|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Equation | Properties | Units | Documentation | Annotation |
| Top-Level Model: | | | | | |
| Adults\_at\_CVD\_Risk(t) | Adults\_at\_CVD\_Risk(t - dt) + (Unhealthy\_Lifestyle + Continued\_Unhealthy\_Lifestyle + CVD\_Recovery\_Rate - CVD\_Diagnosis - Death) \* dt | INIT Adults\_at\_CVD\_Risk = 1000 | People |  | NON-NEGATIVE |
| "Adults\_Diagnosed\_w/CVD"(t) | "Adults\_Diagnosed\_w/CVD"(t - dt) + (CVD\_Diagnosis - Treatment - "CVD\_Self-Recovery\_Rate" - Untreated\_CVD\_Deaths) \* dt | INIT "Adults\_Diagnosed\_w/CVD" = 500 | People |  | NON-NEGATIVE |
| Adults\_in\_Treatment(t) | Adults\_in\_Treatment(t - dt) + (Treatment - Mortality\_Rate - CVD\_Recovery\_Rate) \* dt | INIT Adults\_in\_Treatment = 500 | People |  | NON-NEGATIVE |
| Healthy\_Adults(t) | Healthy\_Adults(t - dt) + (Maturing\_Adults - Unhealthy\_Lifestyle - Healthy\_Deaths) \* dt | INIT Healthy\_Adults = 10000 | People |  | NON-NEGATIVE |
| Savings(t) | Savings(t - dt) + (Income - Healthcare\_Spending - Lifestyle\_spending) \* dt | INIT Savings = INIT\_Savings | US Dollars |  | NON-NEGATIVE |
| Total\_cost\_of\_care(t) | Total\_cost\_of\_care(t - dt) + (Healthcare\_Spending) \* dt | INIT Total\_cost\_of\_care = 180 | US Dollars |  | NON-NEGATIVE |
| Unhealthy\_Adults(t) | Unhealthy\_Adults(t - dt) + ("CVD\_Self-Recovery\_Rate" - Continued\_Unhealthy\_Lifestyle) \* dt | INIT Unhealthy\_Adults = INIT\_Unhealthy\_Adults | People |  | NON-NEGATIVE |
| Continued\_Unhealthy\_Lifestyle | Unhealthy\_Adults |  | People/Month |  | UNIFLOW |
| CVD\_Diagnosis | Adults\_at\_CVD\_Risk/AT\_Diagnosis | OUTFLOW PRIORITY: 1 | People/Month |  | UNIFLOW |
| CVD\_Recovery\_Rate | Adults\_in\_Treatment/AT\_CVD\_Recovery | OUTFLOW PRIORITY: 2 | People/Month |  | UNIFLOW |
| "CVD\_Self-Recovery\_Rate" | "Adults\_Diagnosed\_w/CVD"/"AT\_CVD\_Self-\_Recovery" | OUTFLOW PRIORITY: 2 | People/Month |  | UNIFLOW |
| Death | Adults\_at\_CVD\_Risk/AT\_Adult\_Lifespan | OUTFLOW PRIORITY: 2 | People/Month |  | UNIFLOW |
| Healthcare\_Spending | Total\_cost\_of\_care/Savings | OUTFLOW PRIORITY: 1 | US Dollars Per Month |  | UNIFLOW |
| Healthy\_Deaths | Healthy\_Adults/AT\_Avg\_Adult\_Lifespan | OUTFLOW PRIORITY: 2 | People/Month |  | UNIFLOW |
| Income | Wages |  | US Dollars Per Month |  | UNIFLOW |
| Lifestyle\_spending | Savings | OUTFLOW PRIORITY: 2 | US Dollars Per Month |  | UNIFLOW |
| Maturing\_Adults | Healthy\_Adults\*FR\_Birth |  | People/Month |  | UNIFLOW |
| Mortality\_Rate | Adults\_in\_Treatment/FR\_Death | OUTFLOW PRIORITY: 1 | People/Month |  | UNIFLOW |
| Treatment | ("Adults\_Diagnosed\_w/CVD"/AT\_Treatment)\*Healthcare\_Spending | OUTFLOW PRIORITY: 1 | People/Month |  | UNIFLOW |
| Unhealthy\_Lifestyle | Lifestyle\_spending/Healthy\_Adults | OUTFLOW PRIORITY: 1 | People/Month |  | UNIFLOW |
| Untreated\_CVD\_Deaths | "Adults\_Diagnosed\_w/CVD"/FR\_Death | OUTFLOW PRIORITY: 3 | People/Month |  | UNIFLOW |
| AT\_Adult\_Lifespan | 7\*10 |  | Months |  |  |
| AT\_Avg\_Adult\_Lifespan | 8\*10 |  | Months |  |  |
| AT\_CVD\_Recovery | 6 |  | Months |  |  |
| "AT\_CVD\_Self-\_Recovery" | 12 |  | Months |  |  |
| AT\_Diagnosis | 1 |  | month |  |  |
| AT\_Treatment | 14 |  | Days |  |  |
| FR\_Birth | 0.5 |  | 1/months |  |  |
| FR\_Death | 0.05 |  | People/Month |  |  |
| INIT\_Healthy\_Adults | 1000 |  | People |  |  |
| INIT\_Savings | 5000 |  | US Dollars |  |  |
| INIT\_Unhealthy\_Adults | 5000 |  | People |  |  |
| "Reference\_Mode-\_People\_with\_CVD" | GRAPH(TIME) Points: (1.00, 1000), (2.00, 1200), (3.00, 1500), (4.00, 1700), (5.00, 2000), (6.00, 2300), (7.00, 2500), (8.00, 2700), (9.00, 3000), (10.00, 3700), (11.00, 4300), (12.00, 5000), (13.00, 5900), (14.00, 6600), (15.00, 7500), (16.00, 8500), (17.00, 9600), (18.00, 10100), (19.00, 10900), (20.00, 12300), (21.00, 14400), (22.00, 16300), (23.00, 17400), (24.00, 19600) |  | People |  |  |
| "Total\_PPL\_w/CVD" | "Adults\_Diagnosed\_w/CVD" + Adults\_in\_Treatment |  | People/Month |  | SUMMING CONVERTER |
| Wages | 15\*(40\*52) |  | US Dollars |  |  |

|  |  |  |
| --- | --- | --- |
| Total | Count | Including Array Elements |
| Variables | 35 | 35 |
| Stocks | 7 | 7 |
| Flows | 14 | 14 |
| Converters | 14 | 14 |
| Constants | 12 | 12 |
| Equations | 16 | 16 |
| Graphicals | 1 | 1 |

|  |  |
| --- | --- |
| Run Specs | |
| Start Time | 1 |
| Stop Time | 1.5 |
| DT | 1/4 |
| Fractional DT | True |
| Save Interval | 0.25 |
| Sim Duration | 1.5 |
| Time Units | Months |
| Pause Interval | 0 |
| Integration Method | Euler |
| Keep all variable results | True |
| Run By | Run |
| Calculate loop dominance information | True |
| Exhaustive Search Threshold | 1000 |