

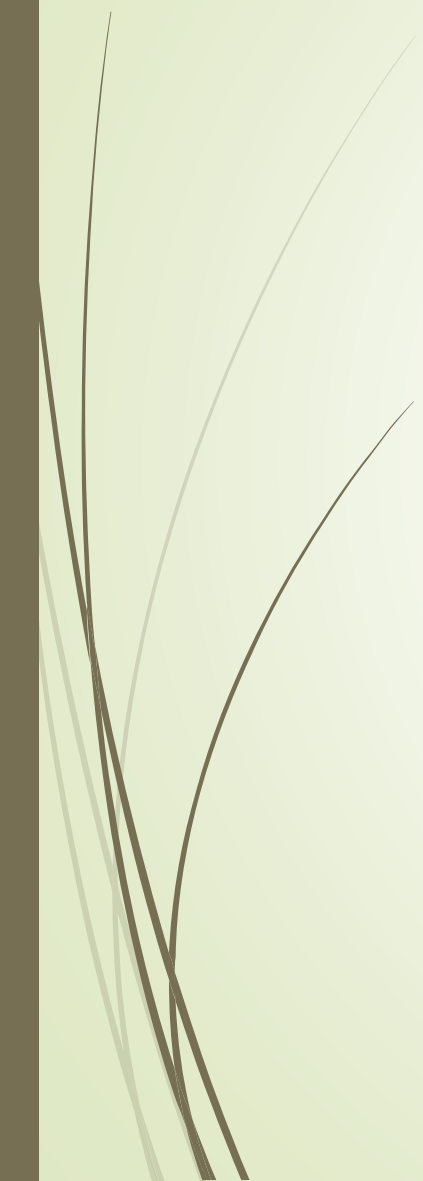



Autocoding tools - approaches and Pitfalls

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Autocoder

- Autocoder vs Dictionary Browser
 - Benefits
 - How they work
 - Key features
 - Upversioning
 - Challenges
 - Conclusions
- 



Autocoder vs Dictionary Browser

Dictionary Browser

- ✓ Stand alone
- ✓ Simple searches
- ✓ Complex searches
- ✓ Cannot automatically link a verbatim to a term
- ✓ No automatic growth of synonym list
- ✓ No upversioning

Autocoder

- Simple searches
- Complex searches
- Links a verbatim to a term
- Synonym list can enhance coding rates
- Coding dependent on data types
- Automation of upversioning process
- May be integrated in database



Benefits of autocoder

- ▶ Integrated with clinical or safety database
- ▶ Efficiency of coding
 - ▶ Code unique verbatim only once
 - ▶ Removal of duplicate terms
 - ▶ Consistency of coding
 - ▶ Across studies and therapeutic areas
 - ▶ Across databases
 - ▶ Synonym lists
 - ▶ Increase autocoding
 - ▶ Ensure consistency
 - ▶ Provide examples to help manual coding



How they work

- Direct dictionary match
- Direct synonym list match
- Removal of “drop words” (eg “the, “and” etc) and look for direct match
- Use synonym list to swap words – eg cardiac – heart
- Look for contains match
 - Of all words
 - Just one word
- Results may be ranked
- Some autocoders allow coding at less than direct match



Key features



- ▶ Direct dictionary matches should be automatically coded
- ▶ Synonym list matches should be automatically coded
 - ▶ Ensure consistency of coding
 - ▶ Terms on synonym list
- ▶ Duplicates should be removed (don't code the same term multiple times)
- ▶ Suggestions for coding should be displayed
 - ▶ Based on algorithm
 - ▶ Swap words
 - ▶ Drop words



Upversioning

- Impact analysis
 - Review of changes – MVAT and MSSO Change report
- Applying changes
 - Apply new hierarchy
 - Recode new direct hits
 - Recode non-current changes
 - Better matches



Challenges



- Careful selection of the verbatim - concise
- Only direct matches should be automatically accepted – but everything should be reviewed
- Specific rules for some fields/data types – eg investigations
- Medication errors particularly challenging
- Autocoding tools do not replace highly skilled coders
- Medical judgement is always required

Some examples where autocoders fail

Verbatim	Autocoder suggestion
Contrast agent for coronary angiogram	<i>No hits</i>
No cardiac disorder	<u>Cardiac disorder (NOS)</u>
Normal faeces	<u>Abnormal faeces</u>
failure heart right	Failure heart left
blocked ear	<u>Blocked tear duct</u>
Ear disorders	<u>Heart valve disorders</u>
Cardiac heart disease	Malposition of <u>heart</u> and <u>cardiac apex</u>



Commercial tools

- ▶ <http://www.meddra.org/how-to-use/tools/commercial-tools>



Conclusion

- Autocoders increase efficiency of coding
- Autocoders ensure consistency of coding
- But
 - cannot replace skilled coders
 - cannot interpret rules for coding
 - cannot code narratives or long verbatims
- New technologies will change this in the future