

RxNorm Update with Special Attention to NDC Codes

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Topics

- ❖ Electronic Prescribing and RxNorm
- ❖ Other Problems with NDC Codes
- ❖ Sources of NDC Codes in RxNorm
- ❖ Representation of NDCs in RxNorm
- ❖ NDC Futures in RxNorm
- ❖ Outdated NDC Codes

Electronic Prescribing and RxNorm

- ✦ No Significant Feedback From Pilots
- ✦ Few Requests for Assistance From Pilots
- ✦ Concern With Dispensing, not Prescribing
- ✦ Most Communication Appears to be NDC Code Related

Problems With Using NDCs for Prescriptions

- ✦ Many to One Listings
- ✦ Maintenance of Knowledge
 - ✦ Interaction Checking
 - ✦ Allergy Checking
 - ✦ Avoiding Overprescribing

Benefit of Using NDCs for Prescriptions

- ✦ Precise Expression
- ✦ Cost, Inventory, and Reimbursement Data

Other Problems

- ❖ Locally Generated NDC Codes
 - ❖ Covering Procedures Involved in Administering Drugs
 - ❖ Compounded Drugs
 - ❖ Repackaged Drugs
- ❖ 10 Digit Versus 11 Digit (One-Way Conversion)
- ❖ Not a Meaningless Identifier
- ❖ No Central Authority
- ❖ No Semantic Links

Readiness of RxNorm for Use in Prescriptions

- ❖ Drug Delivery Devices - Early 2007
(Around 1800)
- ❖ Generic Drugs - 17,636
- ❖ Branded Drugs - 13,797
- ❖ Facile Interoperation with PKBVs

Sources of NDC Codes in RxNorm

- ❖ FDA NDC listings - Data Anomalies - Obsolete Drugs
- ❖ VA National Drug Formulary
- ❖ Multum
- ❖ No Source Definitive
- ❖ Other Sources do not Share NDC Data

Representation of NDCs

- ❖ Original Plan - Link to Generic Drug
- ❖ Attributes of Atoms from Sources
 - ❖ 336,076 Occurrences of NDC Codes
- ❖ Conflicts (19,566)
 - ❖ Trade Name versus Generic Name (11,992)
 - ❖ Quality Control on RxNorm Model and Editing
 - ❖ Differing Dose Forms
 - ❖ Disagreements between Sources

NDC Code Futures

- ✦ New Source - DailyMed

 - ✦ NDCs Listed in Label

 - ✦ DailyMed Will Replace FDA Listing Site as Source

- ✦ Obsolete NDCs and Drugs

 - ✦ Not in Current Label

 - ✦ More Than One Label Can Have Same Product

 - ✦ If No Label, then Obsolete Drug

Futures (2)

- ✦ RxNorm Atoms Will Carry NDC Attribute
 - ✦ Editorial Judgment in Case of Disagreements
 - ✦ Cascading Listings
 - ✦ Drug Delivery Devices (1)
 - ✦ Semantic Branded Drugs (1,2,3)
 - ✦ Semantic Clinical Drugs (1,2,3,4,5,6,7,8,9)
- ✦ Sources Still Carry NDCs

Outdated NDC Codes

- ✦ No Source Available to RxNorm
- ✦ Is There a Use Case?
- ✦ Reuse of Codes a Problem