CENTER FOR DRUG EVALUATION AND RESEARCH

APPLICATION NUMBER:

022247Orig1s000

PROPRIETARY NAME REVIEW(S)

Department of Health and Human Services
Public Health Service
Food and Drug Administration
Center for Drug Evaluation and Research
Office of Surveillance and Epidemiology
Office of Medication Error Prevention and Risk Management

Proprietary Name Review--Final

Date:	September 6, 2013
Team Leader:	James Schlick, RPh, MBA Division of Medication Error Prevention and Analysis
Drug Name and Strength:	Duavee (Conjugated Estrogens and Bazedoxifene Acetate) Tablets, 0.45 mg/20 mg
Application Type/Number:	NDA 022247
Applicant/Sponsor:	Wyeth Pharmaceuticals
OSE RCM #:	2013-1884

*** This document contains proprietary and confidential information that should not be released to the public.***

CONTENTS

1 INTRODUCTION

This re-assessment of the proposed proprietary name, Duavee, is written in response to the anticipated approval of this NDA within 90 days from the date of this review. DMEPA found the proposed name, Duavee, acceptable in OSE Review 2013-759 dated June 17, 2013.

2 METHODS AND DISCUSSION

For re-assessments of proposed proprietary names, DMEPA searches a standard set of databases and information sources (see section 4) to identify names with orthographic and phonetic similarity to the proposed name that have been approved since the previous OSE proprietary name review. For this review we used the same search criteria described in OSE Review 2013-759. We note that none of the proposed product characteristics were altered. However, we evaluated the previously identified names of concern considering any lessons learned from recent post-marketing experience, which may have altered our previous conclusion regarding the acceptability of the proposed proprietary name. The searches of the databases yielded no new names.

Additionally, DMEPA searched the USAN stem list to determine if the name contains any USAN stems as of the last USAN updates. The Safety Evaluator did not identify any United States Adopted Names (USAN) stems in the proposed proprietary name, as of August 16, 2013.

3 CONCLUSIONS

The re-evaluation of the proposed proprietary name, Duavee, did not identify any vulnerabilities that would result in medication errors with any additional name(s) noted in this review. Thus, DMEPA has no objection to the proprietary name, Duavee, for this product at this time.

DMEPA considers this a final review; however, if approval of the NDA is delayed beyond 90 days from the date of this review, the Division of Bone, Reproductive, and Urologic Products should notify DMEPA because the proprietary name must be re-reviewed prior to the new approval date.

If you have further questions or need clarifications, please contact Marcus Cato, OSE project manager, at 301-796-3903.

4 REFERENCES

1. OSE Review 2013-759; Duavee (Conjugated Estrogens and Bazedoxifene) Proprietary Name Review

2. ***Drugs@FDA (****http://www.accessdata.fda.gov/scripts/cder/drugsatfda/index.cfm****)***

Drugs@FDA contains most of the drug products approved since 1939. The majority of labels, approval letters, reviews, and other information are available for drug products approved from 1998 to the present. Drugs@FDA contains official information about FDA approved brand name, generic drugs, therapeutic biological products, prescription and over-the-counter human drugs and discontinued drugs and "Chemical Type 6" approvals.

3. ***USAN Stems*** *(http://www.ama-assn.org/ama/pub/physician-resources/medical-science/united-states-adopted-names-council/naming-guidelines/approved-stems.page?)*

USAN Stems List contains all the recognized USAN stems.

4. ***Division of Medication Error Prevention and Analysis Proprietary Name Consultation Request***

Compiled list of proposed proprietary names submitted to the Division of Medication Error Prevention and Analysis for review. The list is generated on a weekly basis from the Access database/tracking system.

This is a representation of an electronic record that was signed electronically and this page is the manifestation of the electronic signature.

/s/

JAMES H SCHLICK
09/06/2013

Department of Health and Human Services
Public Health Service
Food and Drug Administration
Center for Drug Evaluation and Research
Office of Surveillance and Epidemiology
Office of Medication Error Prevention and Risk Management

Proprietary Name Review

Date:	June 17, 2013
Reviewer:	Manizheh Siahpoushan, PharmD Division of Medication Error Prevention and Analysis
Acting Team Leader:	James Schlick, RPh, MBA Division of Medication Error Prevention and Analysis
Division Director:	Carol Holquist, RPh Division of Medication Error Prevention and Analysis
Drug Name and Strengths:	Duavee (Conjugated Estrogens and Bazedoxifene Acetate) Tablets, 0.45 mg/20 mg
Application Type/Number:	NDA 022247
Applicant/Sponsor:	Wyeth Pharmaceuticals
OSE RCM #:	2013-759

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CONTENTS

1 INTRODUCTION

This review evaluates the proposed proprietary name, Duavee, from a safety and promotional perspective. The sources and methods used to evaluate the proposed name are outlined in the reference section and Appendix A respectively.

1.1 BACKGROUND AND REGULATORY HISTORY

NDA 022247 was officially submitted on October 3, 2012 and is therefore considered to be under PDUFA V. As an NME, it is part of "The Program", and will have a 12 month clock with additional regulatory milestones. The first proposed proprietary name, (b) (4) for this product was found unacceptable (b) (4) in OSE Review #2012-2382, dated November 20, 2012. The Applicant submitted the new proposed proprietary name, Duavee, on March 22, 2013. Additionally, this submission included updated container labels and carton labeling which were reviewed under a separate cover in OSE Review #2012-2561 dated April 11, 2013.

The proposed product is a combination of conjugated estrogens and bazedoxifene acetate. Since estrogen therapy alone has been shown to increase the risk of endometrial cancer in women with a uterus, progestins have been added to estrogen therapy to reduce the risk of endometrial hyperplasia which may be a precursor to endometrial cancer. In this proposed combination product, the Applicant is using bazedoxifene as a substitute for progestin to provide endometrial protection.

The original submission on October 3, 2012 included two proposed strengths (i.e., 20 mg/0.45 mg and 20 mg/0.625 mg) and dosing recommendations for the following indications:

- Treatment of moderate to severe vasomotor symptoms and vulvar and vaginal atrophy associated with menopause: 20 mg/0.625 mg once daily.
- Prevention of postmenopausal osteoporosis: 20 mg/0.45 mg once daily

During the first labeling meeting held on May 7, 2013, DBRUP discussed the possibility of only the lower strength of this product (i.e., 20 mg/0.45 mg) to be approved (b) (4) However, further evaluation by the DBRUP clinical team was necessary before making a final decision. In the same meeting, DMEPA explained to the DBRUP Medical Officer that if the product is to be approved with a single strength, then DMEPA should be made aware of this decision because that would impact the assessment of the proposed proprietary name, Duavee. Subsequently, in the third labeling meeting held on May 23, 2013, the DBRUP Medical Officer notified DMEPA that the Division decided to drop the higher strength (i.e., 20 mg/0.625 mg). The Division is making the following regulatory action recommendations to the Applicant:

- Treatment of vasomotor symptoms: from the clinical perspective, once daily bazedoxifene acetate and conjugated estrogens 20 mg/0.45 mg for the treatment of moderate and severe vasomotor symptoms in women with a uterus should be

approved. (b) (4) [redacted]

- Prevention of postmenopausal osteoporosis: from the clinical perspective, once daily bazedoxifene acetate and conjugated estrogens 20 mg/0.45 mg for the prevention of osteoporosis in women with a uterus should be approved. (b) (4) [redacted]
- Treatment of vulvar and vaginal atrophy: from a clinical perspective, this indication should receive a complete response.

It was confirmed by the DBRUP project management that this decision and the Division's overall concerns with this NDA would not be communicated to the Applicant until the June 26, 2013 Late Cycle Meeting. DMEPA's goal date of June 20, 2013 precedes this expected communication. Therefore, since the Division confirmed their confidence in approving only the lower strength of the proposed product based on their clinical assessment, DMEPA will consider only the lower strength (i.e., 20 mg/0.45 mg) of this product when evaluating the proposed proprietary name, Duavee, in this review.

Additionally, the Division stated that the presentation of the established name and the product strength in all labels and labeling should be revised to have the Conjugated estrogens component of the established name as well as the associated strength of 0.45 mg to appear first in the listing of ingredients of the established name (i.e., Conjugated Estrogens and Bazedoxifene Acetate Tablets, 0.45 mg/20 mg). This presentation is consistent with all the other estrogen plus progestin combination products that have been approved in the past by the Agency (e.g., Angeliq, Prefest, Premphase, Prempro, etc.). Thus we will refer to the product and the product strength as Conjugated Estrogens and Bazedoxifene Acetate Tablets, 0.45 mg/20 mg throughout this review, and will assess the proposed name based on such.

1.2 PRODUCT INFORMATION

The following product information is provided in the March 22, 2013 proprietary name submission and includes DBRUP's recommended revisions.

- Active Ingredient: Conjugated Estrogens and Bazedoxifene Acetate (DBRUP's recommended presentation)
- Indication of Use: 1) treatment of moderate to severe vasomotor symptoms associated with menopause in women with a uterus, and 2) prevention of postmenopausal osteoporosis in women with a uterus (DBRUP's recommendation)
- Route of Administration: Oral
- Dosage Form: Tablets
- Strengths: 20 mg/0.45 mg (DBRUP's recommendation)
- Dose and Frequency: One tablet orally once daily

- How Supplied: [redacted] two blister packs of 15 tablets each in a carton. Professional blister packs of 7 tablets will be available.
- Storage: Controlled room temperature. Dispense and keep product in the original container. [redacted]. Protect from moisture. The Applicant has requested [redacted] months of expiration dating period for the 20 mg/0.45 mg product strength. After opening, [redacted] product contained in the blister packs must be used within 60 days.
- Container and Closure System:

[redacted]

  - Blister cards: The blister card (one tablet per blister dome) consists of [redacted] an aluminum foil laminate pouch. [redacted]

2 RESULTS

The following sections provide the information obtained and considered in the overall evaluation of the proposed proprietary name.

2.1 PROMOTIONAL ASSESSMENT

The Office of Prescription Drug Promotion (OPDP) determined the proposed name is acceptable from a promotional perspective. DMEPA and the Division of Reproductive and Urologic Products concurred with the findings of OPDP's promotional assessment of the proposed name.

2.2 SAFETY ASSESSMENT

The following aspects were considered in the safety evaluation of the name.

2.2.1 United States Adopted Names (USAN) SEARCH

The April 4, 2013 search of the United States Adopted Name (USAN) stems did not identify that a USAN stem is present in the proposed proprietary name.

2.2.2 Components of the Proposed Proprietary Name

The Applicant indicated in their submission that the proposed name, Duavee, is an invented word with no inherent meaning. This proprietary name is comprised of a single word that does not contain any components (i.e. a modifier, route of administration, dosage form, etc.) that are misleading or can contribute to medication error.

2.2.3 FDA Name Simulation Studies

Thirty-eight practitioners participated in DMEPA's prescription studies. The interpretations did not overlap with any currently marketed products, nor did they appear or sound similar to a currently marketed U.S. product or product in the pipeline. Eight out of thirty-eight participants interpreted the name correctly as 'Duavee' (3 outpatient and 5 inpatient study participants). Seven outpatient and one inpatient prescription study participants misinterpreted the ending letter 'e' as the letter 'c'. Four participants from the outpatient prescription studies misinterpreted the letter 'u' as the letter string 'ri'. Nine participants from the voice prescription studies misinterpreted Duavee as 'Duervey', 'Duorvee', 'Duorvy', 'Duove', 'Duovee', 'Duovi', 'Duovie', 'Duovive', and 'Duravie'.

We considered all the misinterpretations by the participants from the inpatient, outpatient, and voice studies in our orthographic and phonetic evaluation of the proposed proprietary name, Duavee (See Appendix B). See Appendix C for the complete listing of interpretations from the verbal and written prescription studies.

2.2.4 Comments from Other Review Disciplines at Initial Review

In response to the OSE, April 9, 2013 e-mail, the Division of Bone, Reproductive and Urologic Products (DBRUP) did not forward any comments or concerns relating to the proposed name at the initial phase of the proprietary name review.

2.2.5 Failure Mode and Effects Analysis of Similar Names

Appendix B lists possible orthographic and phonetic misinterpretations of the letters appearing in the proposed proprietary name, Duavee. Table 1 lists the names of products with potential orthographic, phonetic, or spelling similarity to the proposed proprietary name, Duavee identified by the primary reviewer (PR) and the Expert Panel Discussion (EPD).

Table 1: Collective List of Potentially Similar Names (DMEPA and EPD)					
Look Similar					
Name	***Source***	***Name***	***Source***	***Name***	***Source***
Tarceva	PR	Provera	PR	Norvir	PR
Pexeva	PR	Lexiva	PR	(b) (4) ***	PR
Daysee	PR & EPD	Decavac	PR & EPD	Denavir	PR & EPD
Diurex	PR	Duac	PR & EPD	Duocal	EPD
Duocet	EPD	Duosol	EPD	Duoneb	EPD
Duexis	EPD	Dirame	EPD	Dycill	EPD
Duo-care	EPD	Diovan	EPD	Onmel	EPD
Duexa	EPD	Dizac	EPD	DuoVisc	PR & EPD
Dovonex	EPD	Arava	EPD	Avonex	EPD
(b) (4) ***	EPD	Duagen	EPD	Duavent	EPD
Duocaine	EPD	Duracef	EPD	Privine	EPD
Denaze	EPD	Levora	PR	(b) (4) ***	PR
Look and Sound Similar					
Name	***Source***	***Name***	***Source***	***Name***	***Source***
Duavee	EPD	(b) (4) ***	EPD		

Our analysis of the 38 names contained in Table 1 considered the information obtained in the previous sections along with their product characteristics. We determined 38 names will not pose a risk for confusion as described in Appendices D through E.

2.2.6 Communication of DMEPA's Analysis at Midpoint of Review

DMEPA communicated our findings to the Division of Bone, Reproductive and Urologic Products via e-mail on April 24, 2013. At that time we also requested additional information or concerns that could inform our review. The Division of Bone, Reproductive and Urologic Products stated no additional concerns with the proposed proprietary name, Duavee.

*** This document contains proprietary and confidential information that should not be released to the public.

3 CONCLUSIONS

The proposed proprietary name is acceptable from both a promotional and safety perspective.

If you have further questions or need clarification, please contact Marcus Cato, OSE project manager, at 301-796-3903.

3.1 COMMENTS TO THE APPLICANT

We have completed our review of the proposed proprietary name, Duavee, and have concluded that this name is acceptable.

The proposed proprietary name must be re-reviewed 90 days prior to approval of the NDA. The results are subject to change. If any of the proposed product characteristics as stated in your March 22, 2013 submission are altered, the name must be resubmitted for review.

4 REFERENCES

1. *NDA 22247 Clinical Review Efficacy and Safety (draft), Whitaker, M, Bienz, S, Willet, G, Voss, S, Kehoe, T, May 31, 2013.*

2. ***Micromedex Integrated Index (http://csi.micromedex.com)***

   Micromedex contains a variety of databases covering pharmacology, therapeutics, toxicology and diagnostics.

3. ***Phonetic and Orthographic Computer Analysis (POCA)***

   POCA is a database which was created for the Division of Medication Error Prevention and Analysis, FDA. As part of the name similarity assessment, proposed names are evaluated via a phonetic/orthographic algorithm. The proposed proprietary name is converted into its phonemic representation before it runs through the phonetic algorithm. Likewise, an orthographic algorithm exists which operates in a similar fashion.

4. ***Drug Facts and Comparisons, online version, St. Louis, MO (http://factsandcomparisons.com)***

   Drug Facts and Comparisons is a compendium organized by therapeutic course; it contains monographs on prescription and OTC drugs, with charts comparing similar products. This database also lists the orphan drugs.

5. ***FDA Document Archiving, Reporting & Regulatory Tracking System [DARRTS]***

   DARRTS is a government database used to organize Applicant and Sponsor submissions as well as to store and organize assignments, reviews, and communications from the review divisions.

6. ***Division of Medication Errors Prevention and Analysis proprietary name consultation requests***

   This is a list of proposed and pending names that is generated by the Division of Medication Error Prevention and Analysis from the Access database/tracking system.

7. ***Drugs@FDA (http://www.accessdata.fda.gov/scripts/cder/drugsatfda/index.cfm)***

   Drugs@FDA contains most of the drug products approved since 1939. The majority of labels, approval letters, reviews, and other information are available for drug products approved from 1998 to the present. Drugs@FDA contains official information about FDA approved brand name, generic drugs, therapeutic biological products, prescription and over-the-counter human drugs and discontinued drugs and "Chemical Type 6" approvals.

8. ***U.S. Patent and Trademark Office (http://www.uspto.gov)***

   USPTO provides information regarding patent and trademarks.

9. ***Clinical Pharmacology Online (www.clinicalpharmacology-ip.com)***

   Clinical Pharmacology contains full monographs for the most common drugs in clinical use, plus mini monographs covering investigational, less common, combination, nutraceutical and nutritional products. It also provides a keyword search engine.

10. ***Data provided by Thomson & Thomson's SAEGIS ™ Online Service, available at (www.thomson-thomson.com)***

    The Pharma In-Use Search database contains over 400,000 unique pharmaceutical trademarks and trade names that are used in about 50 countries worldwide. The data is provided under license by IMS HEALTH.

11. ***Natural Medicines Comprehensive Databases (www.naturaldatabase.com)***

    Natural Medicines contains up-to-date clinical data on the natural medicines, herbal medicines, and dietary supplements used in the western world.

12. ***Access Medicine (www.accessmedicine.com)***

    Access Medicine® from McGraw-Hill contains full-text information from approximately 60 titles; it includes tables and references. Among the titles are: Harrison's Principles of Internal Medicine, Basic & Clinical Pharmacology, and Goodman and Gilman's The Pharmacologic Basis of Therapeutics.

13. ***USAN Stems (http://www.ama-assn.org/ama/pub/about-ama/our-people/coalitions-consortiums/united-states-adopted-names-council/naming-guidelines/approved-stems.shtml)***

    USAN Stems List contains all the recognized USAN stems.

14. ***Red Book (www.thomsonhc.com/home/dispatch)***

    Red Book contains prices and product information for prescription, over-the-counter drugs, medical devices, and accessories.

15. ***Lexi-Comp (www.lexi.com)***

    Lexi-Comp is a web-based searchable version of the Drug Information Handbook.

16. ***Medical Abbreviations (www.medilexicon.com)***

    Medical Abbreviations dictionary contains commonly used medical abbreviations and their definitions.

17. ***CVS/Pharmacy (www.CVS.com)***

    This database contains commonly used over the counter products not usually identified in other databases.

18. Walgreens (www.walgreens.com)

This database contains commonly used over the counter products not usually identified in other databases.

19. Rx List (www.rxlist.com)

RxList is an online medical resource dedicated to offering detailed and current pharmaceutical information on brand and generic drugs.

20. Dogpile (www.dogpile.com)

Dogpile is a Metasearch engine that searches multiple search engines including Google, Yahoo! and Bing, and returns the most relevant results to the search.

21. Natural Standard (http://www.naturalstandard.com)

Natural Standard is a resource that aggregates and synthesizes data on complementary and alternative medicine.

APPENDICES

Appendix A

FDA's Proprietary Name Risk Assessment considers the promotional and safety aspects of a proposed proprietary name. The promotional review of the proposed name is conducted by OPDP. OPDP evaluates proposed proprietary names to determine if they are overly fanciful, so as to misleadingly imply unique effectiveness or composition, as well as to assess whether they contribute to overstatement of product efficacy, minimization of risk, broadening of product indications, or making of unsubstantiated superiority claims. OPDP provides their opinion to DMEPA for consideration in the overall acceptability of the proposed proprietary name.

The safety assessment is conducted by DMEPA. DMEPA staff search a standard set of databases and information sources to identify names that are similar in pronunciation, spelling, and orthographically similar when scripted to the proposed proprietary name. Additionally, we consider inclusion of USAN stems or other characteristics that when incorporated into a proprietary name may cause or contribute to medication errors (i.e., dosing interval, dosage form/route of administration, medical or product name abbreviations, names that include or suggest the composition of the drug product, etc.). DMEPA defines a medication error as any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of the health care professional, patient, or consumer. [1]

Following the preliminary screening of the proposed proprietary name, DMEPA gathers to discuss their professional opinions on the safety of the proposed proprietary name. This meeting is commonly referred to the Center for Drug Evaluation and Research (CDER) Expert Panel discussion. DMEPA also considers other aspects of the name that may be misleading from a safety perspective. DMEPA staff conducts a prescription simulation studies using FDA health care professionals. When provided, DMEPA considers external proprietary name studies conducted by or for the Applicant/Sponsor and incorporates the findings of these studies into the overall risk assessment.

The DMEPA primary reviewer assigned to evaluate the proposed proprietary name is responsible for considering the collective findings, and provides an overall risk assessment of the proposed proprietary name. DMEPA bases the overall risk assessment on the findings of a Failure Mode and Effects Analysis (FMEA) of the proprietary name and misleading nature of the proposed proprietary name with a focus on the avoidance of medication errors.

DMEPA uses the clinical expertise of its staff to anticipate the conditions of the clinical setting where the product is likely to be used based on the characteristics of the proposed product. DMEPA considers the product characteristics associated with the proposed product throughout the risk assessment because the product characteristics of the proposed may provide a context for communication of the drug name and ultimately determine the use of the product in the *usual* clinical practice setting.

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[1] National Coordinating Council for Medication Error Reporting and Prevention. http://www nccmerp.org/aboutMedErrors html. Last accessed 10/11/2007.

Typical product characteristics considered when identifying drug names that could potentially be confused with the proposed proprietary name include, but are not limited to; established name of the proposed product, proposed indication of use, dosage form, route of administration, strength, unit of measure, dosage units, recommended dose, typical quantity or volume, frequency of administration, product packaging, storage conditions, patient population, and prescriber population. DMEPA considers how these product characteristics may or may not be present in communicating a product name throughout the medication use system. Because drug name confusion can occur at any point in the medication use process, DMEPA considers the potential for confusion throughout the entire U.S. medication use process, including drug procurement, prescribing and ordering, dispensing, administration, and monitoring the impact of the medication.[2]

The DMEPA considers the spelling of the name, pronunciation of the name when spoken, and appearance of the name when scripted. DMEPA compares the proposed proprietary name with the proprietary and established name of existing and proposed drug products and names currently under review at the FDA. DMEPA compares the pronunciation of the proposed proprietary name with the pronunciation of other drug names because verbal communication of medication names is common in clinical settings. DMEPA examines the phonetic similarity using patterns of speech. If provided, DMEPA will consider the Sponsor's intended pronunciation of the proprietary name. However, DMEPA also considers a variety of pronunciations that could occur in the English language because the Sponsor has little control over how the name will be spoken in clinical practice. The orthographic appearance of the proposed name is evaluated using a number of different handwriting samples. DMEPA applies expertise gained from root-cause analysis of postmarketing medication errors to identify sources of ambiguity within the name that could be introduced when scripting (e.g.,"T" may look like "F," lower case 'a' looks like a lower case 'u,' etc). Additionally, other orthographic attributes that determine the overall appearance of the drug name when scripted (see Table 1 below for details).

[2] Institute of Medicine. Preventing Medication Errors. The National Academies Press: Washington DC. 2006.

Table 1. Criteria Used to Identify Drug Names that Look- or Sound-Similar to a Proposed Proprietary Name.

Type of Similarity	**Considerations when Searching the Databases**		
	Potential Causes of Drug Name Similarity	*Attributes Examined to Identify Similar Drug Names*	*Potential Effects*
Look-alike	Similar spelling	Identical prefix Identical infix Identical suffix Length of the name Overlapping product characteristics	• Names may appear similar in print or electronic media and lead to drug name confusion in printed or electronic communication • Names may look similar when scripted and lead to drug name confusion in written communication
	Orthographic similarity	Similar spelling Length of the name/Similar shape Upstrokes Down strokes Cross-strokes Dotted letters Ambiguity introduced by scripting letters Overlapping product characteristics	• Names may look similar when scripted, and lead to drug name confusion in written communication
Sound-alike	Phonetic similarity	Identical prefix Identical infix Identical suffix Number of syllables Stresses Placement of vowel sounds Placement of consonant sounds Overlapping product characteristics	• Names may sound similar when pronounced and lead to drug name confusion in verbal communication

Lastly, DMEPA considers the potential for the proposed proprietary name to inadvertently function as a source of error for reasons other than name confusion. Post-marketing experience has demonstrated that proprietary names (or components of the proprietary name) can be a source of error in a variety of ways. Consequently, DMEPA considers and evaluates these broader safety implications of the name throughout this assessment and the medication error staff provides additional comments related to the

safety of the proposed proprietary name or product based on professional experience with medication errors.

1. Database and Information Sources

DMEPA searches the internet, several standard published drug product reference texts, and FDA databases to identify existing and proposed drug names that may sound-alike or look-alike to the proposed proprietary name. A standard description of the databases used in the searches is provided in the reference section of this review. To complement the process, the DMEPA uses a computerized method of identifying phonetic and orthographic similarity between medication names. The program, Phonetic and Orthographic Computer Analysis (POCA), uses complex algorithms to select a list of names from a database that have some similarity (phonetic, orthographic, or both) to the trademark being evaluated. Lastly, DMEPA reviews the USAN stem list to determine if any USAN stems are present within the proprietary name. The individual findings of multiple safety evaluators are pooled and presented to the CDER Expert Panel. DMEPA also evaluates if there are characteristics included in the composition that may render the name unacceptable from a safety perspective (abbreviation, dosing interval, etc.).

2. Expert Panel Discussion

DMEPA gathers gather CDER professional opinions on the safety of the proposed product and discussed the proposed proprietary name (Expert Panel Discussion). The Expert Panel is composed of Division of Medication Errors Prevention (DMEPA) staff and representatives from the Office of Prescription Drug Promotion (OPDP). We also consider input from other review disciplines (OND, ONDQA/OBP). The Expert Panel also discusses potential concerns regarding drug marketing and promotion related to the proposed names.

The primary Safety Evaluator presents the pooled results of the database and information searches to the Expert Panel for consideration. Based on the clinical and professional experiences of the Expert Panel members, the Panel may recommend additional names, additional searches by the primary Safety Evaluator to supplement the pooled results, or general advice to consider when reviewing the proposed proprietary name.

3. FDA Prescription Simulation Studies

Three separate studies are conducted within the Centers of the FDA for the proposed proprietary name to determine the degree of confusion of the proposed proprietary name with marketed U.S. drug names (proprietary and established) due to similarity in visual appearance with handwritten prescriptions or verbal pronunciation of the drug name. The studies employ healthcare professionals (pharmacists, physicians, and nurses), and attempts to simulate the prescription ordering process. The primary Safety Evaluator uses the results to identify orthographic or phonetic vulnerability of the proposed name to be misinterpreted by healthcare practitioners.

In order to evaluate the potential for misinterpretation of the proposed proprietary name in handwriting and verbal communication of the name, inpatient medication orders and/or outpatient prescriptions are written, each consisting of a combination of marketed and unapproved drug products, including the proposed name. These orders are optically

scanned and one prescription is delivered to a random sample of participating health professionals via e-mail. In addition, a verbal prescription is recorded on voice mail. The voice mail messages are then sent to a random sample of the participating health professionals for their interpretations and review. After receiving either the written or verbal prescription orders, the participants record their interpretations of the orders which are recorded electronically.

4. Comments from Other Review Disciplines

DMEPA requests the Office of New Drugs (OND) and/or Office of Generic Drugs (OGD), ONDQA or OBP for their comments or concerns with the proposed proprietary name, ask for any clinical issues that may impact the DMEPA review during the initial phase of the name review. Additionally, when applicable, at the same time DMEPA requests concurrence/non-concurrence with OPDP's decision on the name. The primary Safety Evaluator addresses any comments or concerns in the safety evaluator's assessment.

The OND/OGD Regulatory Division is contacted a second time following our analysis of the proposed proprietary name. At this point, DMEPA conveys their decision to accept or reject the name. The OND or OGD Regulatory Division is requested to provide any further information that might inform DMEPA's final decision on the proposed name.

Additionally, other review disciplines opinions such as ONDQA or OBP may be considered depending on the proposed proprietary name.

5. Safety Evaluator Risk Assessment of the Proposed Proprietary Name

The primary Safety Evaluator applies his/her individual expertise gained from evaluating medication errors reported to FDA, considers all aspects of the name that may be misleading or confusing, conducts a Failure Mode and Effects Analysis, and provides an overall decision on acceptability dependent on their risk assessment of name confusion. Failure Mode and Effects Analysis (FMEA) is a systematic tool for evaluating a process and identifying where and how it might fail.[3] When applying FMEA to assess the risk of a proposed proprietary name, DMEPA seeks to evaluate the potential for a proposed proprietary name to be confused with another drug name because of name confusion and, thereby, cause errors to occur in the medication use system. FMEA capitalizes on the predictable and preventable nature of medication errors associated with drug name confusion. FMEA allows the Agency to identify the potential for medication errors due to orthographically or phonetically similar drug names prior to approval, where actions to overcome these issues are easier and more effective than remedies available in the post-approval phase.

In order to perform an FMEA of the proposed name, the primary Safety Evaluator must analyze the use of the product at all points in the medication use system. Because the proposed product is has not been marketed, the primary Safety Evaluator anticipates the use of the product in the usual practice settings by considering the clinical and product

[3] Institute for Healthcare Improvement (IHI). Failure Mode and Effects Analysis. Boston. IHI:2004.

characteristics listed in Section 1.2 of this review. The Safety Evaluator then analyzes the proposed proprietary name in the context of the usual practice setting and works to identify potential failure modes and the effects associated with the failure modes.

In the initial stage of the Risk Assessment, the Safety Evaluator compares the proposed proprietary name to all of the names gathered from the above searches, Expert Panel Discussion, and prescription studies, external studies, and identifies potential failure modes by asking:

> ***"Is the proposed proprietary name convincingly similar to another drug name, which may cause practitioners to become confused at any point in the usual practice setting? And are there any components of the name that may function as a source of error beyond sound/look-alike?"***

An affirmative answer indicates a failure mode and represents a potential for the proposed proprietary name to be confused with another proprietary or established drug name because of look- or sound-alike similarity or because of some other component of the name. If the answer to the question is no, the Safety Evaluator is not convinced that the names posses similarity that would cause confusion at any point in the medication use system, thus the name is eliminated from further review.

In the second stage of the Risk Assessment, the primary Safety Evaluator evaluates all potential failure modes to determine the likely *effect* of the drug name confusion, by asking:

> ***"Could the confusion of the drug names conceivably result in medication errors in the usual practice setting?"***

The answer to this question is a central component of the Safety Evaluator's overall risk assessment of the proprietary name. If the Safety Evaluator determines through FMEA that the name similarity would not ultimately be a source of medication errors in the usual practice setting, the primary Safety Evaluator eliminates the name from further analysis. However, if the Safety Evaluator determines through FMEA that the name similarity could ultimately cause medication errors in the usual practice setting, the Safety Evaluator will then recommend the use of an alternate proprietary name.

Moreover, DMEPA will object to the use of proposed proprietary name when the primary Safety Evaluator identifies one or more of the following conditions in the Overall Risk Assessment:

a. OPDP finds the proposed proprietary name misleading from a promotional perspective, and the Review Division concurs with OPDP's findings. The Federal Food, Drug, and Cosmetic Act provides that labeling or advertising can misbrand a product if misleading representations are made or suggested by statement, word, design, device, or any combination thereof, whether through a PROPRIETARY name or otherwise [21 U.S.C 321(n); See also 21 U.S.C. 352(a) & (n)].

b. DMEPA identifies that the proposed proprietary name is misleading because of similarity in spelling or pronunciation to another proprietary or established name of a different drug or ingredient [CFR 201.10.(C)(5)].

c. FMEA identifies the potential for confusion between the proposed proprietary name and other proprietary or established drug name(s), and demonstrates that medication errors are likely to result from the drug name confusion under the conditions of usual clinical practice.

d. The proposed proprietary name contains an USAN (United States Adopted Names) stem.

e. DMEPA identifies a potential source of medication error within the proposed proprietary name. For example, the proprietary name may be misleading or, inadvertently, introduce ambiguity and confusion that leads to errors. Such errors may not necessarily involve confusion between the proposed drug and another drug product but involve a naming characteristic that when incorporated into a proprietary name, may be confusing, misleading, cause or contribute to medication errors.

If DMEPA objects to a proposed proprietary name on the basis that drug name confusion could lead to medication errors, the primary Safety Evaluator uses the FMEA process to identify strategies to reduce the risk of medication errors. DMEPA generally recommends that the Sponsor select an alternative proprietary name and submit the alternate name to the Agency for review. However, in rare instances FMEA may identify plausible strategies that could reduce the risk of medication error of the currently proposed name. In that instance, DMEPA may be able to provide the Sponsor with recommendations that reduce or eliminate the potential for error and, thereby, would render the proposed name acceptable.

In the event that DMEPA objects to the use of the proposed proprietary name, based upon the potential for confusion with another proposed (but not yet approved) proprietary name, DMEPA will provide a contingency objection based on the date of approval. Whichever product, the Agency approves first has the right to use the proprietary name, while DMEPA will recommend that the second product to reach approval seek an alternative name.

The threshold set for objection to the proposed proprietary name may seem low to the Applicant/Sponsor. However, the safety concerns set forth in criteria a through e above are supported either by FDA regulation or by external healthcare authorities, including the Institute of Medicine (IOM), World Health Organization (WHO), the Joint Commission, and the Institute for Safe Medication Practices (ISMP). These organizations have examined medication errors resulting from look- or sound-alike drug names, confusing, or misleading names and called for regulatory authorities to address the issue prior to approval. Additionally, DMEPA contends that the threshold set for the Proprietary Name Risk Assessment is reasonable because proprietary drug name confusion is a predictable and preventable source of medication error that, in many instances, the Agency and/or Sponsor can identify and rectify prior to approval to avoid patient harm.

Furthermore, post-marketing experience has demonstrated that medication errors resulting from drug name confusion are notoriously difficult to rectify post-approval. Educational and other post-approval efforts are low-leverage strategies that have had limited effectiveness at alleviating medication errors involving drug name confusion. Sponsors have undertaken higher-leverage strategies, such as drug name changes, in the

past but at great financial cost to the Sponsor and at the expense of the public welfare, not to mention the Agency's credibility as the authority responsible for approving the error-prone proprietary name. Moreover, even after Sponsors' have changed a product's proprietary name in the post-approval phase, it is difficult to eradicate the original proprietary name from practitioners' vocabulary, and as a result, the Agency has continued to receive reports of drug name confusion long after a name change in some instances. Therefore, DMEPA believes that post-approval efforts at reducing name confusion errors should be reserved for those cases in which the potential for name confusion could not be predicted prior to approval.

Appendix B: Letters and Letter Strings with Possible Orthographic or Phonetic Misinterpretation

Letters in Name, Duavee	Scripted May Appear as	Spoken May Be Interpreted as
Capital 'D'	O, T, G, B, P, R, A	B, T
Lower case 'd'	cl, ci, al, el, il, v, L	b, t
Lower case 'u'	el, ll, le, a, o, c, v, e, n, y, w, ei, ee, ie	w, ou, oo, ew, eu, au, yu
Lower case 'a'	el, ci, cl, d, o, u, c, e, er, ce	Any vowel
Lower case 'v'	r, u, w, n	d, f, p, ph, t, vv)
Lower case 'e'	a, i, l, o, u, P, c	Any vowel
Letter Strings		
Du	Dir, dri, din	J
Ua	wi, wr, in, ir	
Ve	W	
Ee	ll, u, el, le, cl, lc, a	l

Appendix C: Prescription Simulation Samples and Results

Figure 1. Duavee Study (Conducted on 4/5/13)

Handwritten Requisition Medication Order	Verbal Prescription
Medication Order: Duavee 20mg/0.45mg po qdaily	Duavee 20 mg/0.625 mg 1 po qd #30
Outpatient Prescription: Duavee 20/0.625 1 tab a day	

191 People Received Study
38 People Responded

Study Name: Duavee

Total	14	10	14	
INTERPRETATION	INPATIENT	VOICE	OUTPATIENT	TOTAL
???	0	1	0	1
D	0	0	1	1
DREAVEC	0	0	1	1
DRIAVEC	0	0	3	3
DRIAVEE	0	0	1	1
DUANCE	1	0	0	1
DUANEE	1	0	0	1
DUARCE	1	0	0	1
DUARICE	1	0	0	1
DUARNE	1	0	0	1
DUAVCE	1	0	0	1
DUAVEC	1	0	3	4
DUAVEE	5	0	3	8
DUAVLE	0	0	1	1
DUAVU	1	0	1	2
DUERVEY	0	1	0	1
DUORVEE	0	1	0	1
DUORVY	0	1	0	1
DUOVCEE	1	0	0	1
DUOVE	0	1	0	1
DUOVEE	0	1	0	1
DUOVI	0	1	0	1
DUOVIE	0	1	0	1
DUOVIVE	0	1	0	1
DURAVIE	0	1	0	1

Appendix D: Proprietary names not likely to be confused or not used in usual practice settings for the reasons described.

No.	Proprietary Name	Active Ingredient	Similarity to Duavee	Failure preventions
1.	Duavee***	Bazedoxifene Acetate and Conjugated Estrogens	Look and sound	The proposed proprietary name being evaluated in this review.
2.	(b) (4) ***	Bazedoxifene Acetate and Conjugated Estrogens	Look and sound	The first proposed proprietary name for this product was found unacceptable (b) (4) in OSE Review #2012-2382, dated November 20, 2012. Subsequently, the Applicant withdrew the name, (b) (4) and submitted the proposed proprietary name Duavee for review.
3.	Dirame	Propiram	Look	Name identified in the Clinical Pharmacology database. An investigation opiate analgesic. No other information or product characteristics could be found in any of the available databases.
4.	Duo-Care	N/A	Look	Name identified in the Red Book online data base. It is the name of a blood glucose kit and is deactivated. Additionally, the name has not been used in practice.
5.	(b) (4)			

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No.	Proprietary Name	Active Ingredient	Similarity to Duavee	Failure preventions
6.	Duexa***	Ibuprofen and Famotidine	Look	Proposed proprietary name (IND 072116) was found unacceptable in OSE Review #2009-2447, dated May 21, 2010, (b) (4) This product was approved under the name, Duexis on April 23, 2011.
7.	Duavent	Ipratropium and Albuterol	Look	Name identified in the Lexicomp database; it is an international brand name for this product and is not used in the US.
8.	(b) (4) ***	Ganciclovir	Look	Proposed alternate name for this product. The product was approved under the name, Zirgan, on September 15, 2009.
9.	Duocal	N/A	Look	Name identified in the Red Book online database as a nutritional supplement with no other information or product characteristics available in any of the available databases.
10.	DuoVisc	Chondroitin Sulfate and Hyalyronate Sodium	Look	Name identified in the Red Book online database. The Drug Facts and Comparisons database defines this product as a surgical aid in anterior segment procedures including cataract extraction and intraocular lens implantation. However, no product strength or usual dose could be found for this product in any of the available databases.
11.	Duracef	Cefadroxil	Look	International brand name for this product. The product is available under the brand name, Duricef in the US. Additionally, the name pair has sufficient orthographic differences.

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Appendix E: Risk of medication errors due to product confusion minimized by dissimilarity of the names and/ or use in clinical practice for the reasons described.

No.	**Proposed name: Duavee (Conjugated Estrogens and Bazedoxifene Acetate)** **Dosage Form: Tablets** **Strength: 0.45 mg/20 mg** **Usual Dose: One tablet orally once daily.**	**Failure Mode: Incorrect Product Ordered/ Selected/Dispensed or Administered because of Name confusion** **Causes (could be multiple)**	**Prevention of Failure Mode** **In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names**
1.	Tarceva (Erlotinib Hydrochloride) Tablets, 25 mg, 100 mg, 150 mg Usual Dose: One tablet orally once daily.	Orthographic: Both names share the same shape and similar lengths (six vs. seven letters), similar scripted beginning letters ('D' vs. 'T') followed by similar scripted letter strings ('-uav-' vs. '-arc-'), a fifth position letter 'e', and similar scripted ending vowels ('e' vs. 'a'). Route of Administration: Oral Dosage Form: Tablets Overlap in the Frequency of Administration: Once daily Overlap in the Usual Dose: One tablet	Strength: Single strength (0.45 mg/20 mg) vs. 25 mg, 100 mg, and 150 mg and no overlap between the strengths.

No.	**Proposed name: Duavee (Conjugated Estrogens and Bazedoxifene Acetate)** **Dosage Form: Tablets** **Strength: 0.45 mg/20 mg** **Usual Dose: One tablet orally once daily.**	**Failure Mode: Incorrect Product Ordered/ Selected/Dispensed or Administered because of Name confusion Causes (could be multiple)**	**Prevention of Failure Mode** **In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names**
2.	Provera (Medroxyprogesterone Acetate) Tablets 2.5 mg, 5 mg, 10 mg Usual Dose: One tablet orally once daily.	Orthographic: Both names share the same shape and similar lengths (six vs. seven letters), similar scripted beginning letters ('D' vs. 'P') followed by similar scripted letter strings ('-uave-' vs. '-rove-'), and similar scripted ending vowels ('e' vs. 'a'). Route of Administration: Oral Dosage Form: Tablets Overlap in the Frequency of Administration: Once daily Overlap in the Usual Dose: One tablet	Strength: Single strength (0.45 mg/20 mg) vs. 2.5 mg, 5 mg, and 10 mg and no overlap between the strengths.

No.	**Proposed name: Duavee (Conjugated Estrogens and Bazedoxifene Acetate)** **Dosage Form: Tablets** **Strength(s): 0.45 mg/20 mg** **Usual Dose: One tablet orally once daily.**	**Failure Mode: Incorrect Product Ordered/ Selected/Dispensed or Administered because of Name confusion** **Causes (could be multiple)**	**Prevention of Failure Mode** **In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names**
3.	Norvir (Ritonavir) Capsules 100 mg Tablets, 100 mg Oral Solution, 80 mg/mL Usual Dose: 100 mg to 600 mg orally twice daily. Pediatrics greater than one month of age: 350 mg/m^2 to 400 mg/m^2 twice daily	Orthographic: Both names share the same shape and length (six letters), similar scripted letters in the second position of each name 'u' vs. 'o', and similar scripted ending letter strings '-vee' vs. '-vir'. Route of Administration: Oral Dosage Form: Solid oral Strength: Single strength Possible Overlap in the Usual Dose: One (tablet vs. capsule)	Orthographic: The beginning letter 'D' does not appear similar to the beginning letter 'N' and can help differentiate Duavee and Norvir when scripted. Frequency of Administration: Once daily vs. twice daily

No.	Proposed name: Duavee (Conjugated Estrogens and Bazedoxifene Acetate) Dosage Form: Tablets Strength: 0.45 mg/20 mg Usual Dose: One tablet orally once daily.	Failure Mode: Incorrect Product Ordered/ Selected/Dispensed or Administered because of Name confusion Causes (could be multiple)	Prevention of Failure Mode In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names
4.	Pexeva (Paroxetine Mesylate) Tablets, 10 mg, 20 mg, 30 mg, 40 mg Usual Dose: The recommended initial dose is 20 mg to 40 mg orally once daily depending on the treatment.	Orthographic: Both names share the same shape and length (six letters), similar scripted beginning letters ('D' vs. 'P') followed by similar scripted letters 'u' vs. 'e'. Route of Administration: Oral Dosage Form: Tablets Overlap in the Frequency of Administration: Once daily Overlap in the Usual Dose: One tablet	Orthographic: The ending letter string '-avee' in Duavee does not appear similar to the ending letter string '-xeva' in Pexeva and can help differentiate Duavee and Pexeva when scripted. Strength: Single strength (0.45 mg/20 mg) vs. 10 mg, 20 mg, 30 mg, and 40 mg. Additionally, even though the 20 mg strength of Pexeva overlaps with the 20 mg component of the Duavee strength statement, the 20 mg is the strength of only the second component (i.e., Bazedoxifene Acetate) and it is not likely for prescribers to refer to the 20 mg component alone. Prescribers would most likely omit the strength since this is a single strength product, write the entire strength statement (i.e., 0.45 mg/20 mg) or refer to the 0.45 mg component when writing prescriptions. If prescribers omit the 20 mg component of the Duavee product strength on a written prescription order and refer to the product strength by only 0.45 mg , this is not a concern because 0.45 mg does not overlap with any of the Pexeva product strengths (i.e., 10 mg, 20 mg, 30 mg, or 40 mg).

No.	Proposed name: Duavee (Conjugated Estrogens and Bazedoxifene Acetate) Dosage Form: Tablets Strength: 0.45 mg/20 mg Usual Dose: One tablet orally once daily.	Failure Mode: Incorrect Product Ordered/ Selected/Dispensed or Administered because of Name confusion Causes (could be multiple)	Prevention of Failure Mode In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names
5.	Daysee (Levonorgestrel, Ethinyl Estradiol and Ethinyl Estradiol) Tablets 0.15 mg/0.03 mg and 0.01 mg Usual Dose: One tablet orally once daily.	Orthographic: Both names consist of six letters, share the beginning letter 'D' followed by similar scripted vowels ('u' vs. 'a'), the ending letter string '-ee' preceded by similar scripted letters ('v' vs. 's'). Route of Administration: Oral Dosage Form: Tablets Strength: Single strength Overlap in the Frequency of Administration: Once daily Overlap in the Usual Dose: One tablet	Orthographic: The third position downstroke 'y' in Daysee*** provides a different shape for this name and can help differentiate Duavee and Daysee when scripted. Additionally, our prescription simulation study results did not demonstrate any misinterpretations between the letter 'v' and the downstroke letter 'y'.

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No.	**Proposed name: Duavee (Conjugated Estrogens and Bazedoxifene Acetate)** **Dosage Form: Tablets** **Strength: 0.45 mg/20 mg** **Usual Dose: One tablet orally once daily.**	**Failure Mode: Incorrect Product Ordered/ Selected/Dispensed or Administered because of Name confusion Causes (could be multiple)**	**Prevention of Failure Mode** **In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names**
6.	Decavac (Diphtheria Toxoid Adsorbed, Tetanus Toxoid, Adsorbed) Injection 5Lf/2Lf per 0.5 mL Usual Dose: 0.5 mL intramuscularly administered at 4 to 8 week intervals for a total of three doses. A fourth dose of 0.5 mL is administered six to twelve months after the third dose.	Orthographic: Both names share the same shape and similar lengths (six vs. seven letters), beginning letter 'D' followed by similar scripted vowels ('u' vs. 'e'), letter string '-av-' in similar positions of each name (third and fourth vs. fourth and fifth), and similar scripted ending letter strings ('-ee' vs. '-ac'). Strength: Single strength	Usual Dose: One tablet (or 0.45 mg or 0.625mg) vs. 0.5 mL
7.	Denavir (Penciclovir) Cream 1% Usual Dose: Apply every 2 hours while awake for 4 days beginning within one hour of onset of symptoms.	Orthographic: Both names share the same shape, beginning letters 'D' followed by similar scripted letter strings ('-ua-' vs. '-en-'), and similar scripted ending letter strings ('-vee' vs. '-vir'). Strength: Single strength Partial Overlap in the Usual Dose: One (tablet vs. application)	Orthographic: The extra letter 'a' in Denavir provides a longer length for this name and can help differentiate Duavee and Denavir when scripted. Frequency of Administration: Once daily vs. every two hours

No.	Proposed name: Duavee (Conjugated Estrogens and Bazedoxifene Acetate) Dosage Form: Tablets Strength: 0.45 mg/20 mg Usual Dose: One tablet orally once daily.	Failure Mode: Incorrect Product Ordered/ Selected/Dispensed or Administered because of Name confusion Causes (could be multiple)	Prevention of Failure Mode In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names
8.	Diurex Water Pills (Caffeine) Tablets 50 mg Usual Dose: One or two every four to six hours while symptoms persist.	Orthographic: Both names share the same shape and the same length (six letters), beginning letter 'D' followed by similar scripted letter strings ('-uave-' vs. '-iure-'). Route of Administration: Oral Dosage Form: Solid oral Strength: Single strength Overlap in the Usual Dose: One (tablet vs. capsule)	Orthographic: The ending letter 'x' in Diurex does not appear similar to the ending letter 'e' in Duavee and can help differentiate Duavee and Diurex when scripted. Additionally, this name has not been used in practice and we could not identify any writing samples that convincingly demonstrated an orthographic similarity in this name pair.

No.	**Proposed name: Duavee (Conjugated Estrogens and Bazedoxifene Acetate)** **Dosage Form: Tablets** **Strength: 0.45 mg/20 mg** **Usual Dose: One tablet orally once daily.**	**Failure Mode: Incorrect Product Ordered/ Selected/Dispensed or Administered because of Name confusion** **Causes (could be multiple)**	**Prevention of Failure Mode** **In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names**
9.	Duac (Clindamycin and Benzoyl Peroxide) Gel, 1%/5% Usual Dose: Apply to the affected area(s) once or twice daily.	Orthographic: Both names share the beginning letter 'D' followed by the letter string '-ua-', and similar scripted letters in the fourth position of each name ('v' vs. 'c'). Strength: Single strength Possible Overlap in the frequency of Administration: Once daily Possible Partial Overlap in the Usual Dose: One (tablet vs. application)	Orthographic: The extra letter string '-ee' in Duavee provides a longer length for this name and can help differentiate Duavee and Duac when scripted.

No.	**Proposed name: Duavee (Conjugated Estrogens and Bazedoxifene Acetate)** **Dosage Form: Tablets** **Strength: 0.45 mg/20 mg** **Usual Dose: One tablet orally once daily.**	**Failure Mode: Incorrect Product Ordered/ Selected/Dispensed or Administered because of Name confusion Causes (could be multiple)**	**Prevention of Failure Mode** **In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names**
10.	Duocet (Acetaminophen and Hydrocodone bitartrate) Tablets, 500 mg/5 mg Usual Dose: One to two tablets orally every four to six hours as needed for pain.	Orthographic: Both names consist of six letters, share the beginning letter string 'Du- followed by similar scripted letter strings in the same position of each name ('-ave-' vs. '-oce-'). Route of Administration: Oral Dosage Form: Tablets Strength: Single strength Possible Overlap in the Usual Dose: One tablet	Orthographic: The ending upstroke letter 't' in Duocet (vs. the letter 'e' in Duocet) provides a different shape for this name and can help differentiate Duavee and Duocet when scripted.

No.	Proposed name: Duavee (Conjugated Estrogens and Bazedoxifene Acetate) Dosage Form: Tablets Strength: 0.45 mg/20 mg Usual Dose: One tablet orally once daily.	Failure Mode: Incorrect Product Ordered/ Selected/Dispensed or Administered because of Name confusion Causes (could be multiple)	Prevention of Failure Mode In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names
11.	Duosol (Docusate Sodium) Capsules, 100 mg, 250 mg (Name is discontinued, however, generic equivalents are marketed.) Usual Dose: One or two capsules orally once or twice daily.	Orthographic: Both names consist of six letters, share the beginning letter string 'Du-' followed by similar scripted letter strings in the same position of each name ('-avee' vs. '-osol). Route of Administration: Oral Dosage Form: Solid oral Possible Overlap in the Frequency of Administration: Once daily Overlap in the Usual Dose: One (tablet vs. capsule)	Strength: Single strength (0.45 mg/20 mg) vs. 100 mg and 250 mg and no overlap between the strengths.

No.	**Proposed name: Duavee (Conjugated Estrogens and Bazedoxifene Acetate)** **Dosage Form: Tablets** **Strength: 0.45 mg/20 mg** **Usual Dose: One tablet orally once daily.**	**Failure Mode: Incorrect Product Ordered/ Selected/Dispensed or Administered because of Name confusion Causes (could be multiple)**	**Prevention of Failure Mode** **In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names**
12.	Duoneb (Ipratropium Bromide and Albuterol Sulfate) Nebulizer Solution 3 mg/0.5 mg per 3 mL Usual Dose: Inhale one 3 mL vial via nebulizer 4 times per day.	Orthographic: Both names consist of six letters, share the beginning letter string 'Du-' followed by similar scripted letter strings '-ave-' vs. 'one'. Strength: Single strength Partial Overlap in the Usual Dose: One (tablet vs. vial)	Orthographic: The ending upstroke 'b' in Duoneb does not appear similar to the ending letter 'e' in Duavee and can help differentiate Duavee and Duoneb when scripted. Additionally, there was no confusion between the letter 'e' and the letter 'b' in the prescription simulation studies.
13.	Duexis (Ibuprofen and Famotidine) Tablets, 800 mg/26.6 mg Usual Dose: One tablet orally three times daily.	Orthographic: Both names share the same shape and length (six letters), beginning letter string 'Du-' followed by similar scripted vowels 'a' vs. 'e'. Route of Administration: Oral Dosage Form: Tablets Strength: Single strength Overlap in the Usual Dose: One tablet	Orthographic: The ending letter string '-vee' in Duavee does not appear similar to the ending letter string '-xis' in Duexis and can help differentiate Duavee and Duexis when scripted. Additionally, we could not identify any writing samples that convincingly demonstrated an orthographic similarity in this name pair. Frequency of Administration: Once daily vs. three times daily.

No.	**Proposed name: Duavee (Conjugated Estrogens and Bazedoxifene Acetate)** **Dosage Form: Tablets** **Strength: 0.45 mg/20 mg** **Usual Dose: One tablet orally once daily.**	**Failure Mode: Incorrect Product Ordered/ Selected/Dispensed or Administered because of Name confusion** **Causes (could be multiple)**	**Prevention of Failure Mode** **In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names**
14.	Dycill (Dicloxacillin Sodium) Capsules 250 mg, 500 mg (Name is discontinued; however, generic equivalents are marketed.) Usual Dose: One capsule orally every six hours. Children: 12.5 mg/kg/day to 25 mg/kg/day in divided doses every six hours.	Orthographic: Both names consist of six letters, share the beginning letter 'D' followed by similar scripted letter strings ('-ua-' vs. '-yc-' if the downstroke in 'y' is not prominent), and similar scripted ending letter strings ('-ee' vs. '-ll'). Route of Administration: Oral Dosage Form: Solid oral Overlap in the Usual Dose: One (tablet vs. capsule)	Strength: Single strength (0.45 mg/20 mg) vs. 250 mg and 500 mg and no overlap between the strengths.

No.	**Proposed name: Duavee (Conjugated Estrogens and Bazedoxifene Acetate)** **Dosage Form: Tablets** **Strength: 0.45 mg/20 mg** **Usual Dose: One tablet orally once daily.**	**Failure Mode: Incorrect Product Ordered/ Selected/Dispensed or Administered because of Name confusion Causes (could be multiple)**	**Prevention of Failure Mode** **In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names**
15.	Diovan (Valsartan) Capsules 40 mg, 80 mg, 160 mg, 320 mg Usual Dose: 80 mg to 320 mg (or one capsule) orally once daily.	Orthographic: Both names share the same shape and length (six letters), beginning letter 'D' followed by similar scripted letter strings ('-uave-' vs. '-iova-'). Route of Administration: Oral Dosage Form: Solid oral Overlap in the Frequency of Administration: Once daily Overlap in the Usual Dose: One (tablet vs. capsule)	Orthographic: The ending letter 'e' in Duavee does not appear similar to the ending letter 'n' in Diovan and can help differentiate Duavee and Diovan when scripted. Strength: Single strength (0.45 mg/20 mg) vs. multiple strengths (40 mg, 80 mg, 160 mg, and 320 mg) with no overlap between the strengths.

No.	Proposed name: Duavee (Conjugated Estrogens and Bazedoxifene Acetate) Dosage Form: Tablets Strength: 0.45 mg/20 mg Usual Dose: One tablet orally once daily.	Failure Mode: Incorrect Product Ordered/ Selected/Dispensed or Administered because of Name confusion Causes (could be multiple)	Prevention of Failure Mode In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names
16.	Onmel (Itraconazole) Tablets 200 mg Usual Dose: One tablet orally once daily for twelve consecutive weeks.	Orthographic: Both names share similar lengths (six vs. five letters), similar scripted beginning letters ('D' vs. 'O') and similar scripted ending letter strings ('-ee' vs. '-el'). Route of Administration: Oral Dosage Form: Tablets Strength: Single strength Overlap in the Frequency of Administration: Once daily Overlap in the Usual Dose: One tablet	Orthographic: The letter string '-uav-' in Duavee does not appear similar to the letter string '-nm-' in Onmel and can help differentiate Duavee and Onmel when scripted.

No.	**Proposed name: Duavee (Conjugated Estrogens and Bazedoxifene Acetate)** **Dosage Form: Tablets** **Strength: 0.45 mg/20 mg** **Usual Dose: One tablet orally once daily.**	**Failure Mode: Incorrect Product Ordered/ Selected/Dispensed or Administered because of Name confusion Causes (could be multiple)**	**Prevention of Failure Mode** **In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names**
17.	Dizac (Diazepam) Injection 5 mg/mL (Name discontinued, however generic equivalents are marketed.) Usual Dose: 2 mg to 5 mg intramuscularly or intravenously for moderate anxiety disorders; repeat in three to four hours if necessary, for severe anxiety disorders and symptoms of anxiety, 5 mg to 10 mg ; repeat in three to four hours if necessary.	Orthographic: Both names share similar lengths (six vs. five letters), beginning letter 'D' followed by similar scripted letter strings ('-uave-' vs. '-izac'). Strength: Single strength Possible Partial Overlap in the Frequency of Administration: Once	Orthographic: The extra ending letter 'e' in Duavee provides a longer appearance for this name and can help differentiate Duavee and Dizac when scripted. Usual Dose: One tablet vs. 2 mg to 10 mg

No.	**Proposed name: Duavee (conjugated Estrogens and Bazedoxifene Acetate)** **Dosage Form: Tablets** **Strength: 0.45 mg/20 mg** **Usual Dose: One tablet orally once daily.**	**Failure Mode: Incorrect Product Ordered/ Selected/Dispensed or Administered because of Name confusion** **Causes (could be multiple)**	**Prevention of Failure Mode** **In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names**
18.	Dovonex (calcipotriene) Cream, Ointment, or Scalp Solution, 0.005% Usual Dose: Apply to the affected area(s) topically twice daily.	Orthographic: Both names share similar lengths (six vs. seven letters), beginning letter 'D' followed by similar scripted letter strings ('-ua-' vs. '-ov-') and similar scripted letter strings in similar positions of each name ('-ve-' in the fourth and fifth position of Duavee vs. '-ne-' in the fifth and sixth position of Dovonex). Strength: Single strength Possible Partial Overlap in the Usual Dose: One (tablet vs. application)	Orthographic: The extra ending letter 'x' in Dovonex (vs. the ending letter 'e' in Duavee) provides a different shape for this name and can help differentiate Duavee and Dovonex when scripted.

No.	**Proposed name: Duavee (Conjugated Estrogens and Bazedoxifene Acetate)** **Dosage Form: Tablets** **Strength: 0.45 mg/20 mg** **Usual Dose: One tablet orally once daily.**	**Failure Mode: Incorrect Product Ordered/ Selected/Dispensed or Administered because of Name confusion Causes (could be multiple)**	**Prevention of Failure Mode** **In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names**
19.	Arava (Leflunomide) Tablets 10 mg, 20 mg, 100 mg Usual Dose: Initiate treatment with loading dose of 100 mg orally once daily for three days, followed by a maintenance dose of 10 mg to 20 mg once daily.	Orthographic: Both names share similar lengths (six vs. five letters), similar scripted beginning letters ('D' vs. 'A') followed by similar scripted letter strings ('-uave-' vs. '-rava'). Route of Administration: Oral Dosage Form: Tablets Overlap in the Frequency of Administration: Once daily Possible Overlap in the Usual Dose: One tablet	Orthographic: The extra ending letter 'e' in Duavee provides a longer appearance for this name and can help differentiate Duavee and Arava when scripted. Strength: Single strength (0.45 mg/20 mg) vs. 10 mg and 20 mg, and 100 mg. Additionally, even though the 20 mg strength of Arava overlaps with the 20 mg component of the Duavee strength statement, the 20 mg is the strength of only the second component (i.e., Bazedoxifene Acetate) and it is not likely for prescribers to refer to the 20 mg component alone. Prescribers would most likely omit the strength since this is a single strength product, write the entire strength statement (i.e., 0.45 mg/20 mg) or refer to the 0.45 mg component when writing prescriptions. If prescribers omit the 20 mg component of the Duavee product strength on a written prescription order and refer to the product strength by only 0.45 mg , this is not a concern because 0.45 mg does not overlap with any of the Arava product strengths (i.e., 10 mg or 20 mg).

No.	**Proposed name: Duavee (Conjugated Estrogens and Bazedoxifene Acetate)** **Dosage Form: Tablets** **Strength: 0.45 mg/20 mg** **Usual Dose: One tablet orally once daily.**	**Failure Mode: Incorrect Product Ordered/ Selected/Dispensed or Administered because of Name confusion** **Causes (could be multiple)**	**Prevention of Failure Mode** **In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names**
20.	Avonex (Interferon Beta-1a) Injection 30 mcg/0.5 mL Usual Dose: 30 mcg intramuscularly once a week or 22 mcg or 44 mcg subcutaneously three times weekly.	Orthographic: Both names share the same shape and length (six letters), similar scripted beginning letters ('O' vs. 'A') followed by similar scripted letter strings ('-uave-' vs. '-vone-'). Strength: Single strength Partial Overlap in the Frequency of Administration: Once	Orthographic: The ending letter 'x' in Avonex does not appear similar to the ending letter 'e' in Duavee and can help differentiate Duavee and Avonex when scripted. Usual Dose: One tablet vs. 30 mcg, 22 mcg, or 44 mcg

No.	Proposed name: Duavee (Conjugated Estrogens and Bazedoxifene Acetate) Dosage Form: Tablets Strength: 0.45 mg/20 mg Usual Dose: One tablet orally once daily.	Failure Mode: Incorrect Product Ordered/ Selected/Dispensed or Administered because of Name confusion Causes (could be multiple)	Prevention of Failure Mode In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names
21.	Duagen (Dutasteride) Capsules 0.5 mg Usual Dose: One capsule orally once daily.	Orthographic: Both names consist of six letters, share the beginning letter string 'Dua-' and a fifth position letter 'e'. Route of Administration: Oral Dosage Form: Solid Oral Strength: Single strength Overlap in the Frequency of Administration: Once daily Overlap in the Usual Dose: One (tablet vs. capsule)	Orthographic: The downstroke 'g' in Duagen provides a different shape for this name and can help differentiate Duavee and Duagen when scripted.

No.	**Proposed name: Duavee (Conjugated Estrogens and Bazedoxifene Acetate)** **Dosage Form: Tablets** **Strength: 0.45 mg/20 mg** **Usual Dose: One tablet orally once daily.**	**Failure Mode: Incorrect Product Ordered/ Selected/Dispensed or Administered because of Name confusion Causes (could be multiple)**	**Prevention of Failure Mode** **In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names**
22.	Duocaine (Bupivacaine HCl and Lidocaine HCl) Injection 0.375%/1% Usual Dose: 0.18 mL/kg or total dose of 12 mL without epinephrine or 0.28 mL/kg or total dose of 20 mL with epinephrine.	Orthographic: Both names share the beginning letter string 'Du-' followed by similar scripted letter strings ('-avee' vs. '-ocai-'). Strength: Single strength Partial Overlap in the Frequency of Administration: Once	Orthographic: The extra ending letter string '-ne' in Duocaine provides a longer appearance for this name and can help differentiate Duavee and Duocaine when scripted. Usual Dose: One tablet vs. 0.18 mL/kg or 0.28 mL/kg with no achievable dose possible between the two products.
23.	Privine (Nephazoline) Nasal Spray, 0.05% Usual Dose: One to two sprays every six hours if needed.	Orthographic: Both names share the same shape and similar lengths (six vs. seven letters), similar scripted beginning letter ('D' vs. 'P') followed by similar scripted letter and letter string 'u' vs. '-ri-'. Strength: Single strength Possible Partial Overlap in the Usual Dose: One (tablet vs. spray)	Orthographic: The ending letter string '-vee' in Duavee does not appear similar to the ending letter string '-ine' in Privine and can help differentiate Duavee and Privine when scripted.

No.	Proposed name: Duavee (Conjugated Estrogens and bazedoxifene Acetate) Dosage Form: Tablets Strength: 0.45 mg/20 mg Usual Dose: One tablet orally once daily.	Failure Mode: Incorrect Product Ordered/ Selected/Dispensed or Administered because of Name confusion Causes (could be multiple)	Prevention of Failure Mode In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names
24.	Denaze (Chlorpheniramine Maleate, Methscopolamine Nitrate, and Phenylephrine Hydrochloride) Oral Solution 4 mg/1.25 mg/10 mg per 5 mL (Name is discontinued with no generic equivalents currently in the market.) Usual Dose: 5 mL to 10 mL orally every twelve hours.	Orthographic: Both names share the same shape (if the letter 'z' is not scripted as a downstroke) and length (six letters), beginning letter 'D' followed by similar scripted letters 'u' vs. 'e', and the ending letter 'e'. Route of Administration: Oral Strength: Single strength Possible Partial Overlap in the Usual Dose: One (tablet vs. teaspoonful)	Orthographic: The letter string '-ave-' in Duavee does not appear similar to the letter string '-naz-' in Denaze and can help differentiate Duavee and Denaze when scripted. Frequency of Administration: Once daily vs. every twelve hours (or twice daily)

No.	**Proposed name: Duavee (Conjugated Estrogens and Bazedoxifene Acetate)** **Dosage Form: Tablets** **Strength: 0.45 mg/20 mg** **Usual Dose: One tablet orally once daily.**	**Failure Mode: Incorrect Product Ordered/ Selected/Dispensed or Administered because of Name confusion Causes (could be multiple)**	**Prevention of Failure Mode** **In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names**
25.	Levora (Levonorgestrel and Ethinyl Estradiol) Tablets 0.15 mg/0.03 mg Usual Dose: One tablet orally once daily.	Orthographic: Both names share the same shape and length (six letters), similar scripted beginning letters ('D' vs. 'L' when scripted in lower case) followed by similar scripted letters 'u' vs. 'e', and the letter 'v' in similar positions of each name (fourth vs. third). Route of Administration: Oral Dosage Form: Tablets Strength: Single strength Overlap in the Frequency of Administration: Once daily Overlap in the Usual Dose: One tablet	Orthographic: The ending letter string '-vee' in Duavee does not appear similar to the ending letter string '-ora- in Levora and can help differentiate Duavee and Levora when scripted.

No.	Proposed name: Duavee (Conjugated Estrogens and bazedoxifene Acetate) Dosage Form: Tablets Strength: 0.45 mg/20 mg Usual Dose: One tablet orally once daily.	Failure Mode: Incorrect Product Ordered/ Selected/Dispensed or Administered because of Name confusion Causes (could be multiple)	Prevention of Failure Mode In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names
26.	Lexiva (Fosamprenavir Calcium) Tablets, 700 mg Oral Suspension, 50 mg/mL Usual Dose: Therapy naive adults: 1400 mg orally twice daily or 700 mg twice daily. Pediatrics: 30 mg/kg orally twice daily	Orthographic: Both names consist of six letters, share similar scripted beginning letters ('D' vs. 'L' when scripted in lower case) followed by similar scripted letters 'u' vs. 'e', and similar scripted ending letter strings '-avee' vs. '-iva'. Route of Administration: Oral Partial Overlap in the Dosage Form: Tablets Strength: Single strength Partial Overlap in the Usual Dose: One tablet	Orthographic: The cross stroke 'x' in Lexiva does not appear similar to the letter 'a' in Duavee and can help differentiate Duavee and Lexiva when scripted. Frequency of Administration: Once daily vs. twice daily

No.	Proposed name: Duavee (Conjugated Estrogens and Bazedoxifene Acetate) Dosage Form: Tablets Strength: 0.45 mg/20 mg Usual Dose: One tablet orally once daily.	Failure Mode: Incorrect Product Ordered/ Selected/Dispensed or Administered because of Name confusion Causes (could be multiple)	Prevention of Failure Mode In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names
27.	(b) (4)		

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/s/

JAMES H SCHLICK
06/17/2013

CAROL A HOLQUIST
06/17/2013

Department of Health and Human Services
Public Health Service
Food and Drug Administration
Center for Drug Evaluation and Research
Office of Surveillance and Epidemiology
Office of Medication Error Prevention and Risk Management
Division of Medication Error Prevention and Analysis

Proprietary Name Review

Date:	November 20, 2012
Reviewer:	Manizheh Siahpoushan, PharmD Division of Medication Error Prevention and Analysis
Team Leader:	Zachary Oleszczuk, PharmD Division of Medication Error Prevention and Analysis
Drug Name and Strength:	(b) (4) (Bazedoxifene Acetate and Conjugated Estrogens) Tablets, 20 mg/0.45 mg and 20 mg/0.625 mg
Application Type/Number:	NDA 022247
Applicant/Sponsor:	Wyeth Pharmaceuticals Inc.
OSE RCM #:	2012-2382

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11/20/2012