. I have chosen to analyse his first example (the Public Health Project) in more detail as a basis for justifying my insistence on assigning meaningful weights to milestones. For ease of reference, I have numbered the WBS components in Dr Smith’s first example, as shown in Figure 1.

<p><b>A Public Health Project</b> to “<b>Improve Community Health Status</b>” of a pre-identified area.</p> <p><b>WBS Components</b>, and related <i>Activities</i></p> <ol style="list-style-type: none"><li>1 <b>Potable Water</b> <i>Located, Drilled, &amp; Pumps Installed</i></li><li>2 <b>Public &amp; Private Sanitary &amp; Waste Water Facilities</b> <i>Constructed</i></li><li>3 <b>Community Solid Waste Disposal Areas</b>, <i>Located, Equipped &amp; Managed</i></li><li>4 <b>Health Clinics/Facilities</b> <i>Constructed, Furnished &amp; Equipped</i></li><li>5 <b>Doctors, Nurses, Technicians and Administrators</b> <i>Trained &amp; Deployed</i></li><li>6 <b>Maternal &amp; Child Health Services</b>, <i>Provided</i></li><li>7 <b>Community Vaccination Program</b>, <i>‘Cold-chain’ Established, Vaccines Procured</i></li><li>8 <b>Village-Level Health Workers</b> <i>Recruited, Trained &amp; Deployed</i></li><li>9 <b>Information/Education Campaigns</b> <i>Developed &amp; Conducted</i></li><li>10 <b>Medical Equipment, Supplies &amp; Drugs</b> <i>Procured and Provided</i></li><li>11 <b>Transportation</b>, <i>Vehicles Procured and Provided</i></li><li>12 <b>Patients: Treated</b></li></ol>
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Figure 1: The Public Health Project Work Breakdown Structure

I took this list of components and restructured it in the form of a benefits map (BM). Whereas Dr Smith’s Work Breakdown Structure places all of the components at the same level, I have come up with logical groupings leading to a hierarchy of contributions towards the target benefit, in the form of deliverables, capabilities, outcomes, and the target benefit, as shown

<sup>1</sup> How to cite this work: Piney, C. (2024). On the Subject of WBS or BRM, Letter to the Editor, *PM World Journal*, Vol. XIII, Issue IX, September.

in Figure 2 below. I have not included item 12 (*Patients treated*) as this is simply a metric that may, or may not, be relevant<sup>2</sup>.

One advantage of the BM is that it compels you to attempt to determine the logical (as opposed to structural) relationships between the components. When used in this way in team discussions, a BM can provide a framework for showing how each of the components contributes to the target benefit, and how they interact with each other. For example, as shown in Figure 2, I have determined that Effective Treatment (one of the key contributors to success) depends directly on the existence of three capabilities or outcomes: medical services, transportation, and community engagement<sup>3</sup>.

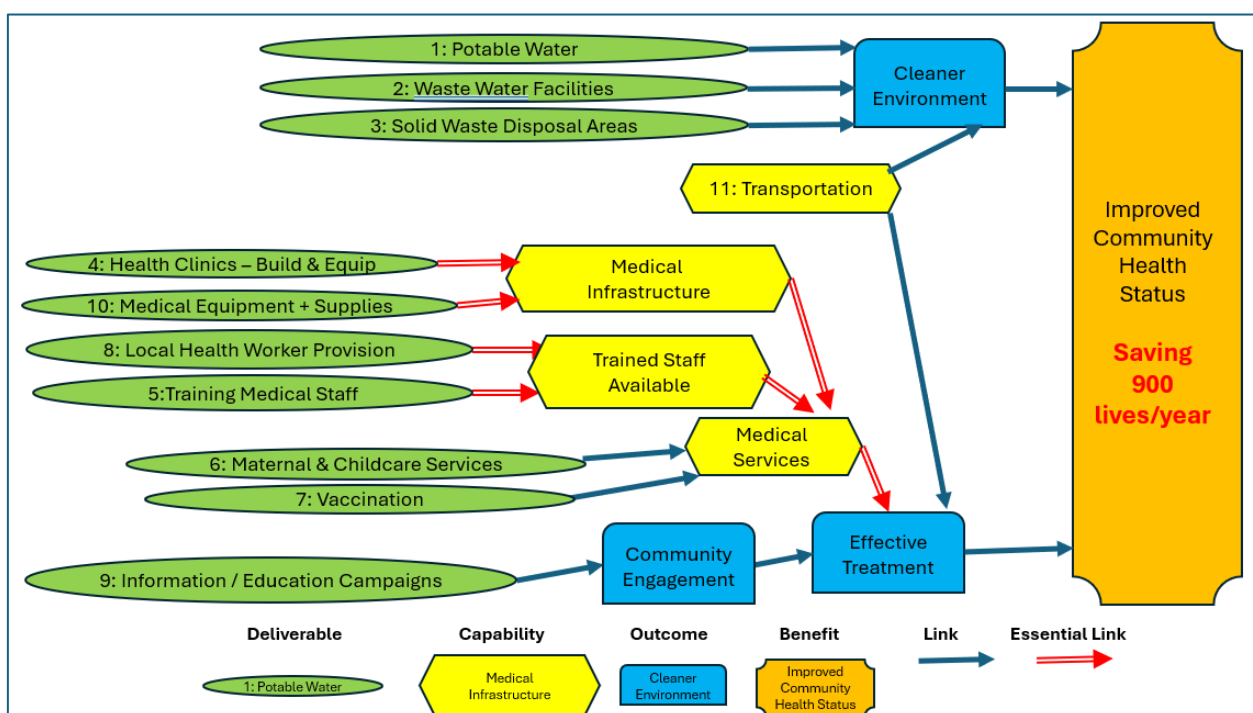


Figure 2: The Public Health Project in the form of a Benefits Map

The approach shown in Figure 2 supports a number of important capabilities for the program manager such as:

- Detailed planning at the project level: definition and specification of the projects required for creating the specified deliverables that contribute to the creation of the specified capabilities and outcomes<sup>4</sup>.
- Prioritization: are the two Medical Services that are depicted in the BM the most beneficial of all of the potential contributing components? Similarly, for the four

<sup>2</sup> As an extreme and impossible example, if the program is a total success, there will be no patients in need of treatment. However, this parameter is certainly useful for trend analysis.

<sup>3</sup> With Community Engagement being a direct result of Information/Education Campaigns.

<sup>4</sup> In order not to overload the graphic, I have chosen not to propose any of these projects explicitly.

deliverables contributing to a Cleaner Environment, you need to decide which one(s) provide the greatest contribution to the benefit expected from the corresponding outcome, or are they equally productive?

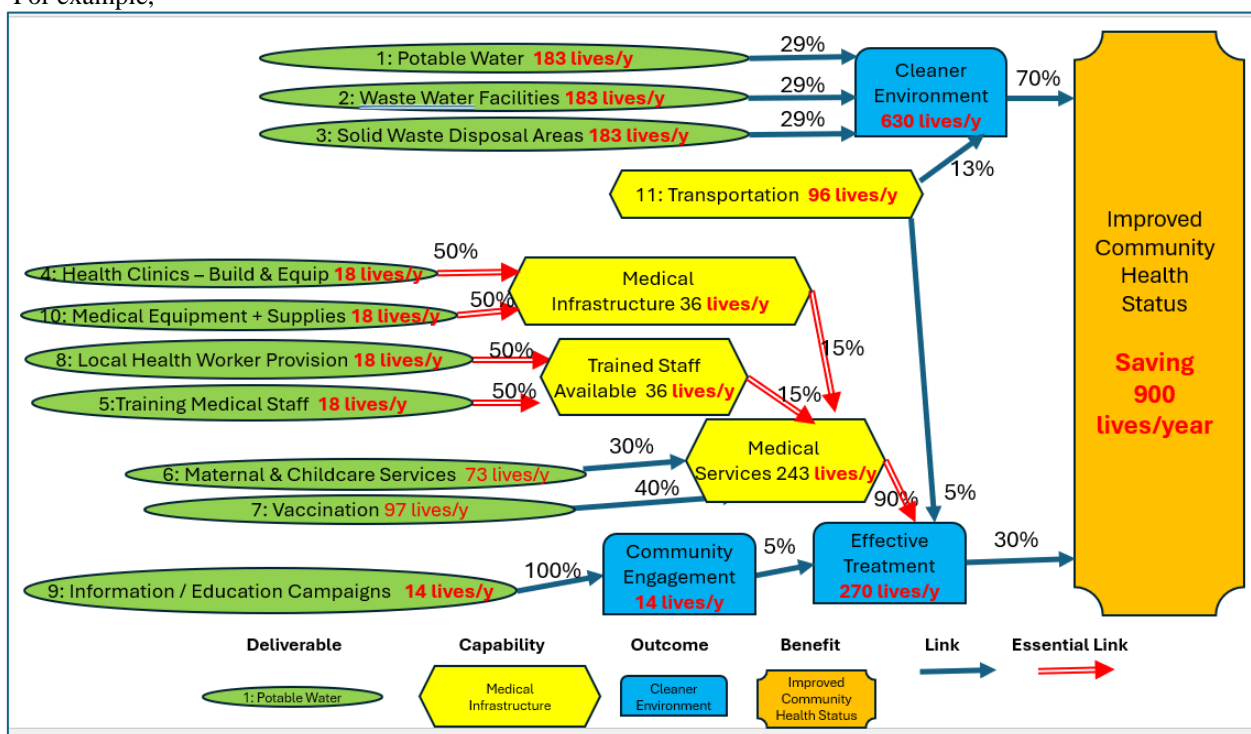
- As will be explained, the inclusion of prioritization leads logically to milestone weighting.
- Schedule planning: what is the expected duration of each of the components and how long does each of them take to have an effect (i.e., what is the lag on each dependency arrow)<sup>5</sup>?
- Risk management: are we lacking contingency on crucial capabilities?<sup>6</sup>

Whereas, in projects, all of the milestones need to be achieved in order to create the required result, in programs and portfolios, a subset of the final benefit can often still be beneficial. The question then, for subject matter experts and the rest of the team, is to classify the criticality of each specified contribution to the component(s) that depend in it. For example, if you had to choose between vaccination and childcare services, which would you consider to be the most beneficial in the actual environment being addressed? This criticality corresponds to the fraction of the destination benefit that is provided by the source component. It is shown as a “contribution percentage” on the dependency arrow<sup>7</sup>.

<sup>5</sup> For simplicity, and because durations do not affect contribution prioritization, these have not been included in the current analysis. The details of this process are provided in <https://pmworldlibrary.net/wp-content/uploads/2018/09/pmwj74-Sep2018-Piney-Benefits-series-part-4.5-realizing-the-benefits.pdf>.

<sup>6</sup> In Dr Smith’s example (“for the loss of a nail”), an alternative means of communication rather than relying on a single rider would have mitigated the risk to the kingdom.

<sup>7</sup>For example,



The resulting contribution<sup>8</sup> determines the weighting to be applied to the achievement of the corresponding completion milestone<sup>9</sup>.

To provide an example of this approach, I have expanded the Public Health Project example by inventing numbers for the target benefit<sup>10</sup> and the contribution percentages. The result of applying them to the relevant source outcomes and capabilities is shown in

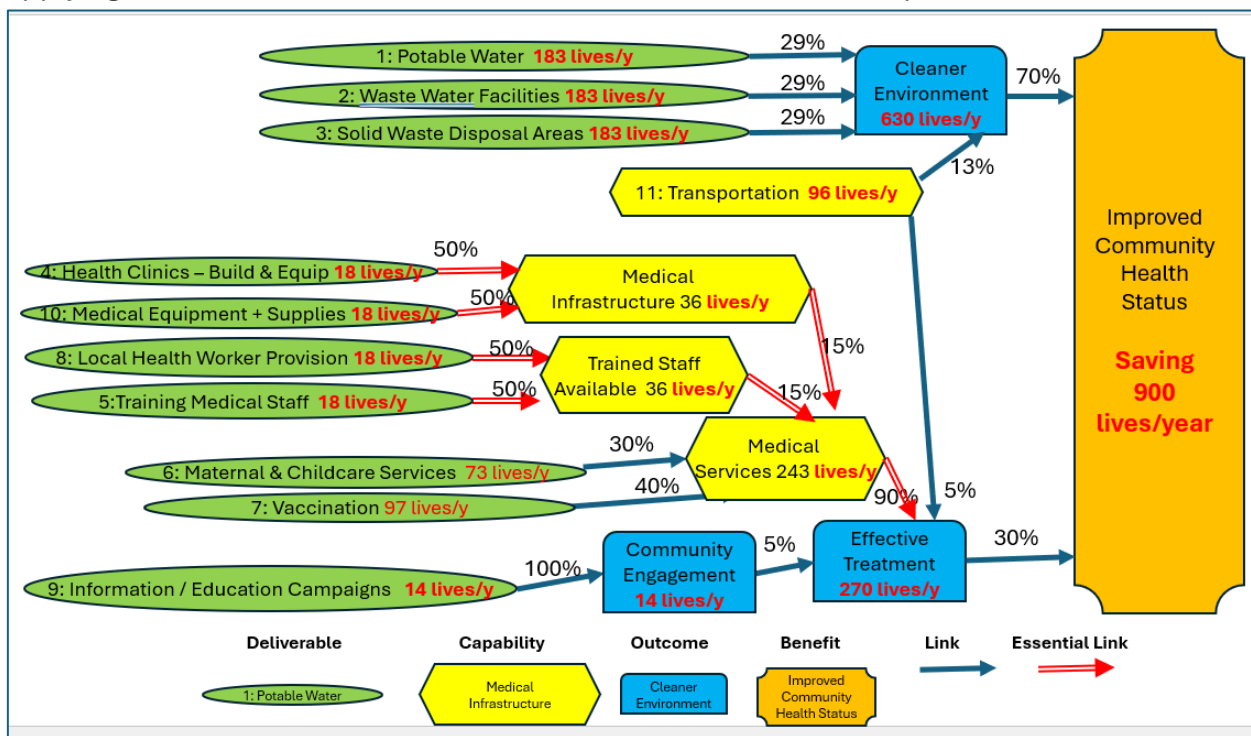


Figure 3.

In this way, the benefits map showing the resulting contributions from each of the components provides a basis for the business plan and serves as a valuable planning tool for forecasting, tracking, managing, and reviewing the realization of the required benefits<sup>11</sup>.

In addition to these technical advantages, this benefits-focussed approach also provides an effective means of communication for informing and motivating your team and all of the other stakeholders.

Figure 3 indicates that I consider that, as a Medical Service, (7) Vaccination contributes more than (6) Maternal and Childcare Services.

<sup>8</sup> The “resulting contribution” of the source component is the sum over all of its connected destinations of (the product of <the contribution of the destination component> by <the contribution fraction specified on the dependency arrow>).

<sup>9</sup> As an additional consideration, some deliverables may be essential for achieving a given outcome even though their actual contribution in terms of benefit to the dependent component may not be large. For example, you need both the staff and the training in order to be able to state that trained staff are available, whereas, although community engagement is useful, it is not essential for encouraging people to seek treatment.

<sup>10</sup> The target benefit and the corresponding lives saved are counted in thousands.

<sup>11</sup> In this way, the Benefits Map becomes a Benefits Realization Map (BRM).

This analysis of benefits realization supports my insistence on milestone weighting: in answer to Dr Smith’s question on how to determine the weights, my rule is the following: the magnitude of the resulting contribution to the target benefit is the basis for the corresponding weight. However, milestone weighting for programs is not the only consideration for tracking progress. Whereas, for projects and portfolios, progress can be measured by summing the weights of the completed milestones, for programs, because of the complex structure of dependencies between the components, calculating progress depends on more than simple addition<sup>12</sup>.

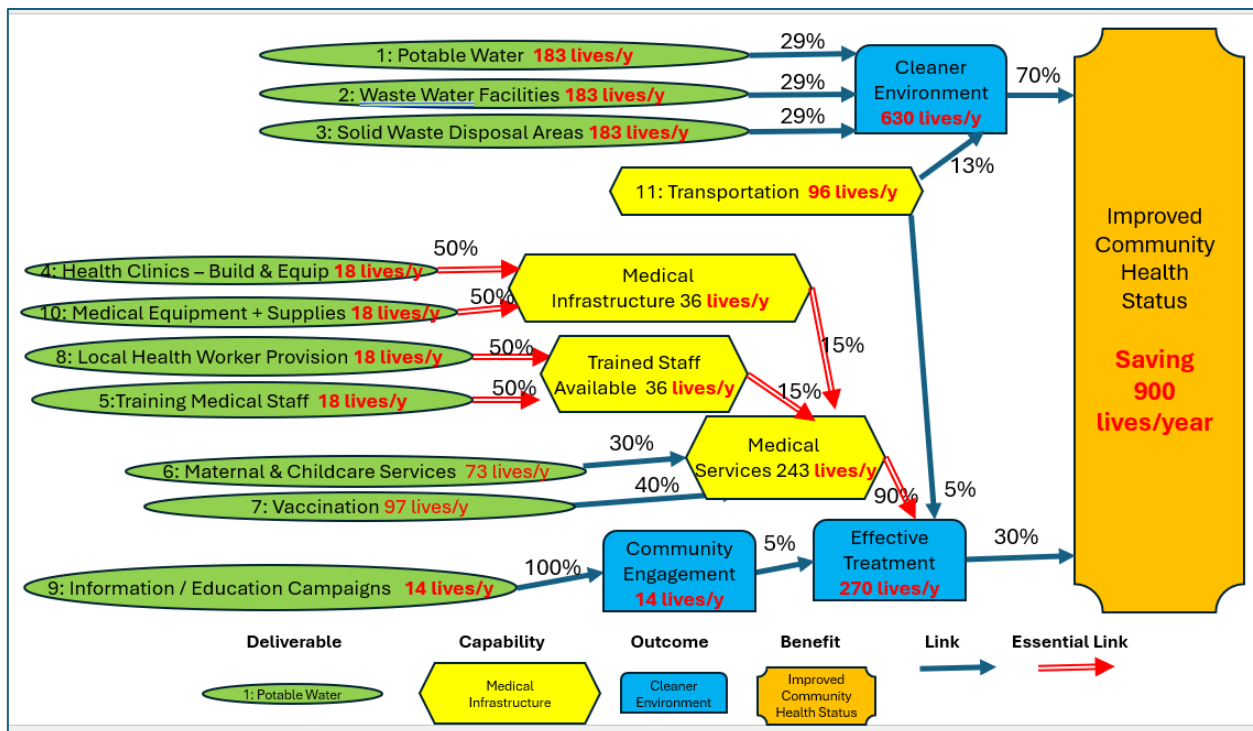


Figure 3: The Benefits Realization Map with proposed contribution fractions and the resulting contribution values (measured in thousands) for deliverables, capabilities and outcomes

Based on this analysis, my final message on milestone weighting is that, if your breakdown structure is only designed to show you what you need to do, any weighting of the milestones is probably as good – or as bad – as any other<sup>13</sup>.

However, based on a breakdown structure that is a valid representation of the way in which the completion of each milestone contributes to the specified goal, you can measure

<sup>12</sup> See <https://pmworldlibrary.net/wp-content/uploads/2018/06/pmwj71-Jun2018-Piney-Benefits-series-part3-the-cost-of-benefits.pdf> and <https://pmworldlibrary.net/wp-content/uploads/2018/09/pmwj74-Sep2018-Piney-Benefits-series-part-4.5-realizing-the-benefits.pdf>

<sup>13</sup> You could track amount of budget committed so far (a.k.a, Earned Benefit), total man-hours invested, or just count the number of milestones achieved (as proposed by Dr Ken Smith). Each these measures is related to effort invested rather than to the benefits-related result that justified the initiative.

performance. by applying the corresponding weighting scheme to planning, tracking and forecasting progress towards the target result.

[Crispin \("Kik"\) Piney](#)

South of France