CENTER FOR DRUG EVALUATION AND RESEARCH

APPLICATION NUMBER:

216962Orig1s000

PROPRIETARY NAME REVIEW(S)

PROPRIETARY NAME MEMORANDUM

Division of Medication Error Prevention and Analysis 2 (DMEPA 2)
Office of Medication Error Prevention and Risk Management (OMEPRM)
Office of Surveillance and Epidemiology (OSE)
Center for Drug Evaluation and Research (CDER)

*** This document contains proprietary information that cannot be released to the public***

Date of This Review:	September 20, 2024
Application Type and Number:	NDA 216962
Product Name, Dosage Form, and Strength:	Vyalev (foscarbidopa and foslevodopa) injection, 120 mg and 2,400 mg per 10 mL (12 mg and 240 mg per mL)
Product Type:	Single Ingredient Product
Rx or OTC:	Prescription (Rx)
Applicant/Sponsor Name:	AbbVie Inc. (AbbVie)
PNR ID #:	2024-1044725948
DMEPA 2 Safety Evaluator:	Devin Kane, PharmD
DMEPA 2 Team Leader:	Stephanie DeGraw, PharmD
DMEPA 2 Associate Director for Nomenclature and Labeling:	Hina Mehta, PharmD

1 INTRODUCTION

This memorandum is to reassess the proposed proprietary name, Vyalev, which was found conditionally acceptable under NDA 216962 on May 8, 2024.[a] However, NDA 216962 received a complete response (CR) on June 18, 2024. Thus, AbbVie resubmitted the proposed proprietary name, Vyalev, for re-review on August 16, 2024 as part of their response to the CR for NDA 216962.[b] We note that all product characteristics remain the same.

1.1 REGULATORY HISTORY

AbbVie submitted the proposed proprietary name, Vyalev, for review under IND 129213 on April 29, 2020. We found the name Vyalev unacceptable on October 22, 2020 due to orthographic and phonetic similarities and similarity in pronunciation with another pending proposed proprietary name that was also under review, (b) (4) ***[c]. On January 6, 2021, the Applicant of the conflicting name withdrew the name (b) (4) ***.

Thus, AbbVie resubmitted the name, Vyalev, for review under IND 129213 on February 2, 2021. We found the name conditionally acceptable on July 20, 2021[d].

On May 19, 2022, AbbVie submitted the name, Vyalev, for review with the submission of the marketing application under NDA 216962. We found the name conditionally acceptable on August 10, 2022[e]. However, the application received a complete response on March 17, 2023 due to device issues.

AbbVie submitted a Class 2 Resubmission for NDA 216962 on December 19, 2023. Subsequently, AbbVie resubmitted the name, Vyalev, for review on March 11, 2024. We found the name conditionally acceptable on May 8, 2024[a]. However, the application received a second CR on June 18, 2024 due to facility inspection deficiencies.

Thus, AbbVie resubmitted the proposed proprietary name, Vyalev, for re-review on August 16, 2024 as part of the Class 1 Resubmission.

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[a] Kalonia, J. Proprietary Name Review for Vyalev (NDA 216962). Silver Spring (MD): FDA, CDER, OSE, DMEPA 2 (US); 2024 MAY 08. PNR ID No. 2024-1044725671.

[b] Request for Proprietary Name Review. North Chicago (IL): AbbVie Inc.; 2024 AUG 16. Available from: \\CDSESUB1\EVSPROD\nda216962\0036\m1\us\118-proprietary-names\req-prop-name-rev-vyalev-2024-jul.pdf

[c] Weitzman, B. Proprietary Name Review for Vyalev (IND 129213). Silver Spring (MD): FDA, CDER, OSE, DMEPA (US); 2020 OCT 22. Panorama No. 2020-39563891.

[d] Kalonia, J. Proprietary Name Review for Vyalev (IND 129213). Silver Spring (MD): FDA, CDER, OSE, DMEPA 2 (US); 2021 JUL 20. PNR ID No. 2021-1044723798.

[e] Kalonia, J. Proprietary Name Review for Vyalev (NDA 216962). Silver Spring (MD): FDA, CDER, OSE, DMEPA 2(US); 2022 AUG 10. PNR ID No. 2022-1044724594.

2 DISCUSSION

2.1 MISBRANDING ASSESSMENT

The Office of Prescription Drug Promotion (OPDP) determined that Vyalev would not misbrand the proposed product. The Division of Medication Error Prevention and Analysis 2 (DMEPA 2) and The Division of Neurology 1 (DN 1) concurred with the findings of OPDP's assessment for Vyalev.

2.2 SAFETY ASSESSMENT

For re-assessment of the proposed proprietary name, Vyalev, 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. Our reassessment did not change our conclusion regarding the previously identified names of concern. Additionally, we searched the United States Adopted Name (USAN) stem list to determine if the proposed proprietary name contains any USAN stems as of the last USAN updates. The August 29, 2024 search of USAN stems did not find any USAN stems.

2.2.1 COMMUNICATION OF DMEPA'S DETERMINATION

On September 19, 2024, DMEPA 2 communicated our determination to the Division of Neurology 1 (DN 1).

3 CONCLUSION

Our re-assessment did not identify any names that represent a potential source of drug name confusion. Therefore, we maintain that the proposed proprietary name, Vyalev, is conditionally acceptable.

3.1 COMMENTS TO ABBVIE INC.

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

If any of the proposed product characteristics as stated in your submission, received on August 16, 2024, are altered prior to approval of the marketing application, the proprietary name must be resubmitted for review.

4 REFERENCE

1. *United States Adopted Names (USAN) Stems*

USAN Stems List contains all the recognized USAN stems, available at https://www.ama-assn.org/about/united-states-adopted-names/united-states-adopted-names-approved-stems.

This is a representation of an electronic record that was signed electronically. Following this are manifestations of any and all electronic signatures for this electronic record.

/s/

DEVIN R KANE
09/20/2024 08:54:39 AM

STEPHANIE L DEGRAW
09/20/2024 01:00:44 PM

HINA S MEHTA
09/25/2024 01:02:46 PM

PROPRIETARY NAME REVIEW

Division of Medication Error Prevention and Analysis 2 (DMEPA 2)
Office of Medication Error Prevention and Risk Management (OMEPRM)
Office of Surveillance and Epidemiology (OSE)
Center for Drug Evaluation and Research (CDER)

*** This document contains proprietary information that cannot be released to the public***

Date of This Review:	May 8, 2024
Application Type and Number:	NDA 216962
Product Name, Dosage Form, and Strength:	Vyalev (foscarbidopa and foslevodopa) injection, 120 mg and 2,400 mg per 10 mL (12 mg and 240 mg per mL)
Product Type:	Combination Product (Drug-Device)
Rx or OTC:	Prescription (Rx)
Applicant/Sponsor Name:	AbbVie Inc. (AbbVie)
PNR ID #:	2024-1044725671
DMEPA 2 Safety Evaluator:	Justine Kalonia, PharmD
DMEPA 2 Team Leader:	Stephanie DeGraw, PharmD
DMEPA 2 Associate Director for Nomenclature & Labeling:	Hina Mehta, PharmD

Table of Contents

1 INTRODUCTION

This review evaluates the proposed proprietary name, Vyalev, from a safety and misbranding perspective. The sources and methods used to evaluate the proposed proprietary name are outlined in the Reference section and Appendix A, respectively. AbbVie submitted an external name study, conducted (b) (4) for this proposed proprietary name. The submitted external name study report dated September 13, 2023 includes the safety testing results initiated in February 2019 along with a gap analysis performed in March 2020 and in September 2023. We previously reviewed the (b) (4) external name study which included the safety testing results initiated in February 2019 and a gap analysis performed in March 2020 under IND 129213 (see Section 1.1 below).[b]

1.1 REGULATORY HISTORY

AbbVie previously submitted the proposed proprietary name, Vyalev, under IND 129213 on April 24, 2020. However, on October 22, 2020, we found the name Vyalev unacceptable due to orthographic and phonetic similarities and similarity in pronunciation with another pending proposed proprietary name that was also under review, (b) (4) ***.[c] In January 2021, the Applicant for the conflicting name, (b) (4) ***, withdrew the name. Thus, AbbVie resubmitted Vyalev for reconsideration review on February 2, 2021, and we found the name Vyalev conditionally acceptable under IND 129213 on July 20, 2021.[d]

With the submission of the marketing application under NDA 216962, AbbVie again submitted Vyalev for our review received on May 19, 2022. On August 10, 2022, we again found the name, Vyalev, conditionally acceptable.[e] However, NDA 216962 received a complete response letter (CRL) on March 17, 2023.

The Agency received the Applicant's Class 2 Resubmission of NDA 216962 in response to the CRL on December 19, 2023. Subsequently, AbbVie re-submitted the proposed proprietary name, Vyalev, for review on March 11, 2024.

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[a] Request for Proprietary Name Review. North Chicago (IL): AbbVie Inc.; 2024 MAR 11. Available from: \\CDSESUB1\EVSPROD\nda216962\0028\m1\us\118-proprietary-names\req-prop-name-rev-vyalev.pdf.

[b] Proprietary Name Request – Vyalev. North Chicago (IL): AbbVie Inc.; 2020 APR 29. Available from: \\CDSESUB1\EVSPROD\ind129213\0130\m1\us\112-other-correspondence\request-comments-advice-ind\proprietary-name-request-vyalev.pdf.

[c] Weitzman, B. Proprietary Name Review for Vyalev (IND 129213). Silver Spring (MD): FDA, CDER, OSE, DMEPA (US); 2020 OCT 22. Panorama No. 2020-39563891.

[d] Kalonia, J. Proprietary Name Review for Vyalev (IND 129213). Silver Spring (MD): FDA, CDER, OSE, DMEPA 2 (US); 2021 JUL 20. PNR ID No. 2021-1044723798.

[e] Kalonia, J. Proprietary Name Review for Vyalev (NDA 216962). Silver Spring (MD): FDA, CDER, OSE, DMEPA 2(US); 2022 AUG 10. PNR ID No. 2022-1044724594.

1.2 PRODUCT INFORMATION

The following product information is provided in the proprietary name submission received on March 11, 2024[f], and the prescribing information received on December 19, 2023[g].

Table 1. Relevant Product Information for Vyalev	
Intended pronunciation:	vye-uh-lev
Active ingredients:	foscarbidopa and foslevodopa
Indication:	for the treatment of motor fluctuations in adults with advanced Parkinson's disease
Dosage Form:	injection
Strength:	120 mg and 2,400 mg per 10 mL (12 mg and 240 mg per mL)
Route of administration:	Subcutaneous infusion. The patient will draw the product into the syringe and insert the syringe into syringe pump.
Dose and frequency:	Individualized dosing administered as a continuous subcutaneous infusion, 24 hours per day, using the VYAFUSER pump. • (b) (4) • (b) (4) • (b) (4) • (b) (4)

[f] Request for Proprietary Name Review (Vyalev, NDA 216962). North Chicago (IL): AbbVie Inc.; 2024 MAR 11. Available from: \\CDSESUB1\EVSPROD\nda216962\0028\m1\us\118-proprietary-names\req-prop-name-rev-vyalev.pdf.

[g] Proposed prescribing information for Vyalev. North Chicago (IL): AbbVie Inc.; 2023 DEC 19. Available from: \\CDSESUB1\EVSPROD\nda216962\0025\m1\us\114-labeling\draft\labeling\uspi-foslevodopa-foscarbidopa-parkinsons-resubmission.docx.

Table 1. Relevant Product Information for Vyalev	
	(b) (4) • (b) (4) • See Appendix I for more dosage information.
How Supplied:	Supplied as a single-dose 10 mL (usable volume) vial; available in 7-count cartons
Storage:	Refrigerate at 36°F to 46°F (2°C to 8°C). DO NOT FREEZE. If needed, may be stored at room temperature up to a maximum of 86°F (30°C) for a single period of up to 28 days.
Listed Drug:	Sinemet (carbidopa and levodopa) NDA 017555

2 DISCUSSION

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

2.1 MISBRANDING ASSESSMENT

The Office of Prescription Drug Promotion (OPDP) determined that Vyalev would not misbrand the proposed product. The Division of Medication Error Prevention and Analysis 2 (DMEPA 2) and the Division of Neurology 1 (DN 1) concurred with the findings of OPDP's assessment for Vyalev.

2.2 SAFETY ASSESSMENT

The following aspects were considered in the safety evaluation of the proposed proprietary name, Vyalev.

2.2.1 UNITED STATES ADOPTED NAMES (USAN) SEARCH

There is no USAN stem present in the proposed proprietary name.[h]

2.2.2 COMPONENTS OF THE PROPOSED PROPRIETARY NAME

AbbVie did not provide a derivation or intended meaning for the proposed proprietary name, Vyalev, in their submission. This proprietary name is comprised of a single word that contains the suffix "lev", which is part of the name of one of the active ingredients (i.e., foslevodopa). Because the proposed product is a multi-ingredient product, we considered whether the proposed proprietary name is in accordance with 21 CFR 201.6(b) during our previous review.[c] We determined the name Vyalev is not misleading and beyond this derivation, it does not

[h] USAN stem search conducted on March 13, 2024.

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 COMMENTS FROM OTHER REVIEW DISCIPLINES AT INITIAL REVIEW

As of March 21, 2024, the Division of Neurology 1 (DN 1) did not forward any comments or concerns relating to Vyalev at the initial phase of the review.

2.2.4 FDA PRESCRIPTION SIMULATION STUDIES

Seventy-eight practitioners participated in DMEPA's prescription studies for Vyalev.

One respondent in the Computerized Prescription Order Entry (CPOE) study incorrectly selected the name VEVYE. However, the participant entered an incorrect sequence of letters, 'Vye' when searching for the study name. As a result, the CPOE generated picklist did not contain Vyalev as a choice. The participant proceeded to incorrectly select VEVYE as their response after 14 seconds in order to proceed with the FDA prescription stimulation study. Thus, in this case, the study response is unlikely to be representative of a plausible CPOE based risk. We note that although Vyalev and Vevye are single strength products (120 mg/ 2,400 mg per 10 mL (12 mg/240 mg per mL) vs. 0.1%), where the strength may be omitted on an order, there is no overlap in dose (b) (4) vs. 1 drop). Additionally, the products differ in dosage form (injection vs. ophthalmic solution), route of administration (subcutaneous infusion vs. for topical ophthalmic use), and frequency of administration (continuously over 24 hours vs. twice daily) which are unlikely to be overlooked in an electronic prescribing scenario.

> Orthographically, Vyalev contains the downstroke letter 'y' in the prefix (2nd position) and the upstroke letter 'l' in the 4th position, whereas Vevye contains the downstroke letter 'y' in the suffix (4th position) and it does not contain any upstroke letters. These differences give the names different shapes when scripted.
>
> Phonetically, the ending of the first syllables (vye vs. vee) and the second syllables (uh vs. vye') sound different when spoken, and Vyalev contains an extra syllable (lev), thus the names sound different when spoken (see Appendix E).

The remaining responses did not overlap with any currently marketed products, nor did the responses sound or look similar to any currently marketed products or any products in the pipeline. Appendix B contains the results from the prescription simulation studies.

2.2.5 PHONETIC AND ORTHOGRAPHIC COMPUTER ANALYSIS (POCA) SEARCH RESULTS

Our POCA search[i] identified 89 names with a combined score of ≥55% or an individual orthographic or phonetic score of ≥70%. We had identified and evaluated some of the names in our previous proprietary name review. We re-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 name. We note that

[i] POCA search conducted on March 13, 2024 in version 5.5.

none of the product characteristics have changed and we agree with the findings from our previous reviews for the names evaluated previously. Therefore, we identified 6 names not previously analyzed. These names are included in Table 2 below.

2.2.6 NAMES RETRIEVED FOR REVIEW ORGANIZED BY NAME PAIR SIMILARITY

Table 2 provides the number of names retrieved from our POCA search and FDA Prescription Simulation Study. These name pairs are organized as highly similar, moderately similar, or low similarity for further evaluation.

Table 2. Names Retrieved for Review Organized by Name Pair Similarity	
Similarity Category	Number of Names
Highly similar name pair: combined match percentage score ≥70%	0
Moderately similar name pair: combined match percentage score ≥55% to ≤ 69%	5
Low similarity name pair: combined match percentage score ≤54%	2

2.2.7 SAFETY ANALYSIS OF NAMES WITH POTENTIAL ORTHOGRAPHIC, SPELLING, AND PHONETIC SIMILARITIES

Our analysis of the 7 names contained in Table 2 determined none of the names will pose a risk for confusion with Vyalev as described in Appendices C through H.

2.2.8 COMMUNICATION OF DMEPA'S DETERMINATION

On May 8, 2024, DMEPA 2 communicated our determination to the Division of Neurology 1 (DN 1).

3 CONCLUSION

The proposed proprietary name, Vyalev, is conditionally acceptable.

If you have any questions or need clarifications, please contact Lopa Thambi, OSE project manager, at 301-796-5354.

3.1 COMMENTS TO ABBVIE INC.

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

If any of the proposed product characteristics as stated in your submission, received on March 11, 2024, are altered prior to approval of the marketing application, the proprietary name must be resubmitted for review.

4 REFERENCES

1. United States Adopted Names (USAN) Stems

USAN Stems List contains all the recognized USAN stems, available at https://www.ama-assn.org/about/united-states-adopted-names/united-states-adopted-names-approved-stems.

2. Phonetic and Orthographic Computer Analysis (POCA)

POCA is a system that FDA designed. As part of the name similarity assessment, POCA is used to evaluate proposed names via a phonetic and orthographic algorithm. The proposed proprietary name is converted into its phonemic representation before it runs through the phonetic algorithm. Likewise, an orthographic algorithm exists that operates in a similar fashion. POCA is publicly accessible.

Drugs@FDA

Drugs@FDA is an FDA Web site that contains most of the drug products approved in the United States 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 and generic drugs; therapeutic biological products, prescription and over-the-counter human drugs; and discontinued drugs (see Drugs@FDA Glossary of Terms, available at https://www.fda.gov/drugs/drug-approvals-and-databases/drugsfda-glossary-terms).

RxNorm

RxNorm contains the names of prescription and many OTC drugs available in the United States. RxNorm includes generic and branded:

- Clinical drugs – pharmaceutical products given to (or taken by) a patient with therapeutic or diagnostic intent
- Drug packs – packs that contain multiple drugs, or drugs designed to be administered in a specified sequence

Radiopharmaceuticals, contrast media, food, dietary supplements, and medical devices, such as bandages and crutches, are all out of scope for RxNorm (http://www.nlm.nih.gov/research/umls/rxnorm/overview.html).

Purple Book

The Purple Book is an online database that contains information about biological products, including biosimilar and interchangeable biological products, licensed (approved) by the FDA under the Public Health Service (PHS) Act. See Purple Book: Lists of Licensed Biological Products with Reference Product Exclusivity and Biosimilarity or Interchangeability Evaluations, available at https://www.fda.gov/drugs/therapeutic-biologics-applications-bla/purple-book-lists-licensed-biological-products-reference-product-exclusivity-and-biosimilarity-or.

Division of Medication Errors Prevention and Analysis pending proprietary name requests

This is a list of proposed and pending names that is generated by the Division of Medication Error Prevention and Analysis.

5 APPENDICES

APPENDIX A. FDA'S PROPRIETARY NAME RISK ASSESSMENT EVALUATES PROPOSED PROPRIETARY NAMES FOR MISBRANDING AND SAFETY CONCERNS

1. Misbranding Assessment: For prescription drug products, the Office of Prescription Drug Promotion (OPDP) assesses the name for misbranding concerns. For over-the-counter (OTC) drug products, the misbranding assessment of the proposed name is conducted by the Office of Non-Prescription Drugs (ONPD). OPDP or ONPD evaluates proposed proprietary names to determine if the name is false or misleading, such as by making misrepresentations with respect to safety or efficacy. For example, a fanciful proprietary name may misbrand a product by suggesting that it has some unique effectiveness or composition when it does not (21 CFR 201.10(c)(3)). OPDP or ONPD provides their opinion to DMEPA for consideration in the overall acceptability of the proposed proprietary name.

2. Safety Assessment: The safety assessment is conducted by DMEPA, and includes the following:

    a. Preliminary Assessment: 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.) See prescreening checklist below in Table 3*. 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.[j]

*Table 3. Prescreening Checklist for Proposed Proprietary Name Answer the questions in the checklist below. Affirmative answers to any of these questions indicate a potential area of concern that should be carefully evaluated as described in this guidance.	
Y/N	Is the proposed name obviously similar in spelling and pronunciation to other names?
	Proprietary names should not be similar in spelling or pronunciation to proprietary names, established names, or ingredients of other products.
Y/N	Are there inert or inactive ingredients referenced in the proprietary name?
	Proprietary names should not incorporate any reference to an inert or inactive ingredient in a way that might create an impression that the ingredient's value is greater than its true functional role in the formulation (21 CFR 201.10(c)(4)).
Y/N	Does the proprietary name include combinations of active ingredients?
	Proprietary names of fixed combination drug products should not include or suggest the name of one or more, but not all, of its active ingredients (see 21 CFR 201.6(b)).
Y/N	Is there a United States Adopted Name (USAN) stem in the proprietary name?
	Proprietary names should not incorporate a USAN stem in the position that USAN designates for the stem.

[j] National Coordinating Council for Medication Error Reporting and Prevention. https://www.nccmerp.org/about-medication-errors. Last accessed 10/05/2020.

*Table 3. Prescreening Checklist for Proposed Proprietary Name Answer the questions in the checklist below. Affirmative answers to any of these questions indicate a potential area of concern that should be carefully evaluated as described in this guidance.	
Y/N	Is this proprietary name used for another product that does not share at least one common active ingredient?
	Drug products that do not contain at least one common active ingredient should not use the same (root) proprietary name.
Y/N	Is this a proprietary name of a discontinued product?
	Proprietary names should not use the proprietary name of a discontinued product if that discontinued drug product does not contain the same active ingredients.

b. Phonetic and Orthographic Computer Analysis (POCA): Following the preliminary screening of the proposed proprietary name, DMEPA staff evaluates the proposed name against potentially similar names. In order to identify names with potential similarity to the proposed proprietary name, DMEPA enters the proposed proprietary name in POCA and queries the name against the following drug reference databases, Drugs@FDA, Cerner RxNorm, Purple Book, and names in the review pipeline using a 55% threshold in POCA. DMEPA reviews the combined orthographic and phonetic matches and group the names into one of the following three categories:

- Highly similar pair: combined match percentage score ≥70%.
- Moderately similar pair: combined match percentage score ≥55% to ≤ 69%.
- Low similarity: combined match percentage score ≤54%.

Using the criteria outlined in the check list (Table 4-6) that corresponds to each of the three categories (highly similar pair, moderately similar pair, and low similarity), DMEPA evaluates the name pairs to determine the acceptability or non-acceptability of a proposed proprietary name. The intent of these checklists is to increase the transparency and predictability of the safety determination of whether a proposed name is vulnerable to confusion from a look-alike or sound-alike perspective. Each bullet below corresponds to the name similarity category cross-references the respective table that addresses criteria that DMEPA uses to determine whether a name presents a safety concern from a look-alike or sound-alike perspective.

- For highly similar names, differences in product characteristics often cannot mitigate the risk of a medication error, including product differences such as strength and dose. Thus, proposed proprietary names that have a combined score of ≥ 70 percent are at risk for a look-alike sound-alike confusion which is an area of concern (See Table 4).
- Moderately similar names are further evaluated to identify the presence of attributes that are known to cause name confusion.
    - Name attributes: We note that the beginning of the drug name plays a significant role in contributing to confusion. Additionally, drug name pairs that start with the same first letter and contain a shared letter string of at least 3 letters in both names are major contributing factor in

the confusion of drug names[k]. We evaluate all moderately similar names retrieved from POCA to identify the above attributes. These names are further evaluated to identify overlapping or similar strengths or doses.

- Product attributes: Moderately similar names of products that have overlapping or similar strengths or doses represent an area for concern for FDA. The dose and strength information is often located in close proximity to the drug name itself on prescriptions and medication orders, and the information can be an important factor that either increases or decreases the potential for confusion between similarly named drug pairs. The ability of other product characteristics to mitigate confusion (e.g., route, frequency, dosage form) may be limited when the strength or dose overlaps. DMEPA reviews such names further, to determine whether sufficient differences exist to prevent confusion. (See Table 5).

- Names with low similarity that have no overlap or similarity in strength and dose are generally acceptable (See Table 6) unless there are data to suggest that the name might be vulnerable to confusion (e.g., prescription simulation study suggests that the name is likely to be misinterpreted as a marketed product). In these instances, we would reassign a low similarity name to the moderate similarity category and review according to the moderately similar name pair checklist.

c. FDA Prescription Simulation Studies: DMEPA also conducts prescription simulation studies using FDA health care professionals.

   Four 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, verbal pronunciation of the drug name or during computerized provider order entry. 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 vulnerability of the proposed name to be misinterpreted by healthcare practitioners during written, verbal, or electronic prescribing.

   In order to evaluate the potential for misinterpretation of the proposed proprietary name during written, verbal, or electronic prescribing of the name, written inpatient medication orders, written outpatient prescriptions, verbal orders, and electronic orders are simulated, each consisting of a combination of marketed and unapproved drug products, including the proposed name.

d. Comments from Other Review Disciplines: DMEPA requests the Office of New Drugs (OND), Office of Generic Drugs (OGD), and/or Office of Pharmaceutical Quality (OPQ) 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-

[k] Shah, M, Merchant, L, Characteristics That May Help in the Identification of Potentially Confusing Proprietary Drug Names. Therapeutic Innovation & Regulatory Science, September 2016

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.

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

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 Safety Evaluator 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.

Table 4. Highly Similar Name Pair Checklist (i.e., combined Orthographic and Phonetic score is ≥ 70%).			
Answer the questions in the checklist below. Affirmative answers to some of these questions suggest that the pattern of orthographic or phonetic differences in the names may render the names less likely to confusion, provided that the pair does not share a common strength or dose.			
Orthographic Checklist		Phonetic Checklist	
Y/N	Do the names begin with different first letters? *Note that even when names begin with different first letters, certain letters may be confused with each other when scripted.*	Y/N	Do the names have different number of syllables?
Y/N	Are the lengths of the names dissimilar* when scripted? **FDA considers the length of names different if the names differ by two or more letters.*	Y/N	Do the names have different syllabic stresses?
Y/N	Considering variations in scripting of some letters (such as *z* and *f*), is there a different number or placement of upstroke/downstroke letters present in the names?	Y/N	Do the syllables have different phonologic processes, such vowel reduction, assimilation, or deletion?
Y/N	Is there different number or placement of cross-stroke or dotted letters present in the names?	Y/N	Across a range of dialects, are the names consistently pronounced differently?
Y/N	Do the infixes of the name appear dissimilar when scripted?		
Y/N	Do the suffixes of the names appear dissimilar when scripted?		

<table>
<tr><th colspan="3">Table 5: Moderately Similar Name Pair Checklist (i.e., combined score is ≥55% to ≤69%).</th></tr>
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For single strength products, also consider circumstances where the strength may not be expressed.
For any i.e., drug products comprised of more than one active ingredient, consider whether the strength or dose may be expressed using only one of the components.
To determine whether the strengths or doses are similar to your proposed product, consider the following list of factors that may increase confusion:
• Alternative expressions of dose: 5 mL may be listed in the prescribing information, but the dose may be expressed in metric weight (e.g., 500 mg) or in non-metric units (e.g., 1 tsp, 1 tablet/capsule). Similarly, a strength or dose of 1000 mg may be expressed, in practice, as 1 g, or vice versa.
• Trailing or deleting zeros: 10 mg is similar in appearance to 100 mg which may potentiate confusion between a name pair with moderate similarity.
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• Do the names begin with different first letters?
• Note that even when names begin with different first letters, certain letters may be confused with each other when scripted.
• Are the lengths of the names dissimilar* when scripted?
• *FDA considers the length of names different if the names differ by two or more letters.
• Considering variations in scripting of some letters (such as z and f), is there a different number or</td><td>Phonetic Checklist (Y/N to each question)
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• Do the names have different syllabic stresses?
• Do the syllables have different phonologic processes, such vowel reduction, assimilation, or deletion?
• Across a range of dialects, are the names consistently pronounced differently?</td></tr>
</table>

Table 5: Moderately Similar Name Pair Checklist (i.e., combined score is **≥55%** to **≤69%).**		
	placement of upstroke/downstroke letters present in the names? • Is there different number or placement of cross-stroke or dotted letters present in the names? • Do the infixes of the name appear dissimilar when scripted? • Do the suffixes of the names appear dissimilar when scripted?	

Table 6. Low Similarity Name Pair Checklist (i.e., combined score is **≤54%).**
Names with low similarity are generally acceptable unless there are data to suggest that the name might be vulnerable to confusion (e.g., prescription simulation study suggests that the name is likely to be misinterpreted as a marketed product). In these instances, we would reassign a low similarity name to the moderate similarity category and review according to the moderately similar name pair checklist.

APPENDIX B. PRESCRIPTION SIMULATION SAMPLES AND RESULTS

Figure 1. Vyalev Study (Conducted on 3/22/2024)

Handwritten Medication Order Prescription	Verbal Prescription
Medication Order: Vyalev 2,000mg per day continuous 24hour SC infusion	Vyalev 1,000 mg per day as a 24 hour continuous subcutaneous infusion. Dispense #14 vials
Outpatient Prescription: Vyalev 1000mg per day as a 24-hour continuous SQ infusion #14	
CPOE Study Sample (displayed as sans-serif, 12-point, bold font)	
Vyalev	

Aggregate Report

As of Date: 04/10/2024 08:18

Study Name: Vyalev - 2024-03-22

People Received Study: 166

People Responded: 78

Total	21	19	19	19	78
INTERPRETATION	INPATIENT	OUTPATIENT	VOICE	CPOE	TOTAL
BYALEV	1	0	0	0	1
VEVYE	0	0	0	1	1
VIALEB	0	0	1	0	1
VIALEV	0	0	7	0	7
VIALOAV	0	0	1	0	1

VILAVE	0	0	1	0	1
VIOLAB	0	0	1	0	1
VIOLEV	0	0	7	0	7
VYALEO	3	0	0	0	3
VYALEV	17	19	0	18	54
VYLEV	0	0	1	0	1

** U.S. FDA - RX Study*
** RX Study Version 4.8 (2024-03-10)*

APPENDIX C. HIGHLY SIMILAR NAMES (e.g., combined POCA score is ≥70%)

No.	**Proposed name:** Vyalev **Pronunciation:** vye-uh-lev **Established name:** foscarbidopa and foslevodopa **Dosage form:** injection **Strength(s):** 120 mg and 2,400 mg per 10 mL (12 mg and 240 mg per mL) **Dosage:** (b) (4) See Appendix I for full dosage information.	**POCA Score (%)**	**Orthographic and/or phonetic differences in the names sufficient to prevent confusion** **Other prevention of failure mode expected to minimize the risk of confusion between these two names.**
N/A			

APPENDIX D. MODERATELY SIMILAR NAMES (e.g., combined POCA score is ≥55% to ≤69%) with no overlap or numerical similarity in Strength and/or Dose

No.	Name	POCA Score (%)
N/A		

APPENDIX E. MODERATELY SIMILAR NAMES (e.g., combined POCA score is ≥55% to ≤69%) with overlap or numerical similarity in Strength and/or Dose

No.	**Proposed name:** Vyalev **Pronunciation:** vye-uh-lev **Established name:** foscarbidopa and foslevodopa **Dosage form:** injection **Strength(s):** 120 mg and 2,400 mg per 10 mL (12 mg and 240 mg per mL) **Dosage:** (b) (4) See Appendix I for full dosage information.	**POCA Score (%)**	**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.	(b) (4) ***	55	(b) (4)

No.	Proposed name: Vyalev Pronunciation: vye-uh-lev Established name: foscarbidopa and foslevodopa Dosage form: injection Strength(s): 120 mg and 2,400 mg per 10 mL (12 mg and 240 mg per mL) Dosage: (b) (4) See Appendix I for full dosage information.	POCA Score (%)	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
			(b) (4)
2.	(b) (4) ***	49	

No.	Proposed name: Vyalev Pronunciation: vye-uh-lev Established name: foscarbidopa and foslevodopa Dosage form: injection Strength(s): 120 mg and 2,400 mg per 10 mL (12 mg and 240 mg per mL) Dosage: (b) (4) See Appendix I for full dosage information.	POCA Score (%)	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 (b) (4)
3.	Vevye	48	See FMEA in Section 2.2.4.

APPENDIX F: LOW SIMILARITY NAMES (e.g., combined POCA score is ≤54%)

No.	Name	POCA Score (%)
N/A		

APPENDIX G. Names not likely to be confused or not used in usual practice settings for the reasons described.

No.	Name	POCA Score (%)	Failure preventions
1.	(b) (4) ***	60	(b) (4)
2.	(b) (4) ***	56	

APPENDIX H. Names not likely to be confused due to absence of attributes that are known to cause name confusion[I].

No.	Name	POCA Score (%)
1.	(b) (4) ***	62
2.	Femlyv***	58

[I] Shah, M, Merchant, L, Chan, I, and Taylor, K. Characteristics That May Help in the Identification of Potentially Confusing Proprietary Drug Names. Therapeutic Innovation & Regulatory Science, September 2016

Appendix I: Dosage Information for Vyalev Excerpted from the Proposed Prescribing Information received on December 19, 2023.

(b) (4)

5 Pages of Draft Labeling have been Withheld in Full as B4 (CCI/TS) immediately following this page

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This is a representation of an electronic record that was signed electronically. Following this are manifestations of any and all electronic signatures for this electronic record.

/s/

JUSTINE H KALONIA
05/08/2024 10:20:40 AM

STEPHANIE L DEGRAW
05/08/2024 05:27:24 PM

HINA S MEHTA
05/10/2024 12:01:20 PM

PROPRIETARY NAME REVIEW

Division of Medication Error Prevention and Analysis 2 (DMEPA 2)
Office of Medication Error Prevention and Risk Management (OMEPRM)
Office of Surveillance and Epidemiology (OSE)
Center for Drug Evaluation and Research (CDER)

***** This document contains proprietary information that cannot be released to the public*****

Date of This Review:	August 10, 2022
Application Type and Number:	NDA 216962
Product Name and Strength:	Vyalev (foscarbidopa and foslevodopa) Injection, 120 mg/2,400 mg per 10 mL (12 mg/240 mg per mL)
Product Type:	Combination Product (Drug-Device)
Rx or OTC:	Prescription (Rx)
Applicant/Sponsor Name:	AbbVie Inc. (AbbVie)
PNR ID #:	2022-1044724594
DMEPA 2 Safety Evaluator:	Justine Kalonia, PharmD
DMEPA 2 Acting Team Leader:	Stephanie DeGraw, PharmD
DMEPA 2 Director:	Danielle Harris, PharmD

Contents

1 INTRODUCTION

This review evaluates the proposed proprietary name, Vyalev, from a safety and misbranding perspective. The sources and methods used to evaluate the proposed proprietary name are outlined in the reference section and Appendix A, respectively. AbbVie submitted an external name study, conducted (b) (4) for this proposed proprietary name. The submitted external name study was previously reviewed under IND 129213 (see Section 1.1 below).

1.1 REGULATORY HISTORY

AbbVie previously submitted the proposed proprietary name, Vyalev*** on April 29, 2020. However, under IND 129213 on October 22, 2020, we found the name, Vyalev*** unacceptable due to orthographic and phonetic similarities and similarity in pronunciation with another pending proposed proprietary name that was also under review, (b) (4) ***.[a] Subsequently, the applicant of the conflicting name withdrew the name (b) (4) *** in January 2021 and AbbVie resubmitted Vyalev for review on February 2, 2021. Thus, we found the name Vyalev conditionally acceptable under IND 129213 on July 20, 2021.[b]

Thus, AbbVie submitted the name, Vyalev, for review with the submission of the marketing application under NDA 216962 on May 19, 2022.

1.2 PRODUCT INFORMATION

The following product information is provided in the proprietary name submission and prescribing information (PI) received on May 19, 2022.

- Intended Pronunciation: vye-uh-lev
- Active Ingredients: foscarbidopa and foslevodopa
- Indication of Use: Treatment of motor fluctuations in patients with advanced Parkinson's disease (PD).
- Route of Administration: subcutaneous infusion. The patient will draw the product into the syringe and insert the syringe into syringe pump.
- Dosage Form: Injection
- Strength: 120 mg/2,400 mg per 10 mL (12 mg/240 mg per mL)
- Dose and Frequency: Individualized dosing administered as a continuous subcutaneous infusion, 24 hours per day, using the VYAFUSER pump.
    - (b) (4)

[a] Weitzman, B. Proprietary Name Review for Vyalev (IND 129213). Silver Spring (MD): FDA, CDER, OSE, DMEPA (US); 2020 OCT 22. Panorama No. 2020-39563891.

[b] Kalonia, J. Proprietary Name Review for Vyalev (IND 129213). Silver Spring (MD): FDA, CDER, OSE, DMEPA 2 (US); 2021 JUL 20. PNR ID No. 2021-1044723798.

- See Appendix I for more dosage information.

- How Supplied: Supplied as a single-dose 10 mL (usable volume) vial; available in 7-count cartons
- Storage: Refrigerate at 36°F to 46°F (2°C to 8°C). DO NOT FREEZE. If needed, may be stored at room temperature up to a maximum of 86°F (30°C) for a single period of up to 28 days.

2 RESULTS

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

2.1 MISBRANDING ASSESSMENT

The Office of Prescription Drug Promotion (OPDP) determined that Vyalev would not misbrand the proposed product. The Division of Medication Error Prevention and Analysis 2 (DMEPA 2) and the Division of Neurology 1 (DN 1) concurred with the findings of OPDP's assessment for Vyalev.

2.2 SAFETY ASSESSMENT

The following aspects were considered in the safety evaluation of the proposed proprietary name, Vyalev.

2.2.1 United States Adopted Names (USAN) Search

There is no USAN stem present in the proposed proprietary name[c].

2.2.2 Components of the Proposed Proprietary Name

AbbVie did not provide a derivation or intended meaning for the proposed proprietary name, Vyalev, in their submission. This proprietary name is comprised of a single word that contains the suffix "lev", which is part of the name of one of the active ingredients (that is, levodopa phosphate or foslevodopa). Because the proposed product is a multi-ingredient product, we considered whether the proposed proprietary name is in accordance with 21 CFR 201.6(b) during our previous review.[d] We determined the name Vyalev is not misleading and beyond this derivation, it 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 Comments from Other Review Disciplines at Initial Review

On June 3, 2022, the Division of Neurology 1 (DN 1) did not forward any comments or concerns relating to Vyalev at the initial phase of the review.

2.2.4 FDA Name Simulation Studies

Ninety-six practitioners participated in DMEPA's prescription studies for Vyalev. The responses did not overlap with any currently marketed products nor did the responses sound or look similar to any currently marketed products or any products in the pipeline. Appendix B contains the results from the prescription simulation studies.

2.2.5 Phonetic and Orthographic Computer Analysis (POCA) Search Results

Our POCA search[e] identified 85 names with the combined score of ≥55% or individual orthographic or phonetic score of ≥70%. We had identified and evaluated some of the names in our previous proprietary name review. We re-evaluated the previously identified names of concern considering the more detailed dosage information provided in this submission and any lessons learned from recent post-marketing experience, which may have altered our previous conclusion regarding the acceptability of the name. Our re-evaluation determined that we agree with the findings from our previous review for the names evaluated previously. Therefore, we identified 7 names not previously analyzed. These names are included in Table 1 below.

2.2.6 Names Retrieved for Review Organized by Name Pair Similarity

Table 1 lists the number of names retrieved from our POCA search. These name pairs are organized as highly similar, moderately similar or low similarity for further evaluation.

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[c] USAN stem search conducted on May 24, 2022.

[d] Weitzman, B. Proprietary Name Review for Vyalev (IND 129213). Silver Spring (MD): FDA, CDER, OSE, DMEPA (US); 2020 OCT 22. Panorama No. 2020-39563891.

[e] POCA search conducted on May 24, 2022 in version 4.4.

Table 1. Names Retrieved for Review Organized by Name Pair Similarity	
Similarity Category	**Number of Names**
Highly similar name pair: combined match percentage score ≥70%	0
Moderately similar name pair: combined match percentage score ≥55% to ≤ 69%	5
Low similarity name pair: combined match percentage score ≤54%	2

2.2.7 Safety Analysis of Names with Potential Orthographic, Spelling, and Phonetic Similarities

Our analysis of the 7 names contained in Table 1 determined none of the names will pose a risk for confusion with Vyalev as described in Appendices C through H.

2.2.8 Communication of DMEPA's Determination

On August 10, 2022, DMEPA 2 communicated our determination to the Division of Neurology 1 (DN 1).

3 CONCLUSION

The proposed proprietary name, Vyalev, is acceptable.

If you have any questions or need clarifications, please contact Lopa Thambi, OSE project manager, at 301-796-5354.

3.1 COMMENTS TO ABBVIE INC.

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

If any of the proposed product characteristics as stated in your submission, received on May 19, 2022, are altered prior to approval of the marketing application, the name must be resubmitted for review.

4 REFERENCES

1. USAN Stems (https://www.ama-assn.org/about/united-states-adopted-names-approved-stems)

USAN Stems List contains all the recognized USAN stems.

2. Phonetic and Orthographic Computer Analysis (POCA)

POCA is a system that FDA designed. As part of the name similarity assessment, POCA is used to evaluate proposed names via a phonetic and orthographic algorithm. The proposed proprietary name is converted into its phonemic representation before it runs through the phonetic algorithm. Likewise, an orthographic algorithm exists that operates in a similar fashion. POCA is publicly accessible.

Drugs@FDA

Drugs@FDA is an FDA Web site that contains most of the drug products approved in the United States 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* and *generic drugs*; *therapeutic biological products*, *prescription* and *over-the-counter* human drugs; and *discontinued drugs* (see Drugs @ FDA Glossary of Terms, available at http://www.fda.gov/Drugs/InformationOnDrugs/ucm079436.htm#ther_biological).

RxNorm

RxNorm contains the names of prescription and many OTC drugs available in the United States. RxNorm includes generic and branded:

- Clinical drugs – pharmaceutical products given to (or taken by) a patient with therapeutic or diagnostic intent
- Drug packs – packs that contain multiple drugs, or drugs designed to be administered in a specified sequence

Radiopharmaceuticals, contrast media, food, dietary supplements, and medical devices, such as bandages and crutches, are all out of scope for RxNorm (http://www.nlm.nih.gov/research/umls/rxnorm/overview.html).

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

FDA's Proprietary Name Risk Assessment evaluates proposed proprietary names for misbranding and safety concerns.

1. **Misbranding Assessment**: For prescription drug products, OPDP assesses the name for misbranding concerns. For over-the-counter (OTC) drug products, the misbranding assessment of the proposed name is conducted by DNDP. OPDP or DNDP evaluates proposed proprietary names to determine if the name is false or misleading, such as by making misrepresentations with respect to safety or efficacy. For example, a fanciful proprietary name may misbrand a product by suggesting that it has some unique effectiveness or composition when it does not (21 CFR 201.10(c)(3)). OPDP or DNDP provides their opinion to DMEPA for consideration in the overall acceptability of the proposed proprietary name.
2. **Safety Assessment**: The safety assessment is conducted by DMEPA, and includes the following:
    a. Preliminary Assessment: 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.) See prescreening checklist below in Table 2*. 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. [f]

[f] National Coordinating Council for Medication Error Reporting and Prevention. https://www.nccmerp.org/about-medication-errors Last accessed 10/05/2020.

***Table 2- Prescreening Checklist for Proposed Proprietary Name**

	Answer the questions in the checklist below. Affirmative answers to any of these questions indicate a potential area of concern that should be carefully evaluated as described in this guidance.
Y/N	**Is the proposed name obviously similar in spelling and pronunciation to other names?**
	Proprietary names should not be similar in spelling or pronunciation to proprietary names, established names, or ingredients of other products.
Y/N	**Are there inert or inactive ingredients referenced in the proprietary name?**
	Proprietary names should not incorporate any reference to an inert or inactive ingredient in a way that might create an impression that the ingredient's value is greater than its true functional role in the formulation (21 CFR 201.10(c)(4)).
Y/N	**Does the proprietary name include combinations of active ingredients?**
	Proprietary names of fixed combination drug products should not include or suggest the name of one or more, but not all, of its active ingredients (see 21 CFR 201.6(b)).
Y/N	**Is there a United States Adopted Name (USAN) stem in the proprietary name?**
	Proprietary names should not incorporate a USAN stem in the position that USAN designates for the stem.
Y/N	**Is this proprietary name used for another product that does not share at least one common active ingredient?**
	Drug products that do not contain at least one common active ingredient should not use the same (root) proprietary name.
Y/N	**Is this a proprietary name of a discontinued product?**
	Proprietary names should not use the proprietary name of a discontinued product if that discontinued drug product does not contain the same active ingredients.

b. Phonetic and Orthographic Computer Analysis (POCA): Following the preliminary screening of the proposed proprietary name, DMEPA staff evaluates the proposed name against potentially similar names. In order to identify names with potential similarity to the proposed proprietary name, DMEPA enters the proposed proprietary name in POCA and queries the name against the following drug reference databases, Drugs@fda, CernerRxNorm, and names in the review pipeline using a 55% threshold in POCA. DMEPA reviews the combined orthographic and phonetic matches and group the names into one of the following three categories:

- Highly similar pair: combined match percentage score ≥70%.
- Moderately similar pair: combined match percentage score ≥55% to ≤ 69%.

- Low similarity: combined match percentage score ≤54%.

Using the criteria outlined in the check list (Table 3-5) that corresponds to each of the three categories (highly similar pair, moderately similar pair, and low similarity), DMEPA evaluates the name pairs to determine the acceptability or non-acceptability of a proposed proprietary name. The intent of these checklists is to increase the transparency and predictability of the safety determination of whether a proposed name is vulnerable to confusion from a look-alike or sound-alike perspective. Each bullet below corresponds to the name similarity category cross-references the respective table that addresses criteria that DMEPA uses to determine whether a name presents a safety concern from a look-alike or sound-alike perspective.

- For highly similar names, differences in product characteristics often cannot mitigate the risk of a medication error, including product differences such as strength and dose. Thus, proposed proprietary names that have a combined score of ≥ 70 percent are at risk for a look-alike sound-alike confusion which is an area of concern (See Table 3).
- Moderately similar names are further evaluated to identify the presence of attributes that are known to cause name confusion.
    - Name attributes: We note that the beginning of the drug name plays a significant role in contributing to confusion. Additionally, drug name pairs that start with the same first letter and contain a shared letter string of at least 3 letters in both names are major contributing factor in the confusion of drug names[g]. We evaluate all moderately similar names retrieved from POCA to identify the above attributes. These names are further evaluated to identify overlapping or similar strengths or doses.
    - Product attributes: Moderately similar names of products that have overlapping or similar strengths or doses represent an area for concern for FDA. The dose and strength information is often located in close proximity to the drug name itself on prescriptions and medication orders, and the information can be an important factor that either increases or decreases the potential for confusion between similarly named drug pairs. The ability of other product characteristics to mitigate confusion (e.g., route, frequency, dosage form) may be limited when the strength or dose overlaps. DMEPA reviews such names further, to determine whether sufficient differences exist to prevent confusion. (See Table 4).

- Names with low similarity that have no overlap or similarity in strength and dose are generally acceptable (See Table 5) unless there are data to suggest that the name might be vulnerable to confusion (e.g., prescription simulation study suggests that the name is likely to be misinterpreted as a marketed product). In these instances, we would reassign a low similarity name to the moderate similarity category and review according to the moderately similar name pair checklist.

[g] Shah, M, Merchant, L, Characteristics That May Help in the Identification of Potentially Confusing Proprietary Drug Names. Therapeutic Innovation & Regulatory Science, September 2016

c. FDA Prescription Simulation Studies: DMEPA staff also conducts a prescription simulation studies using FDA health care professionals.

   Four 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, verbal pronunciation of the drug name or during computerized provider order entry. 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 vulnerability of the proposed name to be misinterpreted by healthcare practitioners during written, verbal, or electronic prescribing.

   In order to evaluate the potential for misinterpretation of the proposed proprietary name during written, verbal, or electronic prescribing of the name, written inpatient medication orders, written outpatient prescriptions, verbal orders, and electronic orders are simulated, each consisting of a combination of marketed and unapproved drug products, including the proposed name.

d. 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.

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

   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.

Table 3. Highly Similar Name Pair Checklist (i.e., combined Orthographic and Phonetic score is ≥ 70%).

Answer the questions in the checklist below. Affirmative answers to some of these questions suggest that the pattern of orthographic or phonetic differences in the names may render the names less likely to confusion, provided that the pair does not share a common strength or dose.			
Orthographic Checklist		Phonetic Checklist	
Y/N	Do the names begin with different first letters? *Note that even when names begin with different first letters, certain letters may be confused with each other when scripted.*	**Y/N**	Do the names have different number of syllables?
Y/N	Are the lengths of the names dissimilar* when scripted? **FDA considers the length of names different if the names differ by two or more letters.*	**Y/N**	Do the names have different syllabic stresses?
Y/N	Considering variations in scripting of some letters (such as *z* and *f*), is there a different number or placement of upstroke/downstroke letters present in the names?	**Y/N**	Do the syllables have different phonologic processes, such vowel reduction, assimilation, or deletion?
Y/N	Is there different number or placement of cross-stroke or dotted letters present in the names?	**Y/N**	Across a range of dialects, are the names consistently pronounced differently?
Y/N	Do the infixes of the name appear dissimilar when scripted?		
Y/N	Do the suffixes of the names appear dissimilar when scripted?		

Table 4: Moderately Similar Name Pair Checklist (i.e., combined score is ≥55% to ≤69%).

Step 1	Review the DOSAGE AND ADMINISTRATION and HOW SUPPLIED/STORAGE AND HANDLING sections of the prescribing information (or for OTC drugs refer to the Drug Facts label) to determine if strengths and doses of the name pair overlap or are very similar. Different strengths and doses for products whose names are moderately similar may decrease the risk of confusion between the moderately similar name pairs. Name pairs that have overlapping or similar strengths or doses have a higher potential for confusion and should be evaluated further (see Step 2). Because the strength or dose could be used to express an order or prescription for a particular drug product, overlap in one or both of these components would be reason for further evaluation. For single strength products, also consider circumstances where the strength may not be expressed. For any i.e. drug products comprised of more than one active ingredient, consider whether the strength or dose may be expressed using only one of the components. To determine whether the strengths or doses are similar to your proposed product, consider the following list of factors that may increase confusion: • Alternative expressions of dose: 5 mL may be listed in the prescribing information, but the dose may be expressed in metric weight (e.g., 500 mg) or in non-metric units (e.g., 1 tsp, 1 tablet/capsule). Similarly, a strength or dose of 1000 mg may be expressed, in practice, as 1 g, or vice versa. • Trailing or deleting zeros: 10 mg is similar in appearance to 100 mg which may potentiate confusion between a name pair with moderate similarity. • Similar sounding doses: 15 mg is similar in sound to 50 mg
Step 2	Answer the questions in the checklist below. Affirmative answers to some of these questions suggest that the pattern of orthographic or phonetic differences in the names may reduce the likelihood of confusion for moderately similar names **with** overlapping or similar strengths or doses.

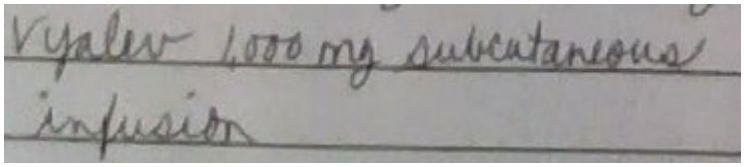
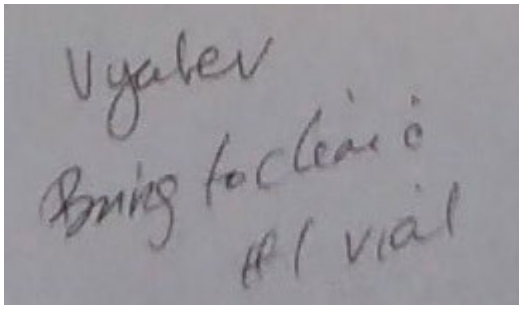
	Orthographic Checklist (Y/N to each question) • Do the names begin with different first letters? Note that even when names begin with different first letters, certain letters may be confused with each other when scripted. • Are the lengths of the names dissimilar* when scripted? *FDA considers the length of names different if the names differ by two or more letters. • Considering variations in scripting of some letters (such as *z* and *f*), is there a different number or placement of upstroke/downstroke letters present in the names? • Is there different number or placement of cross-stroke or dotted letters present in the names? • Do the infixes of the name appear dissimilar when scripted? • Do the suffixes of the names appear dissimilar when scripted?	Phonetic Checklist (Y/N to each question) • Do the names have different number of syllables? • Do the names have different syllabic stresses? • Do the syllables have different phonologic processes, such vowel reduction, assimilation, or deletion? • Across a range of dialects, are the names consistently pronounced differently?

Table 5: Low Similarity Name Pair Checklist (i.e., combined score is ≤54%).

Names with low similarity are generally acceptable unless there are data to suggest that the name might be vulnerable to confusion (e.g., prescription simulation study suggests that the name is likely to be misinterpreted as a marketed product). In these instances, we would reassign a low similarity name to the moderate similarity category and review according to the moderately similar name pair checklist.

Appendix B: Prescription Simulation Samples and Results

Figure 1. Vyalev Study (Conducted on May 27, 2022)

Handwritten Medication Order/Prescription	Verbal Prescription
Medication Order:  	Vyalev Bring to clinic # 1 vial
Outpatient Prescription:  	
CPOE Study Sample (displayed as sans-serif, 12-point, bold font)	
Vyalev	

FDA Prescription Simulation Responses (Aggregate Report)

As of Date 6/13/2022

262 People Received Study

96 People Responded

Study Name: Vyalev

Total	29	27	19	21	
INTERPRETATION	**OUTPATIENT**	**CPOE**	**VOICE**	**INPATIENT**	**TOTAL**
VIALAPH	0	0	1	0	1
VIALEV	0	0	4	0	4
VIALEVE	0	0	1	0	1
VIJALEV	0	0	0	2	2

VIOLEF	0	0	1	0	1
VIOLEV	0	0	8	0	8
VYABEV	9	0	0	0	9
VYALEU	0	0	0	1	1
VYALEV	19	27	1	18	65
VYATLEV	1	0	0	0	1
VYELVYE	0	0	1	0	1
VYLEV	0	0	1	0	1
VYOLEV	0	0	1	0	1

Appendix C: Highly Similar Names (e.g., combined POCA score is ≥70%)

No.	**Proposed name:** Vyalev **Established name:** foscarbidopa and foslevodopa **Dosage form:** Injection **Strength(s):** 120 mg/2,400 mg per 10 mL (12 mg/240 mg per mL) **Usual Dose:** (b) (4) See Appendix I for full dosage information.	POCA Score (%)	**Orthographic and/or phonetic differences in the names sufficient to prevent confusion** **Other prevention of failure mode expected to minimize the risk of confusion between these two names.**
N/A			

Appendix D: Moderately Similar Names (e.g., combined POCA score is ≥55% to ≤69%) with no overlap or numerical similarity in Strength and/or Dose

No.	Name	POCA Score (%)
N/A		

Appendix E: Moderately Similar Names (e.g., combined POCA score is ≥55% to ≤69%) with overlap or numerical similarity in Strength and/or Dose

No.	**Proposed name:** Vyalev **Established name:** foscarbidopa and foslevodopa **Dosage form:** Injection **Strength(s):** 120 mg/2,400 mg per 10 mL (12 mg/240 mg per mL) **Usual Dose:** (b) (4) See Appendix I for full dosage information.	POCA Score (%)	**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.	(b) (4) ***	66	(b) (4)

			(b) (4)
2.	(b) (4) ***	60	
3.	(b) (4) ***	58	

			(b) (4)

Appendix F: Low Similarity Names (e.g., combined POCA score is ≤54%)

No.	Name	POCA Score (%)
1.	Talvey***	54

Appendix G: Names not likely to be confused or not used in usual practice settings for the reasons described**.**

No.	Name	POCA Score (%)	Failure preventions
1.	(b) (4) ***	60	Proposed proprietary name for ANDA 212955 found unacceptable by DMEPA (OSE# 2021-1044724027). ANDA 212955 was approved without a proprietary name.
2.	Alv-001	54	Name identified in RxNorm database. Unable to find product characteristics in commonly used drug databases.
3.	Vyloy***	57	Proposed proprietary name for IND 129598***. This name pair will be evaluated for potential conflict under separate cover when Vyloy*** is submitted for evaluation under a marketing application.

Appendix H: Names not likely to be confused due to absence of attributes that are known to cause name confusion[h].

No.	Name	POCA Score (%)
N/A		

[h] Shah, M, Merchant, L, Chan, I, and Taylor, K. Characteristics That May Help in the Identification of Potentially Confusing Proprietary Drug Names. Therapeutic Innovation & Regulatory Science, September 2016

Appendix I: Dosage Information for Vyalev Excerpted from the Proposed Prescribing Information Submitted on May 19, 2022

(b) (4)

4 Pages of Draft Labeling have been Withheld in Full as B4 (CCI/TS) immediately following this page

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/s/

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