

**Title: Use of Medications Associated with Weight Change Among Participants in the All of Us Research Program**

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**Table S1. Roster of Identified Medications**

| <b>Anti-Obesity Medications</b>          | <b>Weight-Gain-Promoting Medications</b> |                           |
|--|--|---------------------------|
| <u>Short-term AOMs</u>                   | <u>Anticonvulsants</u>                   | <u>Insulin</u>            |
| Benzphetamine                            | Carbamazepine                            | Insulin                   |
| Diethylpropion                           | Divalproex sodium                        | Insulin Regular           |
| Phendimetrazine                          | Gabapentin                               | Insulin Lispro            |
| Phentermine                              | Pregabalin                               | Insulin Aspart            |
|  | Valproic acid                            | Insulin Glulisine         |
|  | Vigabatrin                               | Insulin Isophane          |
|  |  | Insulin Isophane Regular  |
| <u>Long-term AOMs</u>                    | <u>Antidepressants</u>                   | Insulin Lente             |
| Lorcaserin                               | Amitriptyline                            | Insulin Glargine*         |
| Naltrexone-Bupropion                     | Citalopram                               | Insulin Detemir           |
| Orlistat                                 | Nortriptyline                            | Insulin Degludec*         |
| Phentermine-Topiramate                   | Mirtazapine                              |                           |
|  | Paroxetine                               | <u>Meglitinides</u>       |
|  |  | Nateglinide               |
|  |  | Repaglinide               |
| <b>Weight-Loss-Promoting Medications</b> | <u>Atypical Antipsychotics</u>           | <u>Sulfonylureas</u>      |
| <u>Anticonvulsants</u>                   | Clozapine                                | Chlorpropamide            |
| Felbamate                                | Perphenazine                             | Glibenclamide             |
| Topiramate                               | Olanzapine                               | Glicazide                 |
| Zonisamide                               | Quetiapine                               | Glimepiride*              |
|  | Risperidone                              | Glipizide*                |
|  |  | Glyburide*                |
| <u>Antidepressants</u>                   | <u>Beta-Blockers</u>                     | Tolazamide                |
| Bupropion                                | Atenolol                                 | Tolbutamide               |
|  | Metoprolol tartrate                      |                           |
|  | Metoprolol succinate                     | <u>Thiazolidinediones</u> |
|  | Propranolol                              | Pioglitazone*             |
| <u>GLP-1 Receptor Agonists</u>           | <u>Contraceptives</u>                    | Rosiglitazone*            |
| Dulaglutide                              | Medroxyprogesterone                      |                           |
| Exenatide                                |  |                           |
| Liraglutide*                             | <u>Corticosteroids</u>                   |                           |
| Lixisenatide*                            | Budesonide                               |                           |
| Semaglutide                              | Cortisone                                |                           |
|  | Dexamethasone                            |                           |
|  | Hydrocortisone                           |                           |
| <u>Other Glucose-Lowering Agents</u>     | Methylprednisolone                       |                           |
| Metformin*                               | Prednisolone                             |                           |
| Pramlintide                              | Prednisone                               |                           |
|  |  |                           |
| <u>SGLT2 Inhibitors</u>                  |  |                           |
| Canagliflozin*                           |  |                           |
| Dapagliflozin*                           |  |                           |
| Empagliflozin*                           |  |                           |
| Ertugliflozin*                           |  |                           |

Abbreviations: AOM – anti-obesity medication; GLP1 – glucagon-like peptide 1; SGLT2 – sodium-glucose co-transporter 2. \*Medication also available within a combination medication (see Table S2).

**Table S2. Roster of Relevant Combination Medications**

| <b>Combination Medications For Type 2 Diabetes Mellitus</b> |                               |
|---|-------------------------------|
| Metformin-Alogliptin  | Metformin-Repaglinide         |
| Metformin-Canagliflozin                                     | Metformin-Pioglitazone        |
| Metformin-Dapagliflozin                                     | Metformin-Saxagliptin         |
| Metformin-Empagliflozin                                     | Metformin-Sitagliptin         |
| Metformin-Empagliflozin-Linagliptin                         | Glimepiride-Rosiglitazone     |
| Metformin-Ertugliflozin                                     | Glimepiride-Pioglitazone      |
| Metformin-Glipizide   | Insulin Glargine-Lixisenatide |
| Metformin-Glyburide   | Insulin Degludec-Liraglutide  |
| Metformin-Linagliptin                                       |                               |

  

| <b>Combination Medications For Hypertension</b> |   |
|---|---|
| Atenolol-Chlorthalidone                         | Metoprolol Tartrate-Hydrochlorothiazide |
| Metoprolol Succinate-Hydrochlorothiazide        | Propranolol-Hydrochlorothiazide         |

  

| <b>Combination Medications For Mental Health Conditions</b> |                        |
|---|------------------------|
| Amitriptyline-Perphenazine                                  | Olanzapine-Samidorphan |
| Olanzapine-Fluoxetine                                       |                        |

*Blue* text indicates a component attributed to the weight-loss-promoting group. *Orange* text indicates a component attributed to the weight-gain-promoting group. Components in black text have not been demonstrated to have any weight effect (weight-neutral).

**Table S3.** Allocation by Source for Medications Available in Combination Medications\*

|   | <b>Overweight**<br/>(n=39,799)</b> | <b>Obesity**<br/>(n=92,258)</b> | <b>Overall<br/>(n=132,057)</b> |
|---|------------------------------------|---------------------------------|--------------------------------|
| <u>All Lixisenatide Formulations, n (%)</u>     | <u>4 (0.0)</u>                     | <u>16 (0.0)</u>                 | <u>20 (0.0)</u>                |
| <u>Lixisenatide</u>                             | 0 (0.0)                            | 1 (0.0)                         | 1 (0.0)                        |
| Insulin Glargine-Lixisenatide                   | 4 (0.0)                            | 15 (0.0)                        | 19 (0.0)                       |
| <u>All Liraglutide Formulations, n (%)</u>      | <u>165 (0.4)</u>                   | <u>1,158 (1.3)</u>              | <u>1,323 (1.0)</u>             |
| Liraglutide                                     | 163 (0.4)                          | 1,142 (1.2)                     | 1,305 (1.0)                    |
| Insulin Degludec-Liraglutide                    | 2 (0.0)                            | 16 (0.0)                        | 18 (0.0)                       |
| <u>All Metformin Formulations, n (%)</u>        | <u>1,928 (4.8)</u>                 | <u>9,380 (10.2)</u>             | <u>11,308 (8.6)</u>            |
| Metformin                                       | 1,859 (4.7)                        | 9,142 (9.9)                     | 11,001 (8.3)                   |
| Metformin-Alogliptin                            | 2 (0.0)                            | 7 (0.0)                         | 9 (0.0)                        |
| Metformin-Canagliflozin                         | 7 (0.0)                            | 14 (0.0)                        | 21 (0.0)                       |
| Metformin-Dapagliflozin                         | 0 (0.0)                            | 11 (0.0)                        | 11 (0.0)                       |
| Metformin-Empagliflozin                         | 10 (0.0)                           | 24 (0.0)                        | 34 (0.0)                       |
| Metformin-Empagliflozin-Linagliptin             | 0 (0.0)                            | 1 (0.0)                         | 1 (0.0)                        |
| Metformin-Ertugliflozin                         | 0 (0.0)                            | 1 (0.0)                         | 1 (0.0)                        |
| Metformin-Glipizide                             | 8 (0.0)                            | 12 (0.0)                        | 20 (0.0)                       |
| Metformin-Glyburide                             | 1 (0.0)                            | 6 (0.0)                         | 7 (0.0)                        |
| Metformin-Linagliptin                           | 8 (0.0)                            | 27 (0.0)                        | 35 (0.0)                       |
| Metformin-Pioglitazone                          | 0 (0.0)                            | 1 (0.0)                         | 1 (0.0)                        |
| Metformin-Repaglinide                           | 0 (0.0)                            | 0 (0.0)                         | 0 (0.0)                        |
| Metformin-Saxagliptin                           | 0 (0.0)                            | 1 (0.0)                         | 1 (0.0)                        |
| Metformin-Sitagliptin                           | 33 (0.1)                           | 133 (0.1)                       | 166 (0.1)                      |
| <u>All Canagliflozin Formulations, n (%)</u>    | <u>51 (0.1)</u>                    | <u>208 (0.2)</u>                | <u>259 (0.2)</u>               |
| Canagliflozin                                   | 44 (0.1)                           | 194 (0.2)                       | 238 (0.2)                      |
| Metformin-Canagliflozin                         | 7 (0.0)                            | 14 (0.0)                        | 21 (0.0)                       |
| <u>All Dapagliflozin Formulations, n (%)</u>    | <u>29 (0.1)</u>                    | <u>178 (0.2)</u>                | <u>207 (0.2)</u>               |
| Dapagliflozin                                   | 29 (0.1)                           | 167 (0.2)                       | 196 (0.1)                      |
| Metformin-Dapagliflozin                         | 0 (0.0)                            | 11 (0.0)                        | 11 (0.0)                       |
| <u>All Ertugliflozin Formulations, n (%)</u>    | <u>9 (0.0)</u>                     | <u>49 (0.1)</u>                 | <u>58 (0.0)</u>                |
| Ertugliflozin                                   | 9 (0.0)                            | 48 (0.1)                        | 57 (0.0)                       |
| Metformin- Ertugliflozin                        | 0 (0.0)                            | 1 (0.0)                         | 1 (0.0)                        |
| <u>All Empagliflozin Formulations, n (%)</u>    | <u>238 (0.6)</u>                   | <u>1,036 (1.1)</u>              | <u>1,274 (1.0)</u>             |
| Empagliflozin                                   | 223 (0.6)                          | 996 (1.1)                       | 1219 (0.9)                     |
| Empagliflozin-Linagliptin                       | 5 (0.0)                            | 15 (0.0)                        | 20 (0.0)                       |
| Metformin-Empagliflozin                         | 10 (0.0)                           | 24 (0.0)                        | 34 (0.0)                       |
| Metformin-Empagliflozin-Linagliptin             | 0 (0.0)                            | 1 (0.0)                         | 1 (0.0)                        |
| <u>All Insulin Glargine Formulations, n (%)</u> | <u>833 (2.1)</u>                   | <u>3,779 (4.1)</u>              | <u>4,612 (3.5)</u>             |
| Insulin Glargine                                | 829 (2.1)                          | 3764 (4.1)                      | 4593 (3.5)                     |
| Insulin Glargine-Lixisenatide                   | 4 (0.0)                            | 15 (0.0)                        | 19 (0.0)                       |
| <u>All Insulin Degludec Formulations, n (%)</u> | <u>101 (0.3)</u>                   | <u>421 (0.5)</u>                | <u>522 (0.4)</u>               |
| Insulin Degludec                                | 99 (0.2)                           | 405 (0.4)                       | 504 (0.4)                      |
| Insulin Degludec-Liraglutide                    | 2 (0.0)                            | 16 (0.0)                        | 18 (0.0)                       |
| <u>All Glimepiride Formulations, n (%)</u>      | <u>159 (0.4)</u>                   | <u>785 (0.9)</u>                | <u>944 (0.7)</u>               |
| Glimepiride                                     | 159 (0.4)                          | 783 (0.8)                       | 942 (0.7)                      |
| Glimepiride-Rosiglitazone                       | 0 (0.0)                            | 2 (0.0)                         | 2 (0.0)                        |
| Glimepiride-Pioglitazone                        | 0 (0.0)                            | 0 (0.0)                         | 0 (0.0)                        |
| <u>All Glipizide Formulations, n (%)</u>        | <u>383 (1.0)</u>                   | <u>1,786 (1.9)</u>              | <u>2,169 (1.6)</u>             |
| Glipizide                                       | 375 (0.9)                          | 1,774 (1.9)                     | 2,149 (1.6)                    |
| Metformin-Glipizide                             | 8 (0.0)                            | 12 (0.0)                        | 20 (0.0)                       |
| <u>All Glyburide Formulations, n (%)</u>        | <u>29 (0.1)</u>                    | <u>180 (0.2)</u>                | <u>209 (0.2)</u>               |
| Glyburide                                       | 28 (0.1)                           | 174 (0.2)                       | 202 (0.2)                      |
| Metformin-Glyburide                             | 1 (0.0)                            | 6 (0.0)                         | 7 (0.0)                        |
| <u>All Pioglitazone Formulations, n (%)</u>     | <u>164 (0.4)</u>                   | <u>656 (0.7)</u>                | <u>820 (0.6)</u>               |

|  |                    |                      |                      |
|--|--------------------|----------------------|----------------------|
| Pioglitazone                                 | 164 (0.4)          | 655 (0.7)            | 819 (0.6)            |
| Metformin-Pioglitazone                       | 0 (0.0)            | 1 (0.0)              | 1 (0.0)              |
| <u>All Rosiglitazone Formulations, n (%)</u> | <u>0 (0.0)</u>     | <u>2 (0.0)</u>       | <u>2 (0.0)</u>       |
| Glimepiride -Rosiglitazone                   | 0 (0.0)            | 2 (0.0)              | 2 (0.0)              |
| <u>All Atenolol Formulations, n (%)</u>      | <u>524 (1.3)</u>   | <u>1,521 (1.6)</u>   | <u>2,045 (1.5)</u>   |
| Atenolol                                     | 504 (1.3)          | 1,420 (1.5)          | 1,924 (1.5)          |
| Atenolol-Chlorthalidone                      | 20 (0.1)           | 101 (0.1)            | 121 (0.1)            |
| <u>All Metoprolol Formulations, n (%)</u>    | <u>3,609 (9.1)</u> | <u>10,407 (11.3)</u> | <u>14,016 (10.6)</u> |
| Metoprolol Succinate                         | 1,479 (3.7)        | 4,029 (4.4)          | 5,508 (4.2)          |
| Metoprolol Succinate-Hydrochlorothiazide     | 7 (0.0)            | 32 (0.0)             | 39 (0.0)             |
| Metoprolol Tartrate                          | 1,427 (3.6)        | 4,307 (4.7)          | 5,734 (4.3)          |
| Metoprolol Tartrate-Hydrochlorothiazide      | 5 (0.0)            | 6 (0.0)              | 11 (0.0)             |
| Metoprolol Unspecified***                    | 691 (1.7)          | 2,033 (2.2)          | 2724 (2.1)           |
| <u>All Propranolol Formulations, n (%)</u>   | <u>444 (1.1)</u>   | <u>1,244 (1.3)</u>   | <u>1,688 (1.3)</u>   |
| Propranolol                                  | 444 (1.1)          | 1,243 (1.3)          | 1,687 (1.3)          |
| Propranolol-Hydrochlorothiazide              | 0 (0.0)            | 1 (0.0)              | 1 (0.0)              |
| <u>All Amitriptyline Formulations, n (%)</u> | <u>492 (1.2)</u>   | <u>1,712 (1.9)</u>   | <u>2,204 (1.7)</u>   |
| Amitriptyline                                | 492 (1.2)          | 1,710 (1.9)          | 2,202 (1.7)          |
| Amitriptyline-Perphenazine                   | 0 (0.0)            | 2 (0.0)              | 2 (0.0)              |
| <u>All Olanzapine Formulations, n (%)</u>    | <u>260 (0.7)</u>   | <u>706 (0.8)</u>     | <u>966 (0.7)</u>     |
| Olanzapine                                   | 260 (0.7)          | 706 (0.8)            | 966 (0.7)            |
| Olanzapine-Fluoxetine                        | 0 (0.0)            | 0 (0.0)              | 0 (0.0)              |
| Olanzapine-Samidorphane                      | 0 (0.0)            | 0 (0.0)              | 0 (0.0)              |
| <u>All Perphenazine Formulations, n (%)</u>  | <u>99 (0.2)</u>    | <u>308 (0.3)</u>     | <u>407 (0.3)</u>     |
| Perphenazine                                 | 99 (0.2)           | 306 (0.3)            | 405 (0.3)            |
| Amitriptyline-Perphenazine                   | 0 (0.0)            | 2 (0.0)              | 2 (0.0)              |

\*We include medication use reported within  $\pm 12$  months of weight measurement. \*\*Overweight defined as a body mass index  $\geq 27$  kg/m<sup>2</sup> and  $< 30$  kg/m<sup>2</sup>. Obesity defined as body mass index  $\geq 30$  kg/m<sup>2</sup>.\*\*\*In some medication records, type of metoprolol was not specified (i.e., succinate versus tartrate), which occurred in metoprolol as a single agent and in combination with hydrochlorothiazide.

**Table S4.** Characteristics of a Subgroup of Participants from the *All of Us* Research Program with Type 2 Diabetes Mellitus

|                                     | <b>Overweight*</b><br><b>(n=3,678)</b> | <b>Obesity*</b><br><b>(n=15,502)</b> | <b>Overall</b><br><b>(n=19,180)</b> |
|-------------------------------------|--|--------------------------------------|-------------------------------------|
| <i>Demographics</i>                 |  |                                      |                                     |
| Age (years), Mean ± SD              | 64 ± 12                                | 60 ± 12                              | 60 ± 12                             |
| Sex, n (%)                          |  |                                      |                                     |
| Men                                 | 1,983 (53.9)                           | 6,140 (39.6)                         | 8,123 (42.4)                        |
| Women                               | 1,695 (46.1)                           | 9,362 (60.4)                         | 11,057 (57.6)                       |
| Race, n (%)                         |  |                                      |                                     |
| White                               | 2,346 (63.8)                           | 9,265 (59.8)                         | 11,611 (60.5)                       |
| Black                               | 1,071 (29.1)                           | 5,405 (34.9)                         | 6,476 (33.8)                        |
| Asian                               | 120 (3.3)                              | 201 (1.3)                            | 321 (1.7)                           |
| Native Hawaiian or Pacific Islander | 7 (0.2)                                | 44 (0.3)                             | 51 (0.3)                            |
| Middle Eastern or North African     | 24 (0.7)                               | 79 (0.5)                             | 103 (0.5)                           |
| Other                               | 110 (3.0)                              | 508 (3.3)                            | 618 (3.2)                           |
| Hispanic, n (%)                     | 87 (2.4)                               | 385 (2.5)                            | 472 (2.5)                           |
| Educational Attainment, n (%)*      |  |                                      |                                     |
| Never Attended                      | 0 (0.0)                                | 3 (0.0)                              | 3 (0.0)                             |
| Grades 1-8                          | 49 (1.3)                               | 179 (1.2)                            | 228 (1.2)                           |
| Grades 9-12                         | 987 (26.8)                             | 4,654 (30.0)                         | 5,641 (29.4)                        |
| Some College/College                | 1,855 (50.4)                           | 8,000 (51.6)                         | 9,855 (51.4)                        |
| Advanced Degree                     | 675 (18.4)                             | 2,135 (13.8)                         | 2,810 (14.7)                        |
| Annual Household Income, n (%)*     |  |                                      |                                     |
| Less than \$34,999                  | 1,218 (33.1)                           | 6,400 (41.3)                         | 7,618 (39.7)                        |
| \$35,000-\$149,999                  | 1,409 (38.3)                           | 5,337 (34.4)                         | 6,746 (35.2)                        |
| \$150,000 or more                   | 282 (7.7)                              | 724 (4.7)                            | 1,007 (5.3)                         |
| Insurance Status, n (%)*            |  |                                      |                                     |
| Insured                             | 3,460 (94.1)                           | 14,407 (92.9)                        | 17,867 (93.2)                       |
| Uninsured                           | 119 (3.2)                              | 595 (3.8)                            | 714 (3.7)                           |
| Body Mass Index, Mean ± SD          | 28 ± 1                                 | 38 ± 7                               | 36 ± 7                              |

\*Overweight includes participants with body mass index  $\geq 27$  kg/m<sup>2</sup> and  $< 30$  kg/m<sup>2</sup>. Obesity includes participants with body mass index  $\geq 30$  kg/m<sup>2</sup>. Body mass index was calculated from measured height and weight. \*Data derived from survey data collected  $\pm 36$  months of weight measurement. Columns do not add up to 100% due to missing data.

**Table S5.** Anti-Obesity and Weight-Loss-Promoting Medication Use among a Subgroup of Participants in the *All of Us* Research Program with Type 2 Diabetes Mellitus\*

|   | <b>Overweight**<br/>(n=3,678)</b> | <b>Obesity**<br/>(n=15,502)</b> | <b>Overall<br/>(n=19,180)</b> |
|---|-----------------------------------|---------------------------------|-------------------------------|
| <b><u>Anti-Obesity Medications, by Type</u></b>           |                                   |                                 |                               |
| <u>Short-term AOMs, n (%)</u>                             |                                   |                                 |                               |
| Benzphetamine   | 0 (0.0)                           | 0 (0.0)                         | 0 (0.0)                       |
| Diethylpropion  | 0 (0.0)                           | 0 (0.0)                         | 0 (0.0)                       |
| Phendimetrazine   | 2 (0.1)                           | 1 (0.0)                         | 3 (0.0)                       |
| Phentermine   | 19 (0.5)                          | 146 (0.9)                       | 165 (0.9)                     |
| <u>Long-term AOMs, n (%)</u>                              |                                   |                                 |                               |
| Lorcaserin***   | 3 (0.1)                           | 24 (0.2)                        | 27 (0.1)                      |
| Naltrexone-Bupropion                                      | 0 (0.0)                           | 35 (0.2)                        | 35 (0.2)                      |
| Orlistat  | 2 (0.1)                           | 16 (0.1)                        | 18 (0.1)                      |
| Phentermine-Topiramate                                    | 0 (0.0)                           | 19 (0.1)                        | 19 (0.1)                      |
| <b><u>Any AOM, n (%)</u></b>                              | <b><u>22 (0.6)</u></b>            | <b><u>214 (1.4)</u></b>         | <b><u>236 (1.2)</u></b>       |
| <b><u>Weight-Loss-Promoting Medications, by Type</u></b>  |                                   |                                 |                               |
| <u>Anticonvulsants, n (%)</u>                             |                                   |                                 |                               |
| Felbamate   | 0 (0.0)                           | 0 (0.0)                         | 0 (0.0)                       |
| Topiramate  | 81 (2.2)                          | 600 (3.9)                       | 681 (3.6)                     |
| Zonisamide  | 6 (0.2)                           | 46 (0.3)                        | 52 (0.3)                      |
| <u>Antidepressants, n (%)</u>                             |                                   |                                 |                               |
| Bupropion   | 198 (5.4)                         | 1,063 (6.9)                     | 1,261 (6.6)                   |
| <u>GLP-1 Receptor Agonists, n (%)</u>                     |                                   |                                 |                               |
| Dulaglutide   | 136 (3.7)                         | 989 (6.4)                       | 1,125 (5.9)                   |
| Exenatide   | 26 (0.7)                          | 183 (1.2)                       | 209 (1.1)                     |
| Liraglutide***  | 119 (3.2)                         | 832 (5.4)                       | 951 (5.0)                     |
| Lixisenatide  | 3 (0.1)                           | 12 (0.1)                        | 15 (0.1)                      |
| Semaglutide****   | 60 (1.6)                          | 466 (3.0)                       | 526 (2.7)                     |
| <u>Other Glucose-Lowering Agents, n (%)</u>               |                                   |                                 |                               |
| Metformin   | 1,435 (39.0)                      | 6,629 (42.8)                    | 8,064 (42.0)                  |
| Pramlintide   | 2 (0.1)                           | 5 (0.0)                         | 7 (0.0)                       |
| <u>SGLT2 Inhibitors, n (%)</u>                            |                                   |                                 |                               |
| Canagliflozin   | 40 (1.1)                          | 175 (1.1)                       | 215 (1.1)                     |
| Dapagliflozin   | 22 (0.6)                          | 130 (0.8)                       | 152 (0.8)                     |
| Empagliflozin   | 204 (5.5)                         | 901 (5.8)                       | 1,105 (5.8)                   |
| Ertugliflozin   | 7 (0.2)                           | 44 (0.3)                        | 51 (0.3)                      |
| <b><u>Any Weight-Loss-Promoting Medication, n (%)</u></b> | <b><u>1,662 (45.2)</u></b>        | <b><u>7,993 (51.6)</u></b>      | <b><u>9,655 (50.3)</u></b>    |

Abbreviations: AOM – anti-obesity medication; GLP-1 – glucagon-like peptide-1; SGLT2 – sodium-glucose co-transporter-2. \*We include medication use reported within ± 12 months of weight measurement. \*\*Overweight defined as a body mass index  $\geq 27$  kg/m<sup>2</sup> and  $< 30$  kg/m<sup>2</sup>. Obesity defined as body mass index  $\geq 30$  kg/m<sup>2</sup>. \*\*\*Lorcaserin was FDA-approved during study time frame; however, has since been removed from the market. \*\*\*\*Liraglutide and semaglutide are approved by the Food and Drug Administration for both the treatment of diabetes mellitus and obesity. We are unable to distinguish between prescriptions for these two conditions; therefore, only list them under weight-loss-promoting medications.

**Table S6.** Weight-Gain-Promoting Medication Use among a Subgroup of Participants in the *All of Us* Research Program with Type 2 Diabetes Mellitus \*

|  | <b>Overweight*</b><br><b>(n=3,678)</b> | <b>Obesity*</b><br><b>(n=15,502)</b> | <b>Overall</b><br><b>(n=19,180)</b> |
|--|--|--------------------------------------|-------------------------------------|
| <b><u>Weight-Gain-Promoting Medications, by Type</u></b> |  |                                      |                                     |
| <b><u>Anticonvulsants, n (%)</u></b>                     |  |                                      |                                     |
| Carbamazepine  | 16 (0.4)                               | 90 (0.6)                             | 106 (0.6)                           |
| Divalproex sodium  | 39 (1.1)                               | 183 (1.2)                            | 222 (1.2)                           |
| Gabapentin   | 800 (21.8)                             | 4,154 (26.8)                         | 4,954 (25.8)                        |
| Pregabalin   | 124 (3.4)                              | 857 (5.5)                            | 981 (5.1)                           |
| Valproic acid  | 19 (0.5)                               | 68 (0.4)                             | 87 (0.5)                            |
| Vigabatrin   | 0 (0.0)                                | 1 (0.0)                              | 1 (0.0)                             |
| <b><u>Antidepressants, n (%)</u></b>                     |  |                                      |                                     |
| Amitriptyline  | 96 (2.6)                               | 569 (3.7)                            | 665 (3.5)                           |
| Citalopram   | 114 (3.1)                              | 587 (3.8)                            | 701 (3.7)                           |
| Mirtazapine  | 109 (3.0)                              | 341 (2.2)                            | 450 (2.3)                           |
| Nortriptyline  | 45 (1.2)                               | 262 (1.7)                            | 307 (1.6)                           |
| Paroxetine   | 54 (1.5)                               | 216 (1.4)                            | 270 (1.4)                           |
| <b><u>Atypical Antipsychotics, n (%)</u></b>             |  |                                      |                                     |
| Clozapine  | 3 (0.1)                                | 17 (0.1)                             | 20 (0.1)                            |
| Olanzapine   | 45 (1.2)                               | 187 (1.2)                            | 232 (1.2)                           |
| Perphenazine   | 8 (0.2)                                | 103 (0.7)                            | 111 (0.6)                           |
| Quetiapine   | 121 (3.3)                              | 453 (2.9)                            | 574 (3.0)                           |
| Risperidone  | 31 (0.8)                               | 206 (1.3)                            | 237 (1.2)                           |
| <b><u>Beta-Blockers, n (%)</u></b>                       |  |                                      |                                     |
| Atenolol   | 125 (3.4)                              | 534 (3.4)                            | 659 (3.4)                           |
| Metoprolol   | 1,007 (27.4)                           | 4,162 (26.8)                         | 5,169 (26.9)                        |
| Propranolol  | 60 (1.6)                               | 288 (1.9)                            | 348 (1.8)                           |
| <b><u>Contraceptives, n (%)</u></b>                      |  |                                      |                                     |
| Medroxyprogesterone                                      | 20 (0.5)                               | 166 (1.1)                            | 186 (1.0)                           |
| <b><u>Corticosteroids (oral), n (%)</u></b>              |  |                                      |                                     |
| Budesonide   | 32 (0.9)                               | 184 (1.2)                            | 216 (1.1)                           |
| Cortisone  | 11 (0.3)                               | 53 (0.3)                             | 64 (0.3)                            |
| Dexamethasone  | 209 (5.7)                              | 990 (6.4)                            | 1,199 (6.3)                         |
| Hydrocortisone   | 52 (1.4)                               | 221 (1.4)                            | 273 (1.4)                           |
| Methylprednisolone                                       | 394 (10.7)                             | 1,918 (12.4)                         | 2,312 (12.1)                        |
| Prednisolone   | 30 (0.8)                               | 106 (0.7)                            | 136 (0.7)                           |
| Prednisone   | 613 (16.7)                             | 2,920 (18.8)                         | 3,533 (18.4)                        |
| <b><u>Insulins, n (%)</u></b>                            |  |                                      |                                     |
| Insulin  | 2 (0.1)                                | 16 (0.1)                             | 18 (0.1)                            |
| Insulin Aspart   | 530 (14.4)                             | 2,363 (15.2)                         | 2,893 (15.1)                        |
| Insulin Degludec   | 81 (2.2)                               | 343 (2.2)                            | 424 (2.2)                           |
| Insulin Detemir  | 124 (3.4)                              | 475 (3.1)                            | 599 (3.1)                           |
| Insulin Glargine   | 700 (19.0)                             | 3,235 (20.9)                         | 3,935 (20.5)                        |
| Insulin Glulisine  | 5 (0.1)                                | 54 (0.3)                             | 59 (0.3)                            |
| Insulin Isophane   | 63 (1.7)                               | 346 (2.2)                            | 409 (2.1)                           |
| Insulin Isophane Regular                                 | 72 (2.0)                               | 421 (2.7)                            | 493 (2.6)                           |
| Insulin Lente  | 0 (0.0)                                | 1 (0.0)                              | 1 (0.0)                             |
| Insulin Lispro   | 694 (18.9)                             | 3,353 (21.6)                         | 4,047 (21.1)                        |



|   |                            |                             |                             |
|---|----------------------------|-----------------------------|-----------------------------|
| Insulin Regular   | 300 (8.2)                  | 1,380 (8.9)                 | 1680 (8.8)                  |
| <u>Meglitinides, n (%)</u>                                |                            |                             |                             |
| Nateglinide   | 5 (0.1)                    | 12 (0.1)                    | 17 (0.1)                    |
| Repaglinide   | 27 (0.7)                   | 92 (0.6)                    | 119 (0.6)                   |
| <u>Sulfonylureas, n (%)***</u>                            |                            |                             |                             |
| Glimepiride   | 137 (3.7)                  | 670 (4.3)                   | 807 (4.2)                   |
| Glipizide   | 323 (8.8)                  | 1,552 (10.0)                | 1,875 (9.8)                 |
| Glyburide   | 25 (0.7)                   | 152 (1.0)                   | 177 (0.9)                   |
| Tolbutamide   | 0 (0.0)                    | 0 (0.0)                     | 0 (0.0)                     |
| <u>Thiazolidinediones, n (%)</u>                          |                            |                             |                             |
| Pioglitazone  | 77 (2.1)                   | 398 (2.6)                   | 475 (2.5)                   |
| Rosiglitazone   | 0 (0.0)                    | 1 (0.0)                     | 1 (0.0)                     |
| <b><u>Any Weight-Gain-Promoting Medication, n (%)</u></b> | <b><u>2,517 (68.4)</u></b> | <b><u>11,207 (72.3)</u></b> | <b><u>13,724 (71.6)</u></b> |

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*\*We include medication use reported within ± 12 months of weight measurement. \*\*Overweight defined as a body mass index  $\geq 27$  kg/m<sup>2</sup> and < 30 kg/m<sup>2</sup>. Obesity defined as body mass index  $\geq 30$  kg/m<sup>2</sup>. \*\*\*We identified no prescriptions for the following sulfonylureas: Chlorpropamide, Glibenclamide, Glicazide, and Tolazamide.*