PERSONAL HEALTH DETERMINANTS **SYSTEM MODEL v02**

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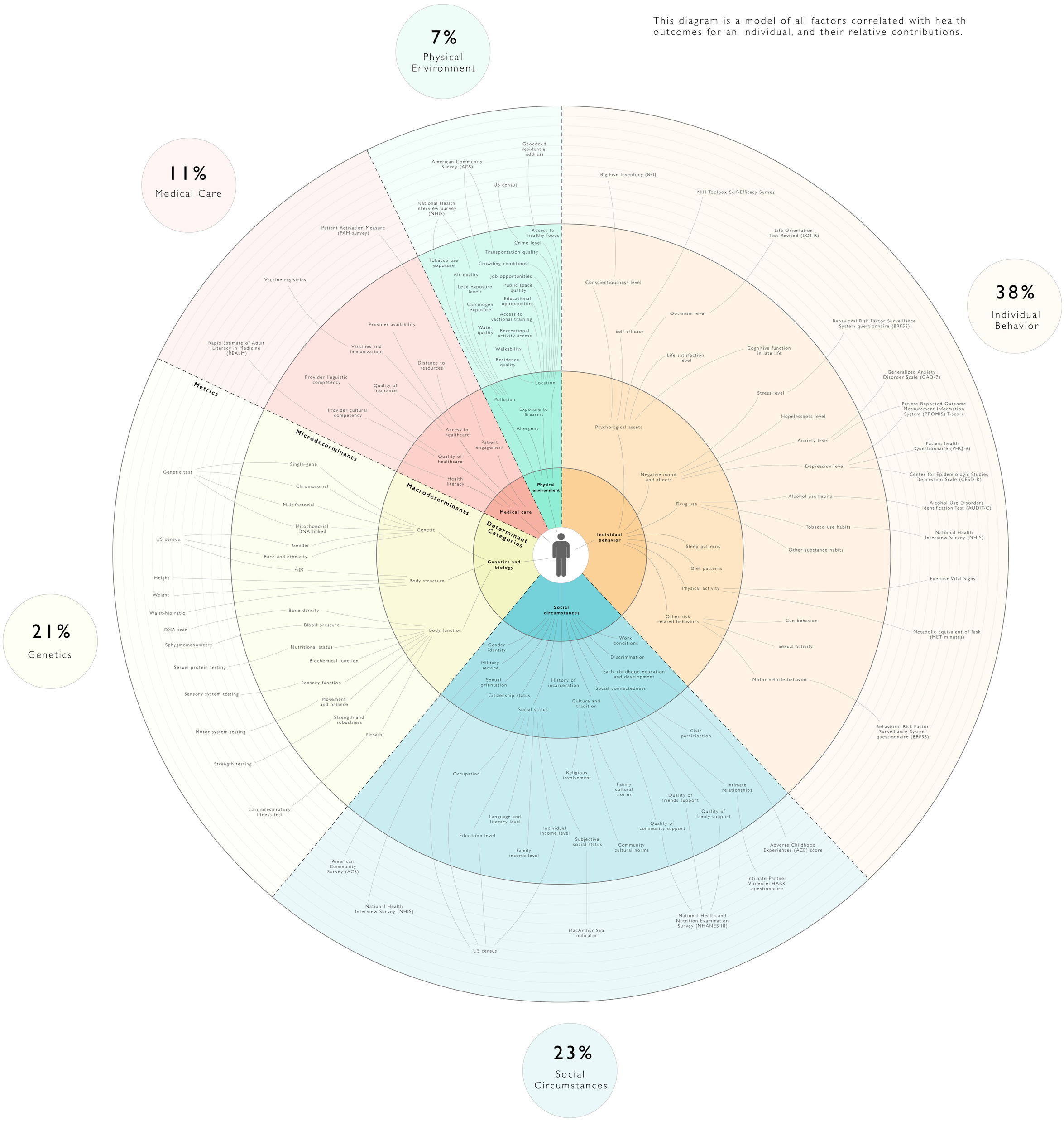
This diagram is a model of all factors correlated with health outcomes for an individual, and their relative contributions.



METHODOLOGY

A list of determinants were collected from several health organizations [1 - 8]. These were used to create a combined list of determinants. The following categories of health determinants were chosen due to their consistency across most organizations [1, 2, 4, 5, 6, 7, 8]: genetics, medical care, social circumstances, environment, behavior. Research describing the relative contribution of each category was found. The relative contribution to ones health was determined by averaging the weights found from each primary source referenced here [9 - 13].

The final weights for each category were based on the following sources:

DHHS[9]: Behavior 50%, genetics 20%, environment 20%, medical care 10%

JAMA[10]: Behavior 38%, environment 7%

Health Affairs[11]: Behavior 40%, genetics 30%, social 15%, environment 5%, medical care 10%

JAMA[12]: Behavior 39%, environment 5.4%

PLoS Medicine[13]: Behavior 36%

WHO[14]: Behavior 45%, environment 3%

U. Wisconsin[15]: Behavior 30%, social 40%, environment 10%, medical care 20%

Each determinant category was averaged based on the values from each source:

Behavior: (50 + 38 + 40 + 39 + 36 + 45 + 30) / 6 = 46.33
Social: (15 + 40) / 2 = 27.5
Genetics: (20 + 30) / 2 = 25
Environment: (20 + 7 + 5 + 5.4 + 3 + 10) / 6 = 8.4
Medical care: (10 + 10 + 20) / 3 = 13.33

The ratio for each determinant was found based on the total of the averages:

Behavior = 46.33 / 120.56 = 38.43%
Social = 27.5 / 120.56 = 22.81%
Genetics = 25 / 120.56 = 20.74%
Environment = 8.4 / 120.56 = 7%
Medical care = 13.33 / 120.56 = 11.06%
38.43 + 22.81 + 20.74 + 7 + 11.06 = 100.4%

Final determinant %'s were rounded to whole numbers:

38 (behavior) + 23 (social) + 21 (genetics) + 7 (environment) + 11 (medical care) = 100%

Final percentages:
Behavior: 38%
Social: 23%
Genetics: 21%
Medical care: 11%
Environment: 7%

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