Identifying and Preventing Medication Errors Associated with Look-Alike Drug Names

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Objective

- Types of “look-alike” names
- What additional factors makes two names more confusing?
- Where/when do “look-alike” name errors occur?
- Strategies to prevent errors with “look-alike” names

Types of “Look-Alike” Names

1) Handwritten orders
   - Some pairs are only confused when handwritten
2) Beginning of drug name is same
   1) metFORMIN – metroNIDAZOLE
   2) traMADol - traZADone
3) Look-alike drug names
   - hydRALAZINE & hydR0XYzine
   - DOPamine & DOBUTamine
   - morphine & HYDROmorphine
   - Drug names with and without suffixes
     • Immediate release and extended release products
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Handwritten Look-Alike Names

Coumadin? Avandia!

Tegretol? Tequin!

Tigan? Tiazac!

Zyrtec? Lipitor!

Wrong Drug Errors Involving Morphine or HYDROMorphone

- Of all wrong drug error reports that include morphine and/or HYDROMorphone, 36% involve a mix-up between those 2 drugs.
- Of wrong drug reports that involve these 2 drugs:
  - 62% show morphine as the prescribed medication and HYDROMorphone given in error.
  - 71% of reports indicate that the errors occurred when these medications were obtained from unit stock.


Drug Errors Involving Immediate and Extended Release Products

- oxyCODONE HCl extended-release tablets vs. oxyCODONE HCl immediate-release tablets:
  - "oxyCODONE 10 mg q2h prn pain" became "OxyCONTIN 10 mg, 1 tablet every 2 hours as needed for pain".
- Generic name, OXYcodone, was used to prescribe OxyCONTIN, but "controlled-release" was not specified.

Oxycodone Immediate or Extended Release?

"OxyCONTIN" from CPOE system listed as......

Medication: OXYCODONE HCL TBCR 10 MG OR
Qty: 60
Ref: 0
Start: 3/12
Route: TABELT TWICE DAILY
Sig: 1 TABLET TWICE DAILY
Additional Factors

- What factors contribute to names that “look-alike”?
  - Strengths/concentrations
  - Frequency
  - Usage in organization (may affect how often it happens)
  - Indication
  - Serzone & Seroquel

Where are Names Confused?

- Medication Orders
  - Handwritten Orders
  - Order forms, preprinted orders
    - CIAs/CIAs
    - vinCRIs/vinBLAs
    - DOPamine/DOBUTamine
  - Order Entry Screens
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Where are Names Confused?

- Drug Labeling and Packaging
  - Pharmacy
  - Manufacturer
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Where are Names Confused?

- Drug Storage
  - Pharmacy
  - Care Areas
    - ADCs
    - Floor Stock

Identifying the Problem

- Need to know
  - Where in the medication use process the pairs of drugs are being confused before you implement risk reduction strategies

Wellbutrin, Zyban, bupropion......SR, XL.....

Identifying the Problem

- Identify problematic name pairs in your organization
  - Need to know what drug name pairs are being confused before you take action
  - Proactive
    - Observation
  - Concurrent
    - Pharmacy checks
    - Cart fills
    - New orders
    - Orders vs. label
    - Labels vs. drug
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Identifying the Problem

• Retrospective
  – Error reports
    • Limited – who does the reporting?
      – Usually wrong meds given to patient or pharmacy dispensing errors caught by nursing
    • Other care areas – OR, ED, radiology
    • Doesn’t usually include those that are caught in pharmacy
  – Triggers
    • Opiates – morphine & HYDROMORPHINE
    • Insulin products

Error Reduction Strategies

• FMEA (Failure Mode and Effects Analysis)
  – Med-ERRS (www.med-errs.com)
• Constraints
  – Do you really need it on formulary?
  – At least limit concentrations/strengths
    • morphine 2 mg/mL vs. HYDROMORPHINE 1 mg/mL
• Separation/segregation

Error Reduction Strategies

• Differentiation
  – Tallman lettering
    • Studies with TML
      • http://www.ismp.org/tools/
  – Include indication for use with orders
  – Highlighting, color (red)
  – Stickers (LAN)
• Redundancies
  – Independent double checks
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Look-Alike Name Error Due to Lack of Patient Information

Indication for Use
- Celebrex - Celexa
- Chlorpromazine-Chlorpropamide
- Avandia - Coumadin
- Lamictal - Lamisil
- Isordil - Plendil
- Zyprexa - Zyrtec
- Arthritis/Antidepressant
- Antipsychotic,other/ Diabetes
- Diabetes/Anticoagulant
- Seizures/Antifungal
- CHF/Blood Pressure
- Antipsychotic/Antihistamine

Error Reduction Strategies
- Education
  - Staff need to know
    - What is being confused?
    - What are you doing about it?
    - What do those stickers mean?
- Report errors and near-misses
  - Internally
  - Externally
    - ISMP

Changes to Brand Names as a Result of Medication Errors
- Losec (confused with Lasix) is now Prilosec
- Levoxine (confused with Lanoxin) is now Levoxyl
- Mazicon (confused with Mivacron) is now Romazicon
- Pediaprofen (confused with Pediapred) is now Children’s Motrin
- Altocor (confused with Advocor) is now Altoprev
- Reminyl (confused with Amaryl) is now Razadyne
- Omacor (confused with Amicar) is now Lovaza

Nonproprietary Name Changes
- amrinone or amiodarone (now inamrinone)
- tamoxifen or tomoxetine (now atomoxetine)
- torsemide or furosemide (torsemide was originally torosemide)

References
- http://www.ismp.org/faq.asp#Question_8
  - ISMP Tallman lettering list
  - Newsletter article on Tallman lettering survey
  - References to studies on tallman lettering
  - TJC
  - FDA
  - NABP
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Questions?