Teaching and Learning to Care: Training for Caregivers in Long Term Care

TLC for LTC

Module Three

When Wrong Things Happen with Medications: Risk and Prevention

by

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for

Delaware Valley Geriatric Education Center
Institute on Aging
University of Pennsylvania

Supported by a grant from the Health Resources and Services Administration
Bureau of Health Professions
United States Department of Health and Human Services
Acknowledgements

<table>
<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>Rebecca A. Urban</td>
<td>Becky, Night Shift Nurse</td>
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<tr>
<td>Wanda Paulhamus</td>
<td>Mrs. Saeger</td>
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<td>Gwen Mallard, LPN</td>
<td>Gwen, Day Nurse</td>
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<tr>
<td>Marion Benner</td>
<td>Nursing Home Residents</td>
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<td>Ed Christman</td>
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<td>Frances Neuner</td>
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<td>Susan Oliver</td>
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<td>Griselle Rosario, CNA</td>
<td>CNA</td>
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<tr>
<td>John Oliver, PharmD</td>
<td>Pharmacist</td>
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<tr>
<td>Stephen Vaughn, CNA</td>
<td>Facility Administrator</td>
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Special thanks to:
Toni Saeger for clerical support.

Kay Kohler, RN, BS, DON, Westminster Village, Allentown, PA for facilitating arrangements and staff participation.

Lisa Quinby, NHA former administrator of Westminster Village for facilitating production requirements.

Presbyterian Homes, Inc. for permitting video production at Westminster Village.
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- Handout version of presentation
- Optional additional materials
Tab 1. Planning Materials for the Staff Development Educator

Introduction

Nursing home residents are especially vulnerable to Adverse Drug Events (ADEs) due to the number of drugs prescribed for them, prolonged use of medications or inappropriate prescribing practices. An ADE can be defined as an injury resulting from the use of a drug and includes any type of medication error. The 1987 Omnibus Reconciliation Act (OBRA) established many specific regulations for drug usage in nursing homes. A team approach that includes nurses, physicians, and consulting pharmacist is very useful in reducing medication errors and optimizing drug-prescribing practices.

This module will review:
1. Conditions leading to ADEs in nursing homes.
2. Optimal nursing home drug prescribing practices.
3. Roles of various health care professionals and caregivers in medication management.
4. A quality improvement approach to preventing ADEs.

Step 1. Review Learning Objectives

This module has been designed to address the following learning objectives:

Direct Care Staff will be able to:

1. Describe common causes of ADEs.
2. Describe best drug prescribing practices for nursing homes.
3. Describe roles of four health care professionals and caregivers in medication management.
4. Describe a quality improvement approach to preventing ADEs.

As you review these objectives, consider:

- Do you need to add to or modify the objectives based on the current knowledge of your staff or your facility’s particular needs regarding medication management?
Module Three: When Wrong Things Happen with Medications: Risk and Prevention

- Wording any additional objectives in terms of what staff will be able to do when the program is complete. This format helps to focus on the outcomes of education rather than the process of education.

- Adding facility data and goals and other information particular to your setting if this module is being used as part of a quality improvement initiative.

- Including examples and experiences from your own setting that illustrate the points made.

Step 2. Review components of Module Three:

The component elements are described in the order in which they appear in the body of the module.

Attendance Form which can be duplicated for your use.

Pretest, a brief test of True/False and multiple choice items. Make sufficient copies for presenter and participants.

Presentation materials include:

- Overhead transparencies for projection.

- A paper copy of the overheads with notes about the content for your use in teaching from the overheads.

- A videotape. The videotape for this module has two segments:
  
  Segment 1 portrays several situations in which we see problems with medication management that may lead to ADEs.
  
  Segment 2 contains a QI team meeting called to address one of the medication management problems.

- Supplementary material such as the discussion guide for viewing the videotape.

Note: If there is more content than your instructor can teach in the time available, feel free to select ahead of time what will be covered, so long as all objectives and test item materials are covered.

Additional items to be completed at the conclusion of your education program include:

- Post-test which is identical to the Pre-test but with a different heading

- Program Evaluation form for completion by participants

- Program Evaluation form for completion by instructor
### Step 3. Logistics Checklist

Use a checklist like the following to keep track of planning & implementation logistics.

<table>
<thead>
<tr>
<th>Initial Planning</th>
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<td>Order food</td>
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| Pre-program Planning | | |
|----------------------|----------------------|
| Create and distribute announcement of programs | | |
| Collect registrations | | |
| Copy materials for participants | | |
| Review module with instructor | | |

| Post-program Follow-up | | |
|-------------------------|----------------------|
| Collect completed materials from instructor | | |
| Solicit verbal feedback from instructor and participants | | |
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References


Tab 2. Materials for the Instructor

Introduction

Why this Module?

Nursing home residents are especially vulnerable to Adverse Drug Events (ADEs). An ADE can be defined as an injury resulting from the use of a drug and includes any type of medication error. The 1987 Omnibus Reconciliation Act (OBRA) established many specific regulations for drug usage in nursing homes. A team approach that includes nurses, physicians, and consulting pharmacist is very useful in reducing medication errors and optimizing drug-prescribing practices.

What is the content?

Key content for you to teach in this module includes:
- Frequency and types of ADEs in elderly persons
- Conditions leading to ADEs in care facilities.
- Best drug prescribing practices for the elderly.
- Roles of various health care professionals and caregivers in medication management.
- How quality improvement approaches can help prevent ADEs.

Learning Objectives:

At the end of this module, direct care staff will be able to:
1. Describe common causes of ADEs.
2. Describe best drug prescribing practices in nursing homes.
3. Describe roles of four health care professionals and caregivers in medication management.
4. Describe a quality improvement approach to preventing ADEs.

Key Concepts:

- ADEs occur frequently and many are preventable.
- Regulations require review of medications to prevent actual and potential ADEs.
- Best prescribing practices in terms of numbers of drugs, appropriate doses, optimal frequency and avoidance of negative drug-drug interaction should be adopted.
- Team work between nurses and CNAs is important to preventing ADEs.
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**How to Use this Module:**

The component elements are described in the order in which they appear in the body of the module.

*Attendance Form* which can be duplicated for your use.

*Pretest*, a brief test of True/False and multiple choice items. You should have sufficient copies for presenter and participants. An instructor version with correct answers is supplied and test-scoring instructions appear with the test. Have participants put an identifier (such as their mother’s maiden name) which only they will recognize. You can use this identifier to match pre- and post-tests.

Your *presentation materials* include:

- *Overhead transparencies* for projection.
- A paper copy of the *overheads with notes* about the content for your use with teaching from the overheads.
- A *videotape*. The videotape segment for this module should be shown after Overhead 15.

**Note:** If there is more content than you can teach in the time available, consult with your staff development educator to select ahead of time what will be covered. All objectives and test item materials should be covered.

*Participant Post-test* which is identical to the Pre-test but with the items in different order with a “Post Test” heading. Have participants use the same identifier as on the participant Pre-test so that you can match pre- and post-scores.

*Program Evaluation form* for completion by participants.

*Program Evaluation form* for completion by instructor.

**Before Your Presentation:**

Because face-to-face contact time with staff is so limited, prior preparation is essential!

- Review all materials, paying special attention to the objectives, key concepts and test items.
PRACTICE presenting the content using the overhead transparencies and the Instructor Notes. We suggest that you practice the presentation two ways:

a) straight through to make sure your presentation is consistent with the available time, and

b) pausing to practice when you feel dissatisfied with your delivery of content.

Make sure you have sufficient copies of tests and handouts.

**Suggestion:** Put transparencies in a small binder for presentation -- keeps them in order and allows instructor to flip through them. Likewise put the instructor notes in a binder to facilitate presentation.

**At the Time of Your Presentation:**

- After introductions, distribute the Participant Pre-test. Have participants put an identification code (like their mother's maiden name) on the test so that you can match pre-and post test scores, then collect completed tests.
- Put the facility name and the date on the Attendance Sheet and have participants sign it.
- Make presentation using transparencies and the Instructor version with notes.
- Follow instructions with the last two slides to show and discuss the video.
- Have participants complete Post-test using the same identification code.
- Have participants complete the Participant Evaluation form.

**After Your Presentation:**

- Complete the Instructor Evaluation form and return to the Staff Development Educator.
- Score Pre- and Post-tests.
- Return scored tests, completed evaluation forms and instructional materials to your staff development educator.
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**References**


## Attendance Form

**Facility Name:**

**Date:**

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<tr>
<th>Name</th>
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Participant Pre-Test

Circle the letter of the best answer.

Example:
Which of these is NOT a season:
- a. Winter
- b. Autumn
- c. Summer
- d. **Easter**
- e. Spring

1. Which of these statements is false?
   - a. CNAs should be part of the medication team.
   - b. CNAs should report any changed behaviors or symptoms in residents.
   - c. CNAs should give residents prn medications on request.
   - d. CNAs should be alerted to changes in residents’ medications.

2. According to regulations, a resident’s medications should be reviewed when:
   - a. More than two drugs of one kind are given.
   - b. A resident hides pills.
   - c. Any psychotropic drug is prescribed.
   - d. More than nine medications are prescribed.
Circle T if the statement is True, F if the statement is false.

Example:
This is a test.  

3. Federal law requires that long-term care facilities actively consult with a pharmacist.  

4. It is better that drugs be prescribed for specific times of day rather than the more general instructions such as “twice a day”.  

5. Potential adverse drug events are common in nursing homes.  

6. According to research studies, more than 10% of adverse drug events result in hospitalization.  

7. There is little or no role for CNAs in protecting against adverse drug events.  

Thank you. Please return to instructor.
Participant Pre-Test: Instructor’s KEY
Correct answers are in **Circled bold italic**

Circle the letter of the best answer.

**Example:**
Which of these is NOT a season:
- a. Winter
- b. Autumn
- c. Summer
- d. **Easter**
- e. Spring

1. Which of these statements is false?
   - a. CNAs should be part of the medication team.
   - b. CNAs should report any changed behaviors or symptoms in residents.
   - c. **CNAs should give residents prn medications on request.**
   - d. CNAs should be alerted to changes in residents’ medications.

2. According to regulations, a resident’s medications should be reviewed when:
   - a. More than two drugs of one kind are given.
   - b. A resident hides pills.
   - c. Any psychotropic drug is prescribed.
   - d. **More than nine medications are prescribed.**
**Circle T if the statement is True, F if the statement is false**

**Example:**
This is a test. T F

3. Federal law requires that long-term care facilities actively consult with a pharmacist. T F

4. It is better that drugs be prescribed for specific times of day rather than the more general instructions such as “twice a day”. T F

5. Potential adverse drug events are common in nursing homes. T F

6. According to research studies, more than 10% of adverse drug events result in hospitalization. T F

7. There is little or no role for CNAs in protecting against adverse drug events. T F

Thank you. Please return to instructor.
When Wrong Things Happen with Medications: Risk and Prevention

by

Donna Miller, MD
Director, Geriatrics Institute
St. Luke’s Hospital & Health Network
Bethlehem, PA

Delaware Valley Geriatric Education Center
Learning Objectives

At the end of this module direct care staff will be able to:

1. Describe common causes of adverse drug events
2. Describe best drug prescribing practices for nursing homes
3. Describe roles of 4 health care professionals and caregivers in medication management
4. Describe a quality improvement approach to preventing adverse drug events
Adverse drug events (ADE) are defined as “any injury which results from the use of a drug.” This broad definition of ADEs includes any type of medication error involving a resident.

Studies have shown that actual and potential ADEs are common in nursing homes. Half are preventable. It is estimated that approximately 24 ADEs and 8 potential ADEs can be seen each year in an average facility. Sixteen percent of ADEs resulted in hospitalization.

The most common events were for side effects related to nonsteroidal anti-inflammatory drugs, psychotropic-related fall with fracture, digoxin toxicity, insulin hypoglycemia and coumadin-related hemorrhage.

ADEs appear to be related to polypharmacy as well as inattention to history of prior adverse drug reaction or medication contraindication.
Studies have shown that preventable adverse drug events occur most often at the stages of ordering and monitoring.

The more medications that are ordered, the more likely it is that an ADE will occur.

Errors can also be made in:
- transcription
- dispensing
- drug administration.

Staffing shortages and turnover may contribute to errors.
The average nursing home resident takes 6 – 8 different medications; based on MDS data, over 25% use more than 9 medications. PRN medications are prescribed frequently but much less often.

As the number of medications taken by older adults increases, the likelihood of adverse drug events greatly increases. Residents taking a lot of medicines are more likely to be hospitalized for adverse drug reactions.
Some nursing home residents genuinely need many medications because they have multiple chronic medical problems such as congestive heart failure, diabetes, dementia, glaucoma, osteoporosis and depression.

However, pressure from residents, families and facility staff may contribute to the physician prescribing a drug for every symptom or problem.

PRN drug orders are prevalent in long-term care, in part to reduce phone calls to physicians.

Drug prescribing in facilities is often done without direct physician assessment of the resident and is based on information provided by facility staff via telephone. This practice may contribute to increased usage of prescription drugs.
Necessity: For any resident, a medication should be ordered only for a specific indication and if the risk-benefit consideration favors use of the drug.

Records. Each time a drug is ordered, a corresponding medical diagnosis or specific reason for the drug should be documented on a summary medical problem list, in a progress note, or in the medication order itself in the medical record.

Drug dosages should be adjusted for functional organ changes which occur with aging or disease states. Kidney function, liver function, body mass, cardiac output and hydration status are factors to consider. “Start low and go slow” is a wise guideline for drug dosing in the elderly.

OBRA. The 1987 Omnibus Reconciliation Act (OBRA) established many new rules and regulations for nursing home care (See Handout). This act addressed drug usage, especially anti-psychotic drug usage. Federal law also mandates active involvement of a consultant pharmacist in long-term care. Most facilities have a specific policy of monthly review of medication orders by a consulting pharmacist. Pharmacist recommendations go to the attending physician, usually in writing. The physician is required to address the pharmacist’s concerns in writing. In most facilities, a consultant pharmacist is also a member of the Quality Assurance Committee.
Interactions. Known drug allergies and intolerances should be carefully documented in the medical record. It helps to include the type of adverse reaction that occurred with the medication name. For example: penicillin (hives, shortness of breath) or ibuprofen (bleeding ulcer).

Drug-drug. The consulting pharmacist can be helpful in pointing out potential adverse drug-drug interactions. For example, Coumadin plus Zoloft or Paxil may result in elevation of the blood clotting time. Several commonly used antibiotics such as Bactrim or penicillins can also increase the blood clotting time.

Drug-disease. Examples:
- Using beta-blockers to treat coronary artery disease in residents with COPD, peripheral vascular disease or diabetes.
- Non-steroidal medications may be inappropriate for residents with renal insufficiency, congestive heart failure or peptic ulcers.
**Time-limited orders.** Medication orders for acute problems such as infections should be time limited (for example, “Tequin 400 mg one tablet PO daily x 7 days for pneumonia”).

**Once-daily drug dosing.** Many commonly used medications are available in once daily or slow-release formulations. Once-daily drug dosing reduces the time nursing staff spend in administration and distribution of drugs and may reduce frequency of drug passes in a facility.

**Timing of administration.** It is better to order medications BID or TID than at every 12 or every 8 hours. This practice allows staff to be flexible and reduces disruption to the individual’s routine.

**PRN orders.** All prn orders should have a specific indication, i.e. Robitussin DM 10cc QID prn cough. When the acute problem or target symptom for the prn drug has resolved, the order should be discontinued. In these ways, nurses and physicians can work together to improve nursing home drug prescribing practices.
Medications should be reviewed monthly, and all unused and unnecessary drugs discontinued.  

*Hint:* List the *original start date* of each medication on the monthly drug order list to remind everyone how long a medication has been in use and prompt review, especially of psychotropic drugs.

The pharmacist may offer suggestions for less costly but equally effective medications for some diseases. Each facility may have drug formulary guidelines intended to promote cost-effective drug usage.

A collaborative *team* approach with physician, nurse and pharmacist is especially desirable.
Drug monitoring guidelines (Handout) are compiled from consensus judgements by nursing home physicians and geriatricians. This is because there has not been specific research to determine guidelines for monitoring many of the drugs commonly prescribed in nursing homes.

Physician and nursing progress notes should document results of laboratory tests and observations by staff. Lab orders for drug monitoring should include the frequency of the lab test and diagnosis in order to comply with Medicare regulations.

State inspectors will carefully review charts for *written* documentation of appropriate drug administration and monitoring.
Nursing home physicians should provide individualized quality medical care to residents in accordance with current disease treatment guidelines. Physicians also need to stay abreast of regulatory changes which may affect medication management.

A cooperative relationship between physician, nurses and pharmacist promotes optimal use of medications, reduces ADEs and promotes cost-effective drug prescribing practices.

Ongoing education of all staff members supports quality care.
Nurses play a pivotal role in medication management. They are responsible for maintaining quality nursing practices and distributing prescribed medications. Nursing staff monitor the efficacy of drugs. They are also key in early recognition of possible ADEs.

Nurses must legibly document accurate accounts of signs and symptoms, side effects, and benefits of medications in the medical record.

Ideally, nurses work in a team with physician staff and a consulting pharmacist to safeguard against potential errors.

Nurses should work cooperatively with CNAs and inform them when significant drug changes occur. The CNAs can then assist in monitoring for problems and benefits. Nurses also teach residents about the medications prescribed for them.
CNAs, as direct care providers, have the greatest opportunity to observe subtle behavioral changes or other symptoms in residents. Therefore:

- CNAs should be informed of significant medication changes for a resident.

- Nurses and physicians can help CNAs learn about the potential benefits or adverse reactions of a medicine, enabling the CNA staff to be valuable reporters of potential problems.

- CNA staff should also participate in problem-solving sessions when ADEs occur.
As mentioned earlier, most facilities have a specific policy for monthly review of medication orders by a pharmacist. Be familiar with your facility’s policy.

Periodic review, written documentation and having the pharmacist on quality improvement committees all help guard against errors.

The pharmacist is also a valuable educational resource for facility staff and physicians.

We will now view two video segments that illustrate much of what we have been discussing.
Instructor: Put the videotape in the machine and press “PLAY”. The first scene will show Mrs. Saeger sleeping. After she has received her insulin shot, the scene ends. Continue to scene 2. The tape will prompt you to stop for discussion. Once the group is ready, restart the tape, and play through to the end of scene 3.

Video Segment One Discussion Points

1. What are some examples of good nursing practices in scenes 1 & 2?
   - Nurses greet and identify each resident by name prior to medication administration.
   - Proper technique in giving the insulin injection.
   - Rapid staff response to an unexpected emergent situation.

2. What problems in scenes 1 & 2 may lead to adverse drug events?
   - Timing of humalog insulin injection is not within 30 minutes of a meal. Too long an interval causes hypoglycemia.
   - Unsupervised medication cart at the time of emergency. This leads to a wandering resident taking juice and pills off the cart.
   - Nurse does not watch each resident ingest his pills, giving the male resident an opportunity to feed his pills to the bird.
   - Apparent lack of staff supervision during drug pass period other than the one nurse administering medications.
Video tape “When Wrong Things Happen…”

The second segment of this video shows a QI team meeting about the medication event involving Mrs. Saeger. How does each of the team members contribute to solving the problem?

- Administrator
- Consulting pharmacist
- Nurse
- CNA

Restart videotape and play the second segment to the end.

Video Segment 2 Discussion Points

Administrator:
Leads the discussion; keeps discussion focused; tries to include everyone; defines the problem and resolution; establishes and reinforces action plan.

Consulting pharmacist:
Reviews all adverse drug events reported in the facility in last month; adds expertise focusing on individual resident’s problems and drugs, enabling identification of drug problems.

Nurse involved in emergency incident:
Reports specifics of incident; includes CNA in problem-solving process.

CNA
Facilitates sharing of important information and policy with other CNAs; participation improves knowledge base and care.
Learning Objectives: Did we meet them?

Are you now able to:

1. Describe common causes of adverse drug events?
2. Describe best drug prescribing practices for nursing homes?
3. Describe roles of 4 health care professionals and caregivers in medication management?
4. Describe a quality improvement approach to preventing adverse drug events?
Thank you for your attention!

The End
Participant Post-Test

Circle the letter of the best answer.

Example:
Which of these is NOT a season:
   a. Winter
   b. Autumn
   c. Summer
   d. Easter
   e. Spring

1. According to regulations, a resident’s medications should be reviewed when:
   a. More than two drugs of one kind are given.
   b. A resident hides pills.
   c. Any psychotropic drug is prescribed.
   d. More than nine medications are prescribed.

2. Which of these statements is false?
   a. CNAs should be part of the medication team.
   b. CNAs should report any changed behaviors or symptoms in residents.
   c. CNAs should give residents prn medications on request.
   d. CNAs should be alerted to changes in residents’ medications.
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Circle T if the statement is True, F if the statement is false.

Example:
This is a test. [T] [F]

3. It is better that drugs be prescribed for specific times of day [T] [F] rather than the more general instructions such as “twice a day”.

4. Federal law requires that long-term care facilities actively consult with a pharmacist. [T] [F]

5. According to research studies, more than 10% of adverse drug events result in hospitalization. [T] [F]

6. There is little or no role for CNAs in protecting against adverse drug events. [T] [F]

7. Potential adverse drug events are common in nursing homes. [T] [F]

Thank you. Please return to instructor.
Participant Post-Test: Instructor’s KEY
Correct answers are in Circled bold italic

Circle the letter of the best answer.

Example:
Which of these is NOT a season:
   a. Winter
   b. Autumn
   c. Summer
   d. Easter
   e. Spring

1. According to regulations, a resident’s medications should be reviewed when:
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   c. CNAs should give residents prn medications on request.
   d. CNAs should be alerted to changes in residents’ medications.
Circle T if the statement is True, F if the statement is false

Example:
This is a test.  T  F

3. It is better that drugs be prescribed for specific times of day T F rather than the more general instructions such as “twice a day”.

4. Federal law requires that long-term care facilities actively consult with a pharmacist. T F

5. According to research studies, more than 10% of adverse drug events result in hospitalization. T F

6. There is little or no role for CNAs in protecting against adverse drug events. T F

7. Potential adverse drug events are common in nursing homes. T F

Thank you. Please return to instructor.
Participant Evaluation

Please circle the best response: (e.g. Agree)

1. I can describe common causes of adverse drug events.
   Strongly Disagree  Disagree  Agree  Strongly Agree
   1               2      3  4

2. I can describe best drug prescribing practices for nursing homes.
   Strongly Disagree  Disagree  Agree  Strongly Agree
   1               2      3  4

3. I can describe roles of 4 health care professionals and caregivers in medication management.
   Strongly Disagree  Disagree  Agree  Strongly Agree
   1               2      3  4

4. I can describe a quality improvement approach to preventing adverse drug events.
   Strongly Disagree  Disagree  Agree  Strongly Agree
   1               2      3  4

5. This program will help me in my care of residents.
   Strongly Disagree  Disagree  Agree  Strongly Agree
   1               2      3  4

6. This program will help me work better with other staff.
   Strongly Disagree  Disagree  Agree  Strongly Agree
   1               2      3  4

7. Overall I rate this program:
   Poor  Fair  Good  Excellent
   1     2   3        4

8. Overall I rate this instructor:
   Poor  Fair  Good  Excellent
   1     2   3        4

9. This program would be better if:
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**Instructor Evaluation Form**

Please circle the best response.

<table>
<thead>
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<th>Example: Strongly Disagree</th>
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<th>Agree</th>
<th>Strongly Agree</th>
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<tr>
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<td>2</td>
<td>3</td>
<td>4</td>
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1. Learning objectives for this module were appropriate.

   Strongly Disagree | Disagree | Agree | Strongly Agree |
   1                 | 2        | 3     | 4             |

2. This module was well-designed to meet its objectives.

   Strongly Disagree | Disagree | Agree | Strongly Agree |
   1                 | 2        | 3     | 4             |

3. Instructor materials for this module were easy to use.

   Strongly Disagree | Disagree | Agree | Strongly Agree |
   1                 | 2        | 3     | 4             |

4. The content of this module was at the right level for participants.

   Strongly Disagree | Disagree | Agree | Strongly Agree |
   1                 | 2        | 3     | 4             |

5. The videotape for this module helps to meet the objectives.

   Strongly Disagree | Disagree | Agree | Strongly Agree |
   1                 | 2        | 3     | 4             |

6. As an instructor, I rate this module overall as:

   Poor | Fair | Good | Excellent |
   1    | 2    | 3    | 4         |

7. This module would be improved if:

   [Blank space]

**Instructor information:**

My most advanced degree is: **Masters** in _____, **Bachelors** in _____, **Associate Degree** in______.

I have been teaching in long-term care for _____years, _____months.

My current title is: ____________________________________________

*Please return to Staff Development Educator. Thank you!*
Tab 3. Materials for Participants

Handout: When Wrong Things Happen with Medications: Risk and Prevention

Why this module?

This information is important for you because a lot of Adverse Drug Events (ADEs) happen in nursing homes.

An adverse drug event (ADE) is an injury from the use of a drug.

Why are ADEs likely in nursing homes?
- Residents receive many different drugs.
- Residents take medications for a long time.
- The way the drugs are prescribed is not appropriate.

There are many regulations for drug use in nursing homes since the 1987 Omnibus Reconciliation Act (OBRA).

What should you learn in this module?
At the end of this module you should know how to:

a) Describe common causes of ADEs.
b) Describe best prescribing practices for nursing homes.
c) Describe four roles of various health care professionals and caregivers in medication management.
d) Describe a quality improvement approach to prevent ADEs.

Adverse Drug Events: What do you need to know?

ADEs can be caught early if you notice and report changes in residents.

Patients’ records should tell why each drug is prescribed.

Doctors avoid ADEs when they give the fewest possible drugs at the fewest times possible in the day.

Too much or too little of a drug can cause ADEs.

Drugs that disagree with each other can cause ADEs.

All members of the care team should know who is responsible for what.

Teamwork helps to avoid errors and solve problems.
Summary of 1987 OBRA Rules Relevant to Drug Prescribing

Antipsychotic drugs. Based on a comprehensive assessment of a resident, the facility must ensure that:

A. Residents who have not used antipsychotic drugs are not given these drugs unless antipsychotic drug therapy is necessary to treat a specific condition as diagnosed and documented in the clinical record.

B. Residents who use antipsychotic drugs receive gradual dose reductions and behavioral interventions, unless clinically contraindicated, in an effort to discontinue these drugs.

Specific Conditions for Antipsychotic Drug Use

1. Schizophrenia
2. Schizo-affective disorder
3. Delusional disorder
4. Psychotic mood disorders
5. Acute psychotic episodes
6. Brief reactive psychosis
7. Schizophreniform disorder
8. Atypical psychosis
9. Tourette’s Disorder
10. Huntington’s Disease
11. Organic mental syndromes with associated psychotic and/or agitated behaviors
12. Short-term symptomatic treatment of hiccups, nausea, vomiting or pruritus

Antipsychotics should not be used for:

1. Wandering
2. Poor self-care
3. Restlessness
4. Impaired memory
5. Anxiety
6. Depression (without psychotic features)
7. Insomnia
8. Unsociability
9. Indifference to surroundings
10. Fidgeting
11. Nervousness
12. Uncooperativeness
13. Agitated behaviors which do not represent danger to the resident or others
Examples of Drug Monitoring

A. **Analgesics**
   1. Regularly document effectiveness.
   2. Consider use of a standardized pain scale.
   3. Look at efficacy and frequency of use of prns.
   4. Convert prns to scheduled dosages for better pain control.

B. **Antibiotics**
   1. Regular schedule of temperature monitoring during the acute phase.
   2. Check culture and sensitivity reports to ensure effective choice.

C. **Coumadin**
   1. Check blood clotting time regularly.
   2. Establish and record indication and therapeutic target range.

D. **Diabetes Agents/Insulin**
   1. Regularly monitor FBS and HgbA1C.
   2. Establish high and low blood sugar parameters to notify physician.

E. **Thyroid Replacement**
   1. TSH regularly until dose adjusted to achieve normal TSH.
   2. Check TSH yearly.

F. **Anticonvulsants**
   1. Monitor drug levels regularly to maintain therapeutic range.
   2. Periodic monitoring for potential drug-related toxicities.
Five “Rights” for Medication Management

Right *Patient*

Right *Drug*

Right *Dose*

Right *Time*

Right *Route*
When Wrong Things Happen with Medications: Risk and Prevention

by

Donna Miller, MD
Director, Geriatrics Institute
St. Luke’s Hospital & Health Network
Bethlehem, PA

Learning Objectives

At the end of this module direct care staff will be able to:

1. Describe common causes of adverse drug events
2. Describe best drug prescribing practices for nursing homes
3. Describe roles of 4 health care professionals and caregivers in medication management
4. Describe a quality improvement approach to preventing adverse drug events
Adverse Drug Event (ADE)

**Definition:**

An adverse drug event is “an injury resulting from the use of a drug”

Why Do Nursing Home Residents Have High Rates of ADEs?

- Number of drugs
- Staff issues
- Environmental causes
Nursing Home Drug Use

- Average 6 – 8 drugs per resident
- One-half (50%) are “prn” drugs
- One-quarter (25%) of all residents use > 9 medications

Why So Many Meds?

- Residents have multiple chronic medical conditions
- Physicians “pressured” to prescribe
- Prescribing by telephone
Best Practice Drug Prescribing for Nursing Homes

- Verify necessity of drug
- Record appropriate diagnosis for each drug
- Start low and go slow
- Be familiar with OBRA rules on drug prescribing

- Avoid significant drug-drug interactions
- Avoid potential drug-disease interactions
Practical Nursing
Home Drug Orders

- Order for a limited number of days
- Give drugs once a day if possible
- Order by daily frequency (BID) rather than by hour
- Specify indication for PRN orders
- Discontinue unnecessary PRN orders

Practical Nursing
Home Drug Orders

- Review drug orders monthly
- Discontinue unused or unnecessary drugs
- Consider cost
- Collaborate with the pharmacist
Orders for Drug Monitoring

Obtain blood levels for drugs with narrow:

- therapeutic index, or
- efficacy range

Roles in Medication Management—Physician

- Provide individualized quality medical care
- Remain informed
- Use appropriate prescribing practices
- Work as a team
- Educate team members
Module Three: When Wrong Things Happen with Medications: Risk and Prevention

Roles in Medication Management—Nurse

- Use best nursing practices
- Monitor
- Keep records
- Safeguard against potential errors
- Inform CNAs of possible side effects
- Work in a team
- Educate patients about the medications they are taking

Roles in Medication Management—CNA

- Provide direct care following best practice guidelines
- Work in a team to solve problems related to medications
- Observe patients for reactions to medication changes
- Report changes in patients to nurses

Delaware Valley Geriatric Education Center
Module Three: When Wrong Things Happen with Medications: Risk and Prevention

Roles in Medication Management—Pharmacist

- Perform periodic drug review
- Safeguard against potential errors
- Work as a member of the team
- Educate team members

Videotape “When Wrong Things Happen…”

The first segment of this video contains two scenes. Please watch the segment with these questions in mind:

- Do you see examples of good nursing practice?
- Do you see conditions that could lead to adverse drug events?
The second segment of this video shows a QI team meeting about the medication event involving Mrs. Saeger. How does each of the team members contribute to solving the problem?  
- Administrator  
- Consulting pharmacist  
- Nurse  
- CNA

**Learning Objectives:**
Did we meet them?

Are you now able to:

1. Describe common causes of adverse drug events?  
2. Describe best drug prescribing practices for nursing homes?  
3. Describe roles of 4 health care professionals and caregivers in medication management?  
4. Describe a quality improvement approach to preventing adverse drug events?
Participant Forms: Instructions

We ask for your cooperation in completing the attached forms that allow us to meet the reporting requirements of the federal government and are helpful in evaluating this module for future use. Included are:

1. Participant Profile form: answer the best you can even if some items seem confusing. This form asks for identifying information, but will be kept separate from the others.

2. Participant Pre-test: before you begin to participate in the training, answer this brief set of questions. When you complete the post-test at the end, you’ll see how much you’ve learned. At the top, write in a word or number that only you will recognize as identification, then use it again on the post test.

3. Participant Post-test: After the presentation is complete, answer the questions again. Be careful, they are in a different order.

4. Participant Evaluation form: Results from this form will be sent back to us at the Delaware Valley Geriatric Education Center. Please help us evaluate the program.

Note to Instructors:

1. These forms which you saw first in Tab 2 are included again here to make it easier for you to make copies.

2. Participants are given instructions above, so that latecomers can complete the paperwork without interrupting the program.

3. Please have participants complete the pre-test BEFORE you give them their handout.

Thank you for your cooperation in seeing that these forms are completed. Please return them to the Staff Development Coordinator who will return them to the DVGEC.
Module Three: When Wrong Things Happen with Medications: Risk and Prevention

DVGEC CONTINUING EDUCATION PARTICIPANT PROFILE FORM

(For Office Use Only)
DVGEC Educational Program Title: ________________________________
Program Date(s): ___________ Hour(s) of Attendance: ___________

Name: ______ Mr. ______ Ms. ______ Mrs. ______ Dr. ____________________
(First) (Last)

Gender: ______ Male ______ Female DOB: ___ / ___ / ______

Social Security #: ___________________________ Job Title: ___________________________
(Last 4 Digits Only)

Home Address: ___________________________ Work Address: ___________________________
_________________________ ___________________________
_________________________ ___________________________

Home Telephone: (____)_____________________ Work Telephone: (____)_________________________

Fax Number: (____)________________________

E-mail: ____________________________________________

Ethnicity: 
____ American Indian or Alaska Native
____ Asian (Far East, SE Asia, Indian subcontinent, Philippines, Vietnam, etc)
____ Black or African American
____ Hispanic/Latino
____ Native Hawaiian/Other Pacific Islander
____ White
____ Other, specify _____________________________

Most Advanced Degree (Check one and circle degree):
____ No Degree
____ Associates Degree (e.g. AA, AAS)
____ Baccalaureate Degree (e.g. BA, BS, BSN, BSW)
____ Masters Degree (e.g. MA, MBA, M.Ed., MS, MSN, MSW)
____ Doctorate (e.g. Ph.D., Ed.D, Sc.D.)
____ MD ______ CAQ in geriatrics
____ DO ______ CAQ in geriatrics
____ Other ______ CAQ in geriatrics
____ Other, specify _____________________________

Do you consider yourself to have ever been from an economically or educationally disadvantaged background? ______ Yes ______ No

Health Profession (Check only one):
Primary Care Disciplines
____ Family Medicine
____ General Internal Medicine
____ Physician Assistant
____ Nurse Practitioner
____ Dentistry

Other Health Professions
____ Allopathic Medicine
____ Osteopathic Medicine
____ Other Advanced Practice Nurse (NP, PA, CNS)
____ Undergraduate Nurse (RN/Diploma, AA, AAS, BS)
____ Health Administration
____ Public Health
____ Clinical Psychology/Counseling
____ Social Work

Other discipline, please specify _____________________________

Allied Health Disciplines
____ Food and Nutrition Services
____ Health Information (Administrators, Technicians)
____ Rehabilitation (Therapists or Assistants in OT, PT, Recreation/Activities, Speech/Audiology)
____ Dental (Hygienists, Assistants)
____ Assistants (LPNs, CNAs, Home Health Aides, Medical Assistants)

Other Disciplines
____ Law Enforcement
____ Housing Manager
____ Mental Health/Crisis Worker

Primary Role (Check only one):
____ Administrator/Manager
____ Academic Faculty
____ Clinical Faculty
____ Health Care Practitioner/Community Service Provider
____ Inservice/Continuing Education Coordinator
____ Student
____ Retired, family caregiver
____ Other, specify _____________________________

Which of the following activities do you perform in your current position?
(Check all that apply):
____ Continuing Education/Inservice Presentations
____ Curriculum Development
____ Teaching Academic Courses
____ Research Grants
____ Training and Education Grants
____ Publications
____ Serve as a Board/Committee Member
____ Direct Care Provider /Community Service Provider
____ (If checked, please complete questions on back of form)
____ None of the above

TLC for LTC Delaware Valley Geriatric Education Center University of Pennsylvania
If you are a direct care provider/community service provider and spend at least 50% of your time serving underserved populations, please answer the following questions:

___Check if not applicable to your practice

Site of Practice: (Check one only)

___Community Health Center
___Mental Health Center
___Health Care for Homeless
___Senior Subsidized Housing
___NJ EASE Care Manager/Office on Aging
___State or local Health Department
___Nursing Home
___Adult Day Care
___Health Professional Shortage Area (HPSA)
___Governor – Designated Underserved State Practice Site
___Other, specify___________________________________

Profile of the population you serve (Please answer all questions):

1. Approximate number of older adults served per month __________

2. What percentage are racial/ethnic minority elders? __________%

3. What percentage are disadvantaged/underserved elders (e.g., low income/low socioeconomic status, limited access to care, geographically isolated, etc.)? __________%

4. What is the largest minority or underserved elderly population you serve? (e.g., African American, Hispanic, Asian, low income white? ______________
Module Three: When Wrong Things Happen with Medications: Risk and Prevention

Your ID _______________  Today’s Date __/__/__

Participant Pre-Test

Circle the letter of the best answer.

Example:
Which of these is NOT a season:
   a. Winter
   b. Autumn
   c. Summer
   d. Easter
   e. Spring

1. Which of these statements is false?
   a. CNAs should be part of the medication team.
   b. CNAs should report any changed behaviors or symptoms in residents.
   c. CNAs should give residents prn medications on request.
   d. CNAs should be alerted to changes in residents’ medications.

2. According to regulations, a resident’s medications should be reviewed when:
   a. More than two drugs of one kind are given.
   b. A resident hides pills.
   c. Any psychotropic drug is prescribed.
   d. More than nine medications are prescribed.
Circle T if the statement is True, F if the statement is false.

**Example:**
This is a test. T F

3. Federal law requires that long-term care facilities actively consult with a pharmacist. T F

4. It is better that drugs be prescribed for specific times of day rather than the more general instructions such as “twice a day”. T F

5. Potential adverse drug events are common in nursing homes. T F

6. According to research studies, more than 10% of adverse drug events result in hospitalization. T F

7. There is little or no role for CNAs in protecting against adverse drug events. T F

Thank you. Please return to instructor.
Participant Post-Test

Circle the letter of the best answer.

Example:
Which of these is NOT a season:
- a. Winter
- b. Autumn
- c. Summer
- d. Easter
- e. Spring

1. According to regulations, a resident’s medications should be reviewed when:
   
   a. More than two drugs of one kind are given.
   
   b. A resident hides pills.
   
   c. Any psychotropic drug is prescribed.
   
   d. More than nine medications are prescribed.

2. Which of these statements is false?
   
   a. CNAs should be part of the medication team.
   
   b. CNAs should report any changed behaviors or symptoms in residents.
   
   c. CNAs should give residents prn medications on request.
   
   d. CNAs should be alerted to changes in residents’ medications.
Circle \textit{T} if the statement is True, \textit{F} if the statement is false.

\begin{center}
\textbf{Example:}  \\
This is a test. \hspace{1cm} \textbf{T} \hspace{1cm} \textbf{F}
\end{center}

3. It is better that drugs be prescribed for specific times of day \hspace{1cm} \textbf{T} \hspace{1cm} \textbf{F}  \\
rather than the more general instructions such as “twice a day”.

4. Federal law requires that long-term care facilities actively \hspace{1cm} \textbf{T} \hspace{1cm} \textbf{F}  \\
consult with a pharmacist.

5. According to research studies, more than 10\% of adverse \hspace{1cm} \textbf{T} \hspace{1cm} \textbf{F}  \\
drug events result in hospitalization.

6. There is little or no role for CNAs in protecting against adverse \hspace{1cm} \textbf{T} \hspace{1cm} \textbf{F}  \\
drug events.

7. Potential adverse drug events are common in nursing homes. \hspace{1cm} \textbf{T} \hspace{1cm} \textbf{F}

Thank you. Please return to instructor.
Participant Evaluation

Please circle the best response: (e.g. Agree)

1. I can describe common causes of adverse drug events.
   - Strongly Disagree
   - Disagree
   - Agree
   - Strongly Agree

2. I can describe best drug prescribing practices for nursing homes.
   - Strongly Disagree
   - Disagree
   - Agree
   - Strongly Agree

3. I can describe roles of 4 health care professionals and caregivers in medication management.
   - Strongly Disagree
   - Disagree
   - Agree
   - Strongly Agree

4. I can describe a quality improvement approach to preventing adverse drug events.
   - Strongly Disagree
   - Disagree
   - Agree
   - Strongly Agree

5. This program will help me in my care of residents.
   - Strongly Disagree
   - Disagree
   - Agree
   - Strongly Agree

6. This program will help me work better with other staff.
   - Strongly Disagree
   - Disagree
   - Agree
   - Strongly Agree

7. Overall I rate this program:
   - Poor
   - Fair
   - Good
   - Excellent

8. Overall I rate this instructor:
   - Poor
   - Fair
   - Good
   - Excellent

9. This program would be better if: