

## Partnering with Pharmacists to Provide Preconception Care

American Public Health Association  
143<sup>rd</sup> Annual Meeting & Exposition

November 4, 2015

Natalie A. DiPietro Mager, PharmD, MPH  
Associate Professor of Pharmacy Practice  
Raabe College of Pharmacy, Ohio Northern University

### Presenter Disclosure

Natalie A. DiPietro Mager

- (1) The following personal financial relationships with commercial interests relevant to this presentation existed during the past 12 months:

No relationships to disclose

### Learning objectives

- Explain the need for an interdisciplinary approach to preconception care.
- Discuss why pharmacists are well-suited to impact public health priorities, including the improvement of pregnancy outcomes.
- Describe opportunities to collaborate with pharmacists to provide preconception care.

### Preconception care

- Set of interventions that aim to identify and modify biomedical, behavioral, and social risks to a woman's health or pregnancy outcome through prevention and management
  - Improve health for all women of childbearing age before conception
    - First or subsequent pregnancy (*interconception care*)
- Should be viewed as part of routine health care
- Components of preconception care include
  - risk screening
  - health promotion
  - effective interventions

Sources: CDC, 2006; Kent et al, 2006

### Clinical content of preconception care

14 evidence-based interventions have been identified, which can be classified into 4 categories

Counseling	Maternal assessment	Screening	Vaccinations
<ul style="list-style-type: none"><li>• Folic acid</li><li>• Smoking</li><li>• Alcohol &amp; other recreational drug misuse</li><li>• Obesity</li></ul>	<ul style="list-style-type: none"><li>• Pre-gestational diabetes</li><li>• Hypothyroidism</li><li>• Maternal phenylketonuria (PKU)</li><li>• Teratogenic drugs</li></ul>	<ul style="list-style-type: none"><li>• HIV/AIDS</li><li>• STIs</li></ul>	<ul style="list-style-type: none"><li>• Rubella</li><li>• Hepatitis B</li></ul>

See [http://www.ajog.org/article/S0002-9378\(08\)00887-9/fulltext](http://www.ajog.org/article/S0002-9378(08)00887-9/fulltext) for a comprehensive summary of strength of evidence for preconception topics

Sources: CDC, 2006; Kent et al, 2006

### Recognizing gaps in preconception care

- Current literature suggests that many women are not routinely receiving necessary education or interventions
  - Estimated **18.5% (CI=17.1-19.7)** of women aged 18–44 years having a live birth in 4 states received preconception counseling from a health-care provider on at least 5 of 11 healthy lifestyle behaviors and prevention strategies before pregnancy
  - Nationally representative data on ambulatory visits for women aged 15–44 years indicated that only **14%** included either preconception or contraceptive services
  - Only **32%** of women aged 18–45 years affirmed that a health care provider had talked to them about the benefits of folic acid
    - **7%** of women aged 18–24 years

Sources: Bello et al, 2015; MOD, 2008; Robbins et al, 2014

## Closing gaps in preconception care

- Interdisciplinary approach
  - Clinical-community linkages
    - Align and inform efforts among clinical providers, hospitals, community-based organizations, public health and governmental agencies, and other stakeholders

Source: AHRQ, 2015

## Pharmacists: education and training

- Doctor of Pharmacy (PharmD) degree
  - Entry-level degree since 2006
  - 6-8 years to complete
    - Extensive didactic preparation focused on clinical training and physical assessment
    - Diverse experiential experience in broad array of healthcare settings
    - Emphasis on patient-centered care and pharmacotherapy optimization to improve patient outcomes and quality of life
- Post-graduate opportunities: residency, fellowship, graduate school

Source: AACP, 2014

## Public health in PharmD curriculums

- CAPE educational outcomes
  - 2 of 4 domains emphasize population-based care and health/wellness
- ACPE accreditation standards
  - Competencies related to public health are in many of the standards for the didactic and experiential curriculum

Sources: AACP, 2013; ACPE, 2014

## Pharmacists: accessibility & impact

- There is growing recognition that pharmacists play an important role in public health and clinical health
- Examples:
  - American Public Health Association (2006)
    - Pharmacists are “often uniquely sited in the community to provide public health services”
    - Accessible, trusted healthcare professional
    - Specialized knowledge & training
    - Provision of primary, secondary, and tertiary prevention

Source: APHA, 2006

## ■ Examples, continued

- US Public Health Service (2011)
  - “As public health professionals, through interprofessional practice, pharmacists can directly affect health determinants.”
- Centers for Disease Control and Prevention (2012)
  - “The role of the pharmacist has expanded beyond just dispensing medications and is evolving into active participation in chronic disease management as a part of team-based care.”
- National Association of County & City Health Officials (2014)
  - “Independent, chain, and ethnic pharmacies often target hard-to-reach and vulnerable populations”

Sources: USPHS, 2011; CDC, 2012; NACCHO, 2014

## Collaboration with pharmacists to increase provision of preconception care

- Reduce the number of unintended pregnancies
- Provide education and/or medication therapy management for women as appropriate for each of the 14 proven interventions
- Administer needed vaccinations to women per state law
- Interpret literature or provide drug information regarding medication use and drug toxicity before & during pregnancy
- Raise awareness and advocate for preconception care
- Conduct research

Sources: Briggs, 2002; DiPietro, 2008; DiPietro & Bright, 2014; El-Ibiary et al, 2014; Farris et al, 2010; Lee & Thomason, 2011

## Unintended pregnancies

- Currently 49% of all pregnancies in the U.S. are unintended
- Approximately 50% of all unintended pregnancies occur among couples using some form of contraception in the month prior to conception
  - Inconsistent or improper use
  - Discontinuation because of side effects
  - Method failure
  - Ambivalence about pregnancy desires
  - Partner sabotage

Sources: BBB, 2015; Guttmacher Institute, 2013

## “Traditional” roles for pharmacists

- Dispensing hormonal contraception prescriptions
- Aiding with selection of nonprescription products
- Counseling and educating patients
  - Education on proper and consistent use
  - Education on risks of contraception vs. risks of pregnancy
- Working with patients to create a reproductive life plan

Sources: DiPietro & Bright, 2014; Farris et al, 2010

## Emerging roles for pharmacists

- Providing hormonal contraceptives without a prescription per state law (California, Oregon)
  - Promoting behind-the-counter status for prescription contraceptives in all states
- Using collaborative practice agreements for initiation and continuation of prescription contraceptives per state law
- Choosing and counseling on emergency contraception; prescribing and dispensing per state law

Sources: Farris et al, 2010; Guttmacher 2015; Ostrov, 2015

- Providing administration of injectable contraception per state law
- Providing information or a referral for long-acting reversible contraceptives (LARC)
- Partnering with local health departments and family planning programs to increase access to contraceptives and promote safe use
- Utilizing social marketing materials to increase knowledge of available contraceptive options and increase their use

Source: Farris et al, 2010

## Medication therapy management (MTM)

- Assessment and evaluation of a patient's complete medication therapy regimen
  - Distinct from medication dispensing
- Core elements of MTM
  - Medication therapy review (MTR)
  - Personal medication record (PMR)
  - Medication-related action plan (MAP)
  - Intervention and/or referral
  - Documentation and follow-up

Source: APHA, 2008

## Opportunities for pharmacist intervention through MTM

- Targeted medication review (TMR)
  - Folic acid
  - Teratogenic and Category X medications
  - Vaccines
- Comprehensive medication review (CMR)
  - Diabetes

Source: DiPietro & Bright, 2014

- Counseling and education
  - Tobacco
  - Alcohol and substance abuse
- Screening, support, and referrals
  - HIV/AIDS
  - Sexually transmitted infections (STIs)
  - Hypothyroidism
  - Obesity
  - Maternal phenylketonuria (PKU)

Source: DiPietro & Bright, 2014

## Vaccines

- Pharmacists may serve as an
  - Educator
  - Facilitator
  - Immunizer, per state law
    - Pharmacists are authorized to provide vaccines in all 50 states
    - Variation exists in
      - types of vaccines that can be administered
      - age groups of patients that pharmacists may vaccinate

Sources: Rach & Goad, 2015; DiPietro & Bright, 2014

## Drug information

- Pharmacists and pharmacy students are trained in medical literature retrieval and evaluation
- Provide and interpret information regarding drug toxicity and medication use before and during pregnancy
- Various drug information centers are also available
  - Example:
    - Ohio Northern University Drug Information Center (free service)
    - [http://www.onu.edu/pharmacy/drug\\_information\\_center](http://www.onu.edu/pharmacy/drug_information_center)

Source: ACPE, 2014; Briggs, 2002

## Advocacy

- Network and collaborate with health care and public health professionals with similar goals
  - Local
  - State
  - Federal
  - International
- Inform laws and regulations
- Involvement in regulatory agencies, public health programs, and professional associations
- Build understanding and good will between practitioners to promote pilot projects

Sources: APHA 2006; Farris et al, 2010

## Research

- Collaborate with pharmacists in research projects
  - Academia
  - Practice
    - Examples:
      - American College of Clinical Pharmacists Women's Health Practice and Research Network
      - Pharmacy-based Practice-Based Research Networks

Source: ACCP, 2014; AHRQ, 2014

***"Any effort to increase the use of preventive services and improve women's health status must be interprofessional in nature and include pharmacy as one of the targeted health professions."***

~ U.S. Department of Health and Human Services (HHS), Health Resources and Services Administration (HRSA), Office on Women's Health (OWH), American Association of Colleges of Pharmacy (AACP), 2004

***"Evidence of the contribution of pharmacists in improving Maternal, Newborn and Child Health has been gathered in many countries . . . pharmacists could contribute even further, if and when they are empowered to work within the full scope of pharmacy services appropriate in their country."***

~ International Pharmaceutical Federation (FIP), 2013

## Questions/Comments

Thank you!  
n-dipietro@onu.edu

## References

- AACP (American Association of Colleges of Pharmacy), 2013. CAPE Educational Outcomes. [www.aacp.org/resources/education/cape/Open%20Access%20Documents/CAPEOutcomes2013.pdf](http://www.aacp.org/resources/education/cape/Open%20Access%20Documents/CAPEOutcomes2013.pdf)
- AACP, 2014. Is Pharmacy For You? [www.aacp.org/resources/student/pharmacyforyou/Pages/default.aspx](http://www.aacp.org/resources/student/pharmacyforyou/Pages/default.aspx)
- ACCP (American College of Clinical Pharmacists), 2014. Practice and Research Networks. <http://www.accp.com/about/prns.aspx>
- ACPE (Accreditation Council for Pharmacy Education), 2014. Accreditation Standards and Key Elements for the Professional Program in Pharmacy Leading to the Doctor of Pharmacy Degree. <https://www.acpe-accredit.org/pdf/Standards2016DR-ACET-60-TRUST-1-E-ASSESSMENT-REVISION.pdf>
- AHRQ (Agency for Healthcare Research and Quality), 2014. Practice-based Research Networks. <http://ahrq.gov/about>
- AHRQ, 2015. Clinical-community Linkages. <http://www.ahrq.gov/professionals/prevention-chronic-illness/communities/index.html>
- APbA (American Pharmacists Association), 2008. Medication Therapy Management in Pharmacy Practice. [www.pharmacist.com/sites/default/files/files/core\\_elements\\_of\\_an\\_mtm\\_practice.pdf](http://www.pharmacist.com/sites/default/files/files/core_elements_of_an_mtm_practice.pdf)
- APHA (American Public Health Association), 2006. The Role of the Pharmacist in Public Health.
- Bach & Goad, 2015. The Role of Community Pharmacy-based Vaccination in the USA: Current Practice and Future Directions. <http://dx.doi.org/10.2147/PPRP.S63822>
- BBB (Before, Between, and Beyond Pregnancy), 2015. The National Preconception Curriculum and Resources Guide for Clinicians. <http://beforeandbeyond.org/toolkit/reproductive-life-plan-assessment/>
- Bello et al, 2015. Trends in Contraceptive and Preconception Care in United States Ambulatory Practices. *Fam Med*. 47(4):264-71.
- Briggs, 2002. Drug effects on the fetus and breast-fed infant. *Clin Obstet Gynecol*. 45(1):6-21.
- CDC (Centers for Disease Control and Prevention), 2006. Recommendations to Improve Preconception Health and Health Care - United States. *MMWR* 55(No. 1, RR-6):1-22.

- CDC, 2012. Partnering with Pharmacists in the Prevention and Control of Chronic Diseases. [http://www.cdc.gov/dndsp/programs/nbdlp\\_program/docs/pharmacist\\_guide.pdf](http://www.cdc.gov/dndsp/programs/nbdlp_program/docs/pharmacist_guide.pdf)
- DiPietro, 2008. Preconception Care: An Overview. *US Pharm*. 33(9):34-37.
- DiPietro & Bright, 2014. Medication Therapy Management and Preconception Care: Opportunities for Pharmacist Intervention. *INNOV in Pharm*. 5(1):Article 141.
- ElJibary et al, 2014. The Pharmacist's Role in Promoting Preconception Health. *J Am Pharm Assoc*. 54:e288-e303.
- FIP (International Pharmaceutical Federation), 2013. The Effective Utilization of Pharmacists in Improving Maternal, Newborn and Child Health. [http://files.fip.org/publications/FIP\\_Statement\\_of\\_Policy\\_MNCH\\_2013\\_Final.pdf](http://files.fip.org/publications/FIP_Statement_of_Policy_MNCH_2013_Final.pdf)
- Farris et al, 2010. Preventing Unintended Pregnancy: Pharmacists' Roles in Practice and Policy via Partnerships. *J Am Pharm Assoc*. 50(5):604-12.
- Guttmacher Institute, 2013. Unintended Pregnancy in the United States. <http://www.guttmacher.org/pubs/FB-Unintended-Pregnancy-US.html>
- Guttmacher Institute, 2015. State Policies in Brief: Emergency Contraception. [www.guttmacher.org/statecenter/spibs/spib\\_EC.pdf](http://www.guttmacher.org/statecenter/spibs/spib_EC.pdf)
- Kent et al, 2006. Proceedings of the Preconception Health and Health Care Clinical, Public Health, and Consumer Workgroup Meetings. [www.cdc.gov/nbdlp/preconception/documents/Workgroup%20Proceedings%20June06.pdf](http://www.cdc.gov/nbdlp/preconception/documents/Workgroup%20Proceedings%20June06.pdf)
- Lee & Thomson, 2010. Chapter 21: Pregnancy Planning. In: Borgelt, O'Connell, Smith, and Calis, eds. *Women's Health Across the Lifespan: A Pharmacotherapeutic Approach*.
- MOD (March of Dimes), 2008. Improving preconception health: women's knowledge and use of folic acid.
- NACCHO (National Association of County & City Health Officials), 2014. Local Health Department and Pharmacy Partnerships for Enhancing Medication Dispensing during Emergencies. <http://naccho.org/advocacy/positions/apboad/14-03-LHD-Pharmacy-partnerships-for-emergency-response.pdf>
- Ostrom. California, Oregon to allow hormonal contraceptives without a doctor's prescription. *Kaiser Health News*, 7/15/15
- Robbins et al, 2014. Core State Preconception Health Indicators - Pregnancy Risk Assessment Monitoring System and Behavioral Risk Factor Surveillance System, 2009. *MMWR* 63(50):1-62.
- USPHS (U.S. Public Health Service), 2011. Improving Patient and Health System Outcomes through Advanced Pharmacy Practice. [http://www.cdc.gov/ncphd/dndsp/programs/nbdlp\\_program/docs/pharmacist\\_guide.pdf](http://www.cdc.gov/ncphd/dndsp/programs/nbdlp_program/docs/pharmacist_guide.pdf)