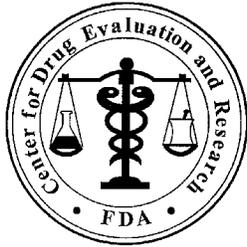


**CENTER FOR DRUG EVALUATION AND
RESEARCH**

APPLICATION NUMBER:

22-395

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**

Date: November 4, 2009

To: Bob Rappaport, Director
Division of Anesthesia, Analgesia and Rheumatology

Through: Kellie Taylor, PharmD., M.P.H., Team Leader
Carol Holquist, RPh., Director
Division of Medication Error Prevention and Analysis

From: Cathy A. Miller, MPH, BSN, Safety Evaluator
Division of Medication Error Prevention and Analysis

Subject: Final Proprietary Name Review

Drug Name(s): Qutenza
(Capsaicin) Patch 8%

Application Type/Number: NDA 022395

Applicant: Neurog esX, Inc.

OSE RCM #: 2009-2020

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

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1 INTRODUCTION

This review is written in response to the anticipated approval of NDA 022395 within 90 days from the date of this review.

DMEPA found the proposed name, Qutenza, acceptable in OSE Review #2009-247, dated May 5, 2009. Since that review, there have not been any changes to the product characteristics of Qutenza. The Division of Anesthesia, Analgesia and Rheumatology Products did not have any concerns with the proposed name, Qutenza, and the Division of Drug Marketing, Advertising and Communication (DDMAC) found the name acceptable from a promotional perspective on February 20, 2009.

2 METHODS

2.1 DATABASE AND INFORMATION SOURCES

For the proposed proprietary name, Qutenza, DMEPA searched a standard set of databases and information sources (see Section 6) to identify names with orthographic and phonetic similarity to the proposed name that have been approved since the previous OSE proprietary name review of Qutenza. We used the same search criteria outlined in OSE Review #2009-247. Since none of the proposed product characteristics were altered we did not re-evaluate previous names of concern. Additionally, DMEPA searches the USAN stem list to determine if the name contains any USAN stems as of the last USAN updates.

3 RESULTS

3.1 DATABASE AND INFORMATION SOURCES

The searches of the databases yielded two new names thought to look similar to Qutenza and represent a potential source of drug name confusion. These names are Actemra^{***} and (b) (4).

DMEPA staff did not identify any United States Adopted Names (USAN) stems in the proposed proprietary name, as of October 31, 2009.

4 DISCUSSION

In this evaluation, two names were analyzed to determine if the drug names could be confused with Qutenza and if the drug name confusion would likely result in a medication error (Actemra^{***} and (b) (4)).

Both names were evaluated using Failure Mode and Effects Analysis (FMEA). The findings of the FMEA indicate that the proposed name, Qutenza, is not likely to result in name confusion with either of the names for the reasons presented in Appendix A and B.

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

5 CONCLUSIONS AND RECOMMENDATIONS

The Proprietary Name Risk Assessment findings indicate that the proposed name, Qutenza, is not vulnerable to name confusion that could lead to medication errors, nor is the name considered promotional. Thus, the Division of Medication Error Prevention and Analysis (DMEPA) has no objection to the proprietary name, Qutenza, 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 Anesthesia, Analgesia and Rheumatology Products (DAARP) should notify DMEPA because the proprietary name must be re-reviewed prior to the new approval date.

We are willing to meet with the Division for further discussion, if needed. If you have further questions or need clarifications, please contact Chris Wheeler, OSE Project Manager, at 301-796-0151.

6 REFERENCES

1. Miller, C.A.. *OSE Review #2009-247: Proprietary Name Review for Qutenza. May 5, 2009.*

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/category/4782.html>)

USAN Stems List contains all the recognized USAN stems.

4. *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.

APPENDICES

Appendix A: Proposed name withdrawn from Agency consideration for pending Application***

Proposed Proprietary Name (Established Name)	NDA	Reason for Withdrawal	Status
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(b) (4)

Appendix B: Potential confusing name with numerical overlap in strength or dose

Failure Mode: Name confusion	Causes (could be multiple)	Rationale
<p>Qutenza (Capsaicin Patch)</p>	<p>8% Dermal Patch</p>	<p>Apply up to four patches for sixty minutes, remove and cleanse site.</p>
<p>Actemra^{***} (Tocilizumab) Concentrate Solution for Intravenous Infusion</p> <p>Strengths: 80 mg/4 mL 200 mg/10 mL 400 mg/20 mL single-use vials</p> <p>Dose: Used in combination with Methotrexate or other DMARD; dose for adults is 8 mg/kg given once every four weeks as a sixty-minute infusion.</p> <p>This product is a BLA (BLA 125276) currently under review and is not yet an approved product.</p>	<p>Orthographic similarities: Both names have seven letters making them appear similar in length. The first capital ‘A’ can look like an ‘O’, both names have an upstroke, crossstroke ‘t’ in the third letter position, ‘m’ can look like ‘n’, and both names end in ‘a’.</p> <p>Numeric overlap in strengths: 80 mg/4 mL and 8%</p>	<p>Variations in the dosage form, usual dose and route of administration minimize the likelihood of medication error in the usual practice setting.</p> <p><i>Rationale:</i></p> <p>Qutenza is a transdermal patch applied topically to skin while Actemra is a solution for intravenous injection. These variations along with differences in the dose presentation (apply ‘X’ patches to skin versus infuse ‘X’ mg intravenously) would prompt practitioners to verify the name and avert medication errors.</p>

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

Application Type/Number	Submission Type/Number	Submitter Name	Product Name
NDA-22395	ORIG-1	NEUROGESX INC	Qutenza

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

/s/

CATHY A MILLER
11/04/2009

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11/04/2009

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11/04/2009



**Department of Health and Human Services
Public Health Service
Food and Drug Administration
Center for Drug Evaluation and Research
Office of Surveillance and Epidemiology**

Date: May 5, 2009

To: Bob Rappaport, Director
Division of Anesthesia, Analgesia and Rheumatology
Products

Through: Kellie Taylor, Pharm.D., Team Leader
Denise Toyer, Pharm.D., Deputy Director
Carol Holquist, RPh, Director
Division of Medication Error Prevention and Analysis
(DMEPA)

From: Cathy A. Miller, M.P.H., B.S.N. Safety Evaluator
Division of Medication Error Prevention and Analysis
(DMEPA)

Subject: Pr oprietary Name Review

Drug Name(s): Qutenza
(Capsaicin) Patch 8 %

Application Type/Number: NDA 22-395

Applicant/Applicant: Ne urogesX, Inc.

OSE RCM #: 2009-247

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EXECUTIVE SUMMARY

The Applicant submitted the proposed proprietary name, Qutenza, for Capsaicin Patch. Our evaluation identified twenty-one names as having potential orthographic and/or phonetic similarity to Qutenza. Our Failure Mode Effects Analysis (FMEA) determined that the name similarity between Qutenza and the 21 names was unlikely to result in medication errors related to name confusion. There were no promotional concerns noted from the Division of Drug Marketing, Advertising and Communication (DDMAC), nor were there any concerns from the Division of Anesthesia, Analgesia and Rheumatology Products (DAARP) with regard to the proposed name, Qutenza. Thus, the Division of Medication Error Prevention and Analysis (DMEPA) has no objection to the proprietary name, Qutenza, for this product.

However, if any of the proposed product characteristics as stated in this review are altered prior to approval of the product, DMEPA rescinds this Risk Assessment finding and recommends that the name be resubmitted for review. In the event that our Risk Assessment finding is rescinded, the evaluation of the name on resubmission is independent of the previous Risk Assessment, and as such, the conclusions on re-review of the name are subject to change.

In addition, the proposed name must be reevaluated 90 days before approval of the NDA, even if the proposed product characteristics as stated in this review are not altered.

1 BACKGROUND

1.1 INTRODUCTION

This review is in response to a request from NeurogesX, Inc. on October 13, 2008 to for the proprietary name review of the proposed name, Qutenza, for the potential name confusion with other proprietary or established drug names in the usual practice settings. The Applicant also submitted container label and carton labeling which will be evaluated separately in a forthcoming OSE review.

1.2 REGULATORY HISTORY

In August 2004, the Applicant submitted proposed proprietary name, (b) (4), for review in OSE Review #04-0241 under investigational new drug application (IND 63-354) for Capsaicin Patch 8 %. At that time, DMEPA had no objection to the name, (b) (4). In September 2007, the Applicant withdrew the name and requested the review of proposed proprietary name, (b) (4). DMEPA reviewed the proposed proprietary name, (b) (4) in OSE Review #2007-2591 (dated October 30, 2008), and had no objection to the name. Prior to completing the proprietary name review, the Applicant submitted a request for review of proprietary name, Qutenza, thus, DMEPA administratively closed the (b) (4) name review request.

On October 13, 2008, the Applicant submitted New Drug Application (NDA 22-395) and requested review of new proposed proprietary name, Qutenza. This request was forwarded to DMEPA by the Division of Anesthesia, Analgesia and Rheumatology Products.

1.3 PRODUCT INFORMATION

Qutenza (Capsaicin Patch 8%) is indicated for the management of neuropathic pain in patients with post-herpetic neuralgia (PHN) (b) (4)

(b) (4) (b) (4) is available as a topical patch containing a total of 179 milligrams (mg) of Capsaicin or 640 micrograms (mcg) of Capsaicin per square centimeter of patch.

Qutenza should be administered only by a physician or a health care professional under the direct supervision of a physician. Distribution of the Qutenza patch will be limited to the physician office and will not be available through retail pharmacies. Qutenza should be applied to the most painful area with recommended dosing of a single 60 minute application of up to four Qutenza patches. Treatment may be repeated every three months or as warranted by the return of pain.

During application of Qutenza patches, only nitrile (not latex) gloves should be worn and while cleansing treatment area after application. For administration of Qutenza patches, the area should first be pre-treated with a topical anesthetic to reduce discomfort during application, applying to treatment area and surrounding 1-2 cm area. Remove topical anesthetic with a dry wipe, gently wash area with mild soap and dry thoroughly. Qutenza is a thin patch with capsaicin-containing adhesive on one side and an outer surface backing layer with printing on the other side. The adhesive side of the patch is covered by a clear, unprinted, diagonally-cut release liner.

Qutenza can be cut to match the size and the shape of the treatment area. Cut Qutenza before removing the protective release liner. There is a diagonal cut in the release liner to aid in its removal. Peel a small section of the release liner back, and place the adhesive side of the patch on the treatment area. While you slowly peel back the release liner from under the patch with one hand, use your other hand to smooth the patch down on to the skin. Once Qutenza is applied, leave in place for 60 minutes. To ensure the Qutenza patch maintains contact with the treatment area, a dressing such as rolled gauze, may be used. Remove patches by rolling them inward gently and slowly. After removal of Qutenza patch, generously apply Cleansing Gel to the treatment area and leave on for approximately one minute. Remove Cleansing Gel with dry wipe and gently wash the area with mild soap and water to dry thoroughly.

Qutenza (Capsaicin) Patch, 8 % is packaged as a single-use patch stored in a sealed pouch. Each patch is printed with “Capsaicin 8 %” and is available as either a carton of (1) patch with 50 gram tube of the Cleansing Gel, or a carton of (2) patches with 50 gram tube of Cleansing Gel. Qutenza cartons should be stored flat in temperatures below 25°C (77°F) and patches should be kept sealed until immediately before use.

2 METHODS AND MATERIALS

This section describes the methods and materials used by the Division of Medication Error Prevention and Analysis (DMEPA) when conducting a proprietary name risk assessment (See 2.1 Proprietary Name Risk Assessment). The primary objective for the assessment is to identify and remedy potential sources of medication error prior to drug approval. 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

2.1 PROPRIETARY NAME RISK ASSESSMENT

FDA's Proprietary Name Risk Assessment considers the potential for confusion between the proposed proprietary name and the proprietary and established names of drug products existing in the marketplace and those pending IND, NDA, BLA, and ANDA products currently under review by the Center.

For the proposed proprietary name, DMEPA staff searched a standard set of databases and information sources to identify names with orthographic and phonetic similarity (See 2.1.1 for details) and held a Center for Drug Evaluation and Research (CDER) Expert Panel discussion to gather professional opinions on the safety of the proposed proprietary name (See 2.1.1.2). DMEPA staff also conducts internal FDA prescription analysis studies. When provided, external prescription analysis studies results are considered and incorporated into the overall risk assessment.

The Safety Evaluator assigned to the Proprietary Name Risk Assessment is responsible for considering the collective findings, and provides an overall risk assessment of the proposed proprietary name (See 2.1.2 for details). The overall risk assessment is based on the findings of a Failure Mode and Effects Analysis (FMEA) of the proprietary name, and is focused on the avoidance of medication errors.

FMEA is a systematic tool for evaluating a process and identifying where and how it might fail.² FMEA is used to analyze whether the drug names identified with orthographic or phonetic similarity to the proposed proprietary name could cause confusion that subsequently leads to medication errors in the clinical setting. 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.

In addition, the product characteristics provide the context for the verbal and written communication of the drug names and can interact with the orthographic and phonetic attributes of the names to increase the risk of confusion when there is overlap or, in some instances, decrease the risk of confusion by helping to differentiate the products through dissimilarity. Accordingly, the DMEPA staff considers the product characteristics associated with the proposed drug 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.

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

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

² Institute for Healthcare Improvement (IHI). Failure Modes and Effects Analysis. Boston. IHI:2004.

population. Because drug name confusion can occur at any point in the medication use process, DMEPA staff 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.³

2.1.1 Search Criteria

The DMEPA staff considers the spelling of the name, pronunciation of the name when spoken, and appearance of the name when scripted as outlined in Appendix A.

For this review, particular consideration was given to drug names beginning with the letter ‘Q’ when searching to identify potentially similar drug names, as 75% of the confused drug names reported by the USP-ISMP Medication Error Reporting Program involve pairs beginning with the same letter.^{4,5}

To identify drug names that may look similar to Qutenza, the DMEPA staff also considers the orthographic appearance of the name on lined and unlined orders. Specific attributes taken into consideration include the length of the name (seven letters), upstrokes (upper case letter ‘Q’ and lower case letter ‘t’), cross strokes and (lower case letter ‘t’), downstroke (lower case letter ‘z’). When evaluating the orthographic attributes, DMEPA also considers that the lower case letter ‘z’ can be written without a downstroke. Additionally, several letters in Qutenza may be vulnerable to ambiguity when scripted, including the capital letter ‘Q’ may appear as capital letters ‘O’ or ‘Z’; lower case ‘u’ may look like lower case ‘n’ or ‘r’; lower case ‘t’ may look like lower case ‘l’; lower case letter ‘e’ may look like lower case letters ‘i’ or ‘l’; lower case letter ‘n’ may appear as lower case letters ‘m’ or ‘r’; lower case ‘z’ may appear as lower case letter ‘g’ or ‘j’ when written with a downstroke, or may appear as a lower case letter ‘n’ or ‘r’ when written without a downstroke; and lower case ‘a’ may appear as lower case ‘o’. As a result, the DMEPA staff also considers these alternate appearances when identifying drug names that may look similar to Qutenza.

When searching to identify potential names that may sound similar to Qutenza, the DMEPA staff search for names with similar number of syllables (three), stresses (QU-ten-za, Qu-TEN-za or Qu-ten-ZA), and placement of vowel and consonant sounds. Additionally, the DMEPA staff considers that pronunciation of parts of the name can vary such as ‘Qu’ can sound like ‘Ca’ or ‘Qwu’, and ‘za’ can sound like ‘sa’. The Applicant did not provide the intended pronunciation of the word Qutenza. Moreover, names are often mispronounced and/or spoken with regional accents and dialects, so other potential pronunciations of the name are considered.

The DMEPA staff also considers the product characteristics associated with the proposed drug throughout the identification of similar drug names because the product characteristics of the proposed drug ultimately determine the use of the product in the clinical practice setting. For this review, the following information was provided about the proposed product to the DMEPA staff: proposed proprietary name, Qutenza, the established name (Capsaicin), proposed

³ Institute of Medicine. Preventing Medication Errors. The National Academies Press: Washington DC. 2006.

⁴ Institute for Safe Medication Practices. Confused Drug name List (1996-2006). Available at <http://www.ismp.org/Tools/confuseddrugnames.pdf>

⁵ Kondrack, G and Dorr, B. Automatic Identification of Confusable Drug Names. Artificial Intelligence in Medicine (2005)

indication of use (for the prolonged reduction of neuropathic pain associated with postherpetic neuralgia), strength (8 %), dose (one to four patches), frequency of administration (apply for sixty minutes every three months), route (topical), and dosage form (dermal patch). Appendix A provides a more detailed listing of the product characteristics the DMEPA staff generally takes into consideration.

Lastly, the DMEPA staff also 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, these broader safety implications of the name are considered and evaluated throughout this assessment and the DMEPA staff provides additional comments related to the safety of the proposed proprietary name or product based on professional experience with medication errors.

2.1.1.1 Database and Information Sources

The proposed proprietary name was provided to the DMEPA staff to conduct a search of 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 using the criteria outlined in Section 2.1.1. A standard description of the databases used in the searches is provided in Section 7. To complement the process, the DMEPA staff used 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, the DMEPA staff reviewed the USAN stem list to determine if any USAN stems are present within the proprietary name. The individual findings of multiple safety evaluators were then pooled and presented to the CDER Expert Panel.

2.1.1.2 CDER Expert Panel Discussion

An Expert Panel Discussion is held by DMEPA to gather CDER professional opinions on the safety of the proposed product and the proposed proprietary name. The Expert Panel is composed of Division of Medication Errors Prevention (DMEPA) staff and representatives from the Division of Drug Marketing, Advertising, and Communications (DDMAC). Potential concerns regarding drug marketing and promotion related to the proposed names are also discussed.

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

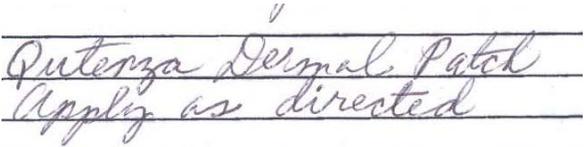
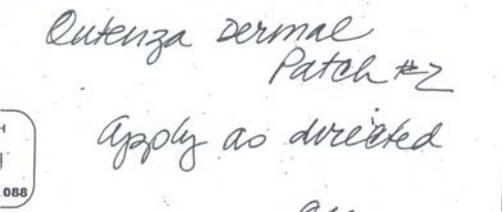
2.1.2 FDA Prescription Analysis Studies

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 a total of 123 (one hundred twenty-three) healthcare professionals (pharmacists, physicians, and nurses), and

attempts to simulate the prescription ordering process. The results are used by the Safety Evaluator to identify any 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 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 the 123 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 send their interpretations of the orders via e-mail to DMEPA.

Figure 1. Qutenza Study (conducted on March 5, 2009)

HANDWRITTEN REQUISITION MEDICATION ORDER	VERBAL PRESCRIPTION
<p><u>Inpatient Medication Order:</u></p>  <p><i>Qutenza Dermal Patch</i> <i>Apply as directed</i></p>	<p>Qutenza Dermal Patch Apply as directed</p>
<p><u>Outpatient Prescription:</u></p>  <p><i>Qutenza dermal</i> <i>Patch #2</i> <i>Apply as directed</i></p>	

2.1.3 Comments from the Office of New Drug Review Division

DMEPA requests the regulatory division in the Office of New Drugs responsible for the issues that may impact the DMEPA review during the initial phase of the name review. For this product, DMEPA sent our request to the Division of Anesthesia, Analgesia and Rheumatology Products. Additionally, when applicable, at the same time DMEPA requests concurrence/non-concurrence with DDMAC's decision on the name. Any comments or concerns are addressed in the safety evaluator's assessment.

The 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 regulatory division is requested to concur/not concur with DMEPA's final decision.

2.1.4 Safety Evaluator Risk Assessment of the Proposed Proprietary Name

Based on the criteria set forth in Section 2.1, the Safety Evaluator Risk Assessment applies his/her individual expertise gained from evaluating medication errors reported to FDA to conduct a Failure Mode and Effects Analysis and provides an overall 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.⁶ 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 as a result of the 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 Safety Evaluator must analyze the use of the product at all points in the medication use system. Because the proposed product is not yet marketed, the Safety Evaluator anticipates the use of the product in the usual practice settings by considering the clinical and product characteristics listed in Appendix A. 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 evaluation, and studies, and identifies potential failure modes by asking:

“Is the name Qutenza convincingly similar to another drug name, which may cause practitioners to become confused at any point in the usual practice setting?”

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

⁶ Institute for Healthcare Improvement (IHI). Failure Modes and Effects Analysis. Boston. IHI:2004.

In the second stage of the Risk Assessment, all potential failure modes are evaluated 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 name is eliminated 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 that an alternate proprietary name be used. In rare instances, the FMEA findings may provide other risk-reduction strategies; for example, product reformulation to avoid an overlap in strength or an alternate modifier designation may be recommended as a means of reducing the risk of medication errors resulting from drug name confusion.

DMEPA will object to the use of proposed proprietary name when the one or more of the following conditions are identified in the Safety Evaluator’s Risk Assessment:

1. DDMAC finds the proposed proprietary name misleading from a promotional perspective, and the Review Division concurs with DDMAC’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)].
2. 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)].
3. FMEA identifies potential for confusion between the proposed proprietary name and other proprietary or established drug names, and demonstrates that medication errors are likely to result from the drug name confusion under the conditions of usual clinical practice.
4. The proposed proprietary name contains an USAN (United States Adopted Names) stem, particularly in a manner that is contradictory to the USAN Council’s definition.
5. 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.

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 is awarded approval first has the right to the use the name, while DMEPA will recommend that the second product to reach approval seek an alternative name.

If none of these criteria are met, then DMEPA will not object to the use of the proprietary name. If any of these criteria are met, then DMEPA will object to the use of the proposed proprietary

name. The threshold set for objection to the proposed proprietary name may seem low to the Applicant; however, the safety concerns set forth in criteria 1 through 5 are supported either by FDA regulation or by external healthcare authorities, including the Institute of Medicine (IOM), World Health Organization (WHO), Joint Commission on Accreditation of Hospitals (JCOAH), and the Institute for Safe Medication Practices (ISMP), who have examined medication errors resulting from look- or sound-alike drug names and called for regulatory authorities to address the issue prior to approval.

Furthermore, 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, can be identified and remedied prior to approval to avoid patient harm.

Additionally, post-marketing experience has demonstrated that medication errors resulting from drug name confusion are notoriously difficult to remedy post-approval. Educational and other post-approval efforts are low-leverage strategies that have proven to have limited effectiveness at alleviating medication errors involving drug name confusion. Higher-leverage strategies, such as drug name changes, have been undertaken in the past but at great financial cost to the Applicant and at the expense of the public welfare, not to mention the Agency's credibility as the authority responsible for the approving the error-prone proprietary name. Moreover, even after Applicants 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. (See Section 4 for limitations of the process).

If DMEPA objects to a proposed proprietary name on the basis that drug name confusion could lead to medication errors, the FMEA process is used to identify strategies to reduce the risk of medication errors. DMEPA is likely to recommend that the Applicant select an alternative proprietary name and submit the alternate name to the Agency for DMEPA to 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 Applicant with recommendations that reduce or eliminate the potential for error and, thereby, would render the proposed name acceptable.

3 RESULTS

3.1 PROPRIETARY NAME RISK ASSESSMENT

3.1.1 Database and Information Sources

The searches yielded a total of 20 names as having some similarity to the name Qutenza.

Fifteen of the names were thought to look like Qutenza. These include Avinza, (b) (4), Glumetza, Lunesta, Qalaaquin, Quarzan, Questran, (b) (4) Quetiapine, Quetiazic, Quinora, Quintex, Qutiba, Relenza and Zolinza. Three of the names were thought to sound like Qutenza. These include (b) (4), (b) (4) and Quixin. Two was thought to look and sound similar to Qutenza. These names include Kadenza and Qutenzi.

Additionally, DMEPA staff did not identify any United States Adopted Names (USAN) stems in the proposed proprietary name, as of March 6, 2009.

3.1.2 Expert Panel Discussion

The Expert Panel reviewed the pool of names identified by DMEPA staff on February 19, 2009 (See Section 3.1.1. above) and noted no additional names thought to have orthographic or phonetic similarity to Qutenza.

DDMAC had no concerns regarding the proposed name from a promotional perspective, and did not offer any additional comments relating to the proposed name.

3.1.3 FDA Prescription Analysis Studies

A total of 22 practitioners responded but none of the responses overlapped with any existing or proposed drug names. Nineteen of the participants interpreted the name correctly as Qutenza. The remaining three respondents misinterpreted the name as ‘Cutinza’, ‘Trudensa’ and ‘Qtinza’ with all misinterpretations occurring in the verbal studies. See Appendix B for the complete listing of interpretations from the verbal and written prescription studies.

3.1.4 Comments from the Division

In response to the OSE March 6, 2009 e-mail, the Division of Anesthesia, Analgesia and Rheumatology Products did not forward any comments and or concerns on the proposed proprietary name at the initial phase of the name review. DMEPA notified the Division via e-mail that we had no objections to the proposed proprietary name, Qutenza on March 13, 2009. Per e-mail correspondence from the Division of Anesthesia, Analgesia and Rheumatology Products on March 16, 2009, the Division indicated they concur with our assessment, and have no objections to the proposed proprietary name, Qutenza.

3.1.5 Safety Evaluator Risk Assessment

Independent searches by the primary Safety Evaluator resulted in one additional name which was thought to look similar to Qutenza and represent a potential source of drug name confusion: Albenza. As such, a total of twenty-one names were analyzed to determine if the drug names could be confused with Qutenza and if the drug name confusion would likely result in a medication error.

Failure mode and effect analysis (FMEA) was then applied to determine if the potential name, could potentially be confused with any of the remaining 21 names and lead to medication errors. This analysis determined that the name similarity between Qutenza and the identified names was unlikely to result in medication errors with any of the 21 names identified for the reasons presented in Appendices C through H.

4 DISCUSSION

4.1 PROPRIETARY NAME RISK ASSESSMENT

Twenty-one names were evaluated for their potential similarity to the proposed name, Qutenza. The FMEA indicates that the proposed name is not likely to result in name confusion that could

lead to medication errors. This finding was consistent with and supported by the independent risk assessment of the proprietary name submitted by the Applicant.

5 CONCLUSIONS AND RECOMMENDATIONS

The Proprietary Name Risk Assessment findings indicate that the proposed name, Qutenza, is not vulnerable to name confusion that could lead to medication errors. Thus the Division of Medication Error Prevention and Analysis (DMEPA) has no objection to the proprietary name, Qutenza, for this product at this time. Additionally, DDMAC does not object to the proposed name, Qutenza, from a promotional perspective.

However, if any of the proposed product characteristics as stated in this review are altered prior to approval of the product, DMEPA rescinds this Risk Assessment finding and the name must be resubmitted for review. In the event that our Risk Assessment finding is rescinded, the evaluation of the name on resubmission is independent of the previous Risk Assessment, and as such, the conclusions on re-review of the name are subject to change. If the approval of this application is delayed beyond 90 days from the signature date of this review, the proposed name must be resubmitted for evaluation.

5.1 COMMENTS TO THE DIVISION

We are willing to meet with the Division for further discussion, if needed. Please copy DMEPA on any communication to the Applicant with regard to this review. If you have further questions or need clarifications, please contact Chris Wheeler, OSE Project Manger, at 301-796-0151.

5.2 COMMENTS TO THE APPLICANT

5.2.1 *Proprietary Name*

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

Qutenza will be re-reviewed 90 days prior to the approval of the NDA. If we find the name unacceptable following the re-review, we will notify you.

6 REFERENCES

1. *Micromedex Integrated Index (<http://csi.micromedex.com>)*

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

2. *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.

3. *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.

4. *AMF Decision Support System [DSS]*

DSS is a government database used to track individual submissions and assignments in review divisions.

5. *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.

6. *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.

7. *Electronic online version of the FDA Orange Book*
(<http://www.fda.gov/cder/ob/default.htm>)

The FDA Orange Book provides a compilation of approved drug products with therapeutic equivalence evaluations.

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. *Stat!Ref* (www.statref.com)

Stat!Ref contains full-text information from approximately 30 texts; it includes tables and references. Among the database titles are: Handbook of Adverse Drug Interactions, Rudolphs Pediatrics, Basic Clinical Pharmacology, and Dictionary of Medical Acronyms Abbreviations.

13. *USAN Stems* (<http://www.ama-assn.org/ama/pub/category/4782.html>)

USAN Stems List contains all the recognized USAN stems.

14. *Red Book Pharmacy's Fundamental Reference*

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 Book*

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

APPENDICES

Appendix A:

The DMEPA staff considers the spelling of the name, pronunciation of the name when spoken, and appearance of the name when scripted. DMEPA also compares the spelling of the proposed proprietary name with the proprietary and established name of existing and proposed drug products because similarly spelled names may have greater likelihood to sound similar to one another when spoken or look similar to one another when scripted. The DMEPA staff also examines the orthographic appearance of the proposed name using a number of different handwriting samples. Handwritten communication of drug names has a long-standing association with drug name confusion. Handwriting can cause similarly and even dissimilarly spelled drug name pairs to appear very similar to one another. The similar appearance of drug names when scripted has led to medication errors. The DMEPA staff applies expertise gained from root-cause analysis of such 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), along with other orthographic attributes that determine the overall appearance of the drug name when scripted (see Table 1 below for details). In addition, we compare 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. If provided, DMEPA will consider the Applicant’s intended pronunciation of the proprietary name. However, DMEPA also considers a variety of pronunciations that could occur in the English language because the Applicant has little control over how the name will be spoken in clinical practice.

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		
	<i>Potential causes of drug name similarity</i>	<i>Attributes examined to identify similar drug names</i>	<i>Potential Effects</i>
Look-alike	Similar spelling	Identical prefix Identical infix Identical suffix Length of the name Overlapping product characteristics	<ul style="list-style-type: none"> 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 Upstrokes Downstrokes	<ul style="list-style-type: none"> Names may look similar when scripted, and lead to drug name confusion in written communication

Appendix C: Drug names identified as trademark for same product under review

Proprietary Name	Similarity to Qutenza	Comments
(b) (4) L	ook-and Sound-Alike	Registered trademark in USPTO for same product; same indication and same Applicant (NeurogesX).

Appendix D: Name Identified that is Not Drug Product

Proprietary Name	Similarity to Qutenza	Name Information Found
Qutiba	Look-Alike	Plant (Tribulus Terrestris) also know as Puncture vine

Appendix E: Drug names only marketed in select other countries

Proprietary Name	Similarity to Qutenza	Country of Origin
Quetiazic L	ook-Alike	Argentina
Quetanex L	ook-Alike	Philippines

Appendix F: Drug names discontinued or withdrawn with no generic products available

Proprietary Name	Established Name	Similarity to Qutenza	Status
Quarzan Clid	inium Bromide	Look-Alike	Withdrawn by Agency 9/1998; no generic Clindinium Bromide products available

Appendix G: Drug names with no numerical overlap in strength and dose

Product name with potential for confusion	Similarity to Proposed Proprietary Name	Strength	Usual Dose (if applicable)
Qutenza (Capsaicin Patch)		8 % Dermal Patch	Apply up to four patches for sixty minutes, remove and cleanse area.
Avinza (Morphine Sulfate) Extended-release capsules	Look-alike	30 mg, 45 mg, 60 mg, 75 mg, 90 mg and 120 mg capsules	Dose varies according to patient symptoms administered only daily; 60 mg, 90 mg and 120 mg capsules used only in opioid-tolerant patients; maximum daily dose 1600 mg/day.
(b) (4)			
Glumetza (Metformin Hydrochloride)	Look-Alike	1 gram and 500 mg Extended-release tablets	Initiate therapy at 1000 mg daily with food in the evening with dosing in accordance with management of hyperglycemia in patients with Type 2 Diabetes. Gradually increase as advised to minimize gastrointestinal symptoms, at increments of 500 mg weekly. Maximum daily dose is 2000 mg.
(b) (4)			
Lunesta (Eszopiclone) tablets	Look-Alike	1 mg, 2 mg and 3 mg tablets	Recommended starting dose is 2 mg immediately before bedtime; 1 mg for elderly patients
*Quinora (Quinidine Sulfate) tablets *Brand discontinued but generics available	Look-Alike	200 mg and 300 mg tablets	Dose and frequency varies with patient condition. For Conversion of Atrial Fibrillation give 300 mg every eight to twelve hours; monitor quinidine levels and may raise dose if arrhythmic episodes continue
Quetiapine Fumarate (established name) tablets	Look-Alike	25 mg, 50 mg, 100 mg, 150 mg, 200 mg, 300 mg and 400 mg tablets	Bipolar Disorders: 300 mg/day Bipolar Mania: 100 mg/day, increase to 400 mg/day on day 4 Schizophrenia: 25 mg twice daily; increase in increments of 25 mg to 50 mg two or three times daily with target dose of 400 mg/day

Appendix H: Drug names with single strength overlap but differentiating product characteristics

Product name with potential for confusion	Strength	Usual Dose (if applicable)	Differentiating Product Characteristics
Qutenza (Capsaicin Patch)	8 % Dermal Patch	Apply up to four patches for sixty minutes, remove and cleanse area	<p>Dose written as apply patch for sixty minutes as directed, remove and cleanse area.</p> <p>Dosage form is dermal patch</p> <p>Route of administration is topical dermal</p> <p>Trained health professional required for administration/application of product</p>
Albenza (Albendazole) tablets	200 mg	<p>Patient weight 60 kg or greater: 400 mg twice daily for 28-day cycle followed by 14-day albendazole-free interval for total of three cycles</p> <p>Less than 60 kg: 15 mg/kg/day given in twice daily doses with meals for eight to thirty days</p>	<p>Dose written as 2 tablets twice daily</p> <p>Dosage form is tablet</p> <p>Route of administration is oral</p> <p>Self-administration – does not require supervision by health care professional</p>

(b) (4)

Quaalun (Quinine Sulfate)	324 mg capsule	Two capsules (648 mg) every eight hours for seven days	<p>Dose written as two capsules</p> <p>Dosage form is capsule</p> <p>Route of administration is oral</p> <p>Self-administration - does not require supervision by health care professional</p>
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<p>Questran (Cholestyramine) Powder for Oral Suspension</p>	<p>4 gram/packet or 4 gram/scoopful Available in packets (60-count) or 378 gram/can powder</p>	<p>Mix scoopful or packet with two to six ounces of highly fluid soups or pulpy fruits, stir and drink.</p>	<p>Dose written as ‘scoopful’ or ‘packet’ Dosage form is oral powder Route of administration is oral Self-administration - does not require supervision by health care professional</p>
<p>Quintex (Guaifenesin, Phenylephrine Hydrochloride and Phenylpropanolamine Hydrochloride)</p>	<p>100 mg Guaifenesin, 5 mg Phenylephrine Hydrochloride and 20 mg Phenylpropanolamine Hydrochloride</p>	<p>One to two tablets per day</p>	<p>Dose written as 1 or 2 tablets Dosage form is tablets Route of administration is oral Self-administration - does not require supervision by health care professional</p>
<p>Quixin (Levofloxacin) Ophthalmic Solution</p>	<p>0.5 % solution</p>	<p>Instill one to two drops into affected eye (s) on days one and two up to eight times per day; on days three through seven instill one to two drops every four hours up to four times per day.</p>	<p>Dose written as 1 to 2 drops Dosage form is ophthalmic solution Route of administration is ophthalmic (topical) Self-administration - does not require supervision by health care professional</p>
<p>Relenza (Zanamivir)</p>	<p>5 mg Inhalation Powder</p>	<p>Two inhalation doses (10 mg) on first day; subsequent doses twelve hours apart for five days</p>	<p>Dose written as 2 inhalations Dosage form is powder for inhalation Route of administration is oral inhalation Self-administration via DISKHALER device - does not require supervision by health care professional</p>
<p>Zolinza (Vorinostat)</p>	<p>100 mg capsule</p>	<p>400 mg orally once daily with food; may be reduced to 300 mg daily if patient intolerant</p>	<p>Dose written as 3 capsules or 4 capsules daily Dosage form is capsule Route of administration is oral Self-administration - does not require supervision by health care professional</p>

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