Supplementary Table 1: An example of extracted concept vectors for question1 and 2

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Term** | **CUI** | **Preferred Candidate** | **MetaMap Weight** | | **Question Part** |
| Question1 |  |  |  | |  |  |
|  | Medication Query | C0013227 | Pharmaceutical Preparations | | 694 | Title |
|  | type 2 diabetes | C0011860 | Diabetes Mellitus, Non-Insulin-Dependent | | 1000 | Question |
|  | Actos I | C0875954 | Actos | | 694 | Question |
|  | coronary heart desease | C0018787 | Heart | | 660 | Question |
|  | hepatitis | C0019158 | Hepatitis | | 1000 | Question |
|  | my liver | C0023884 | Liver | | 1000 | Question |
|  | this medication after I | C0013227 | Pharmaceutical Preparations | | 770 | Question |
|  | the names of the medications I | C0013227 | Pharmaceutical Preparations | | 586 | Question |
|  | toprol xl 200 mgs metformin 500 2 times | C0723783 | Toprol-XL | | 641 | Question |
|  | a day ecotrin 325 diavan 160 | C0699274 | Ecotrin | | 804 | Question |
|  | actos | C0875954 | Actos | | 1000 | Answer |
|  | a safe drug for you | C0013227 | Pharmaceutical Preparations | | 753 | Answer |
|  | an ongoing viral hepatitis then | C0042721 | Viral hepatitis | | 861 | Answer |
|  | a brief hepatitis infection back then | C0019158 | Hepatitis | | 637 | Answer |
|  | Your doctor | C0031831 | Physicians | | 1000 | Answer |
|  | test for evidence of ongoing hepatitis | C0456984 | Test Result | | 753 | Answer |
|  | a number of forms of medication | C0013227 | Pharmaceutical Preparations | | 586 | Answer |
|  | for diabetes In addition to the medicines | C0020616 | Hypoglycemic Agents | | 600 | Answer |
|  | insulins drugs | C0021641 | Insulin | | 660 | Answer |
|  | insulin secretion in several different ways | C0021641 | Insulin | | 753 | Answer |
|  | drugs | C0013227 | Pharmaceutical Preparations | | 1000 | Answer |
|  | from the intestine | C0021853 | Intestines | | 1000 | Answer |
|  | several things about your medications I | C0013227 | Pharmaceutical Preparations | | 586 | Answer |
|  | get on a lot of medication | C0013227 | Pharmaceutical Preparations | | 753 | Answer |
|  | blood sugar | C0005847 | Blood Vessel | | 777 | Answer |
|  | related to toprol a beta blocker | C0445223 | Related personal status | | 748 | Answer |
|  | interfere with the ability | C1299581 | Able (finding) | | 699 | Answer |
|  | a low blood sugar | C0020615 | Hypoglycemia | | 1000 | Answer |
|  |  |  |  | |  |  |
| Question2 |  |  |  | |  |  |
|  | New drugs for diabetes | C0020616 | Hypoglycemic Agents | | 819 | Title |
|  | a new type of drug | C0013227 | Pharmaceutical Preparations | | 593 | Question |
|  | metformin Janumet | C0025598 | Metformin | | 660 | Answer |
|  | metformin Onglyza | C0025598 | Metformin | | 660 | Answer |
|  | the first two pills | C0009905 | Contraceptives, Oral | | 793 | Answer |
|  | each combinations of two medications | C0013162 | Drug Combinations | | 781 | Answer |
|  | with one drug metformin in common | C0013227 | Pharmaceutical Preparations | | 586 | Answer |
|  | the third pill | C0009905 | Contraceptives, Oral | | 861 | Answer |
|  | a drug in the same class | C0013227 | Pharmaceutical Preparations | | 753 | Answer |
|  | as one of the component medications of Janumet | C0013227 | Pharmaceutical Preparations | | 571 | Answer |
|  | a drug | C0013227 | Pharmaceutical Preparations | | 1000 | Answer |
|  | directly on the pancreas | C0030274 | Pancreas | | 770 | Answer |
|  | the amount of insulin | C0021641 | Insulin | | 604 | Answer |
|  | released into the blood stream Sitagliptin | C0005847 | Blood Vessel | | 664 | Answer |
|  | both drugs | C0013227 | Pharmaceutical Preparations | | 1000 | Answer |
|  | the blood level of insulin | C0005847 | Blood Vessel | | 676 | Answer |
|  | block | C0018790 | Cardiac Arrest | | 916 | Answer |
|  | GLP-1 glucagon-like peptide 1 | C0017687 | Glucagon | | 629 | Answer |
|  | used saxagliptin | C1273517 | Used by | | 660 | Answer |
|  | blood sugar | C0005847 | Blood Vessel | | 777 | Answer |
|  | is of a low blood sugar hypoglycemia | C0020615 | Hypoglycemia | | 814 | Answer |