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 |