



MetaMap/MTI Web API



MetaMap/MTI Web API

- **MetaMap** identifies biomedical concepts in text

Cigarette smoking increases the mean platelet volume in elderly patients with risk factors for atherosclerosis.

- **Medical Text Indexer (MTI)** summarizes text using **MetaMap** and the Medical Subject Headings (MeSH) vocabulary

Cigarette Smoking
Tobacco
Blood Platelets
Aged
Humans
Risk Factors
Arteriosclerosis
Atherosclerosis



Interactive MetaMap

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[NLM](#) » [LHNCBC](#) » [SKR](#) » [Interactive Mode](#) » [Interactive MetaMap](#)

Text to be Processed:

Text to be Processed:





Cigarette smoking increases the mean platelet volume in elderly patients with risk factors for atherosclerosis.

 [2011 Release Notes](#) (138 kb)  **NEW**



User Defined Acronyms File (--UDA) [Optional]


Knowledge Source (-Z): 1112 (11/12 Transitions)

Output Display

- Tagger Output (-T)
- Hide Header Info  **NEW**
- Variants (-v)
- Hide Plain Syntax (-p)
- Syntax (-x)
- Hide Candidates (-c)
- Number Candidates (-n)
- Number Mappings (-f)  **NEW**
- Hide Semantic Types (-s)
- Show CUIs (-I)
- Hide Mappings (-m)
- Show Preferred Names Only (-O)
- Machine Output (-q)  (HTML: 44 kb)
- Formatted XML Output (--XMLf)  (HTML: 14 kb)

Output Display

- Tagger Output (-T)
- Hide Header Info  **NEW**
- Variants (-v)
- Hide Plain Syntax (-p)
- Syntax (-x)
- Hide Candidates (-c)
- Number Candidates (-n)
- Number Mappings (-f)  **NEW**
- Hide Semantic Types (-s)
- Show CUIs (-I)
- Hide Mappings (-m)
- Allow Large N (-l)
- Threshold (-r):
- Ignore Word Order (-i)

Strict Model (-A) 

Browse Mode Options

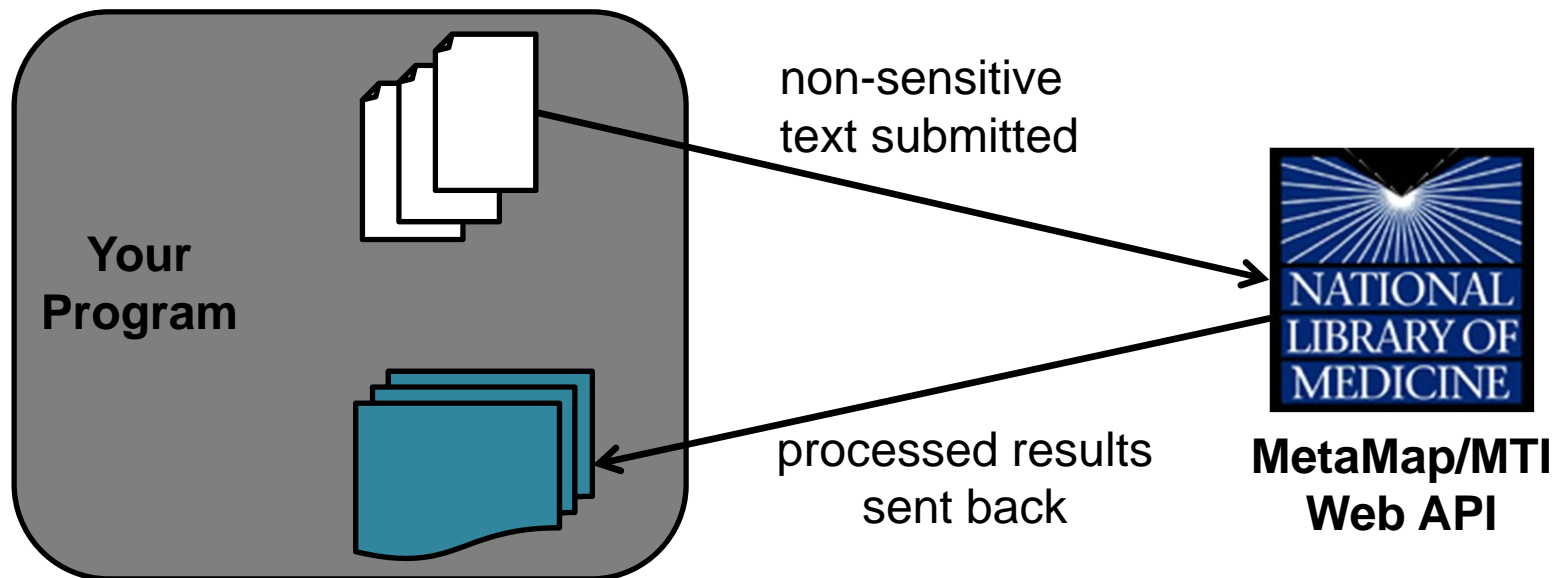
- Term Processing (-z)
- Allow Overmatches (-o)

Misc. Options

- Allow Concept Gaps (-g)
- Display Phrases Only
- Dynamic Variant Generation (-8)

MetaMap/MTI Web API

- Easy-to-use Java-based API providing programmatic access to both MetaMap and MTI



MetaMap/MTI Web API

- Simple code insertion

Create MetaMap/MTI Web API Object:

```
GenericObject myGenericObj = new GenericObject();
```

Set Required Fields:

```
myGenericObj.setField("Email_Address", "metamap@nlm.nih.gov");  
myGenericObj.setField("APIText", "Cigarette smoking increases ...");  
myGenericObj.setField("Batch_Command", "metamap -pCI");
```

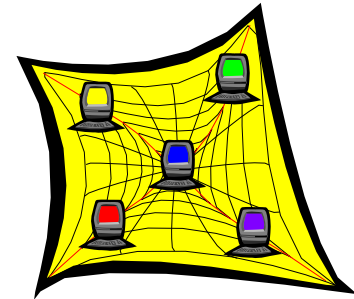
Submit and Receive Results:

```
try  
{  
    String results = myGenericObj.handleSubmission();  
    System.out.print(results);  
} catch (RuntimeException ex) {  
} // catch
```



MetaMap/MTI Web API

- Batch Facility (Scheduler)
 - Capacity for large sets of non-Sensitive/non-Personally Identified Information (PII) data
 - Processing spread across large pool of computing resources



```
myGenericObj.setField("UpLoad_File", "./sample.txt");
```



MetaMap/MTI Web API Uses

- **Named Entity Recognition**
 - Identifying drugs or diseases in text
- **Text Indexing**
 - Support NLM Indexing efforts
- **Literature-based discovery**
 - Search for important undiscovered connections
- **2011** 160,000 requests +
12,000 records nightly in-house



Downloadable MetaMap

- What if you do have Sensitive/PII data?
- Download MetaMap and run locally
 - Linux, MacOS X, Windows XP/7
 - Local MetaMap API and UIMA support
 - <http://metamap.nlm.nih.gov>



MetaMap/MTI Web API

- Download, Documentation, and Examples:

http://skr.nlm.gov/SKR_API

- Contact: metamap@nlm.nih.gov

- Requires Free UMLS Terminology Services (UTS) account: <https://uts.nlm.nih.gov>

