CENTER FOR DRUG EVALUATION AND RESEARCH

APPLICATION NUMBER:

213645Orig1s000

PROPRIETARY NAME REVIEW(S)

PROPRIETARY NAME REVIEW

Division of Medication Error Prevention and Analysis 1 (DMEPA 1)
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:	October 19, 2021
Application Type and Number:	NDA 213645
Product Name and Strength:	Dapzura RT (daptomycin) for Injection, 500 mg/vial
Product Type:	Single Ingredient Product
Rx or OTC:	Prescription (Rx)
Applicant/Sponsor Name:	Baxter Healthcare Corporation (Baxter)
PNR ID #:	2021-1044724094
DMEPA 1 Safety Evaluator:	Deborah Myers, RPh, MBA
DMEPA 1 Team Leader:	Valerie S. Vaughan, PharmD
DMEPA 1 Associate Director for Nomenclature and Labeling:	Mishale Mistry, PharmD, MPH

Contents

1 INTRODUCTION

This review evaluates the proposed proprietary name, Dapzura RT, 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. Baxter submitted an external name study, conducted by [redacted] (b) (4) for this proposed proprietary name. The submitted external name study was previously reviewed under NDA 213645 (see Section 1.1 below).

1.1 REGULATORY HISTORY

Baxter previously submitted the proposed proprietary name, Dapzura RT for review on September 11, 2020. We found the name, Dapzura RT conditionally acceptable under NDA 214963 on December 9, 2020.[a]

On April 29, 2021, the Agency issued a Complete Response Letter (CRL) to Baxter.[b]

Subsequently, on July 30, 2021, Baxter submitted their Class 2 Resubmission to provide their response to the CRL,[c] including their request for review of the proposed proprietary name, Dapzura RT.[d]

1.2 PRODUCT INFORMATION

The following product information is provided in the proprietary name submission received on July 30, 2021.

- Intended Pronunciation: dap zur' ah ar tee
- Active Ingredient: daptomycin
- Indication of Use:
    - Complicated skin and skin structure infections (cSSSI) in adult and pediatric patients (1 to 17 years of age)
    - *Staphylococcus aureus* bloodstream infections (bacteremia), in adult patients including those with right-sided infective endocarditis

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[a] Myers, D. Proprietary Name Review for Dapzura RT (NDA 213645). Silver Spring (MD): FDA, CDER, OSE, DMEPA (US); 2020 DEC 09. Panorama # 2020-42743080.

[b] DeBellas, C. Communication: Complete Response Letter for Dapzura RT (daptomycin) for Injection. Silver Spring (MD): FDA, CDER, OND, OAP, DAI (US); 2021 APR 29. NDA 213645. Available from: https://darrts fda.gov/darrts/faces/ViewDocument?documentId=090140af805ebced&_afrRedirect=21231179184723 36.

[c] Baxter Healthcare Corporation. Resubmission – Response to Complete Response Letter for Dapzura RT (daptomycin) for Injection (NDA 213645). Deerfield (IL): Baxter; 2021 JUL 30. Available from: \\CDSESUB1\evsprod\nda213645\0022\m1\us\cover-letter-2021jul30.pdf.

[d] Baxter Healthcare Corporation. Resubmission the Proprietary Name "Dapzura RT" for Review for Dapzura RT (daptomycin) for Injection (NDA 213645). Deerfield (IL): Baxter; 2021 JUL 30. Available from: \\CDSESUB1\evsprod\nda213645\0022\m1\us\resubmission-of-request-for-proprietary-name-review.pdf.

- *Staphylococcus aureus* bloodstream infections (bacteremia) in pediatric patients (1 to 17 years of age).

- Route of Administration: intravenous infusion
- Dosage Form: for Injection
- Strength: 500 mg/vial
- Dose and Frequency:

Adult Patients

- Administer to **adult patients** intravenously in 0.9% sodium chloride, either by injection over a 2-minute period or by infusion over a 30-minute period.
- Recommended dosage regimen for adult patients:

Creatinine Clearance (CL_{CR})	Dosage Regimen	
	cSSSI For 7 to 14 days	*S. aureus* Bacteremia For 2 to 6 weeks
≥30 mL/min	4 mg/kg once every 24 hours	6 mg/kg once every 24 hours
<30 mL/min, including hemodialysis and CAPD	4 mg/kg once every 48 hours*	6 mg/kg once every 48 hours*
*Administered following hemodialysis on hemodialysis days.		

Pediatric Patients

- **Unlike in adults, do NOT administer by injection over a two (2) minute period to pediatric patients.**
- Administer to pediatric patients intravenously in 0.9% sodium chloride, by infusion over a 30- or 60-minute period, based on age.
- Recommended dosage regimen for pediatric patients (1 to 17 years of age) with cSSSI, based on age:

Age group	Dosage*	Duration of therapy
12 to 17 years	5 mg/kg once every 24 hours infused over 30 minutes	Up to 14 days
7 to 11 years	7 mg/kg once every 24 hours infused over 30 minutes	
2 to 6 years	9 mg/kg once every 24 hours infused over 60 minutes	
1 to less than 2 years	10 mg/kg once every 24 hours infused over 60 minutes	
*Recommended dosage is for pediatric patients (1 to 17 years of age) with normal renal function. Dosage adjustment for pediatric patients with renal impairment has not been established.		

- Recommended dosage regimen for pediatric patients (1 to 17 years of age) with *S. aureus* bacteremia, based on age:

Age group	Dosage*	Duration of therapy
12 to 17 years	7 mg/kg once every 24 hours infused over 30 minutes	Up to 42 days
7 to 11 years	9 mg/kg once every 24 hours infused over 30 minutes	
1 to 6 years	12 mg/kg once every 24 hours infused over 60 minutes	
*Recommended dosage is for pediatric patients (1 to 17 years of age) with normal renal function. Dosage adjustment for pediatric patients with renal impairment has not been established.		

- How Supplied: Carton containing one vial.
- Storage: Storage: Store original packages at 20°C to 25°C (68°F to 77°F); excursions permitted to 15°C to 30°C (59°F to 86°F) [see USP Controlled Room Temperature] [see Dosage and Administration].
- Reference Product: Cubicin RF (NDA 021572)

2 RESULTS

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

2.1 MISBRANDING ASSESSMENT

The Office of Prescription Drug Promotion (OPDP) determined that Dapzura RT would not misbrand the proposed product. The Division of Medication Error Prevention and Analysis 1 (DMEPA 1) and the Division of Anti-Infectives (DAI) concurred with the findings of OPDP's assessment for Dapzura RT.

2.2 SAFETY ASSESSMENT

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

2.2.1 United States Adopted Names (USAN) Search

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

2.2.2 Components of the Proposed Proprietary Name

Baxter did not provide a derivation or intended meaning for the proposed proprietary name, Dapzura RT, in their submission. However, Baxter included that the intended meaning of their proposed modifier, "RT," is "Room Temperature." We note that this proprietary name is comprised of the root name, "Dapzura" and the modifier, "RT." We previously evaluated the use of the root name, "Dapzura" and the modifier, "RT," and found them conditionally acceptable under NDA 213645.[f] We note that none of the product characteristics have changed

[e] USAN stem search conducted on August 23, 2021.

[f] Myers, D. Proprietary Name Review for Dapzura RT (NDA 213645). Silver Spring (MD): FDA, CDER, OSE, DMEPA (US); 2020 DEC 09. Panorama # 2020-42743080.

and we agree with the evaluation and findings regarding the root name, "Dapzura" and the modifier, "RT," from our previous review.

Additionally, we note that the root name, Dapzura, includes the letter strings "-ap-" and "-ra." The medical abbreviations: "ap" can be used for "before dinner" and "RA" can be used for the joint disease, "Rheumatoid arthritis." In some circumstances, the incorporation of medical abbreviations in proprietary names can inadvertently be a source of error. For more information see, "*Best Practices in Developing Proprietary Names for Human Prescription Drug Products*."[g]

Although we typically discourage the inclusion of medical abbreviations in proprietary names, we determined that abbreviations, "ap" and "ra", in the root name, are unlikely to be separated from the surrounding letters (the suffix "ra" is surrounded by the modifier "RT" if included) or misinterpreted in a manner that would lead to confusion in this case. Thus, in this case, we do not object to the inclusion of the letter strings 'ap' and 'ra' in the infix and suffix respectively of the proposed proprietary root name.

2.2.3 Comments from Other Review Disciplines at Initial Review

On August 16, 2021, the Division of Anti-Infectives (DAI) did not forward any comments or concerns relating to Dapzura RT at the initial phase of the review.

2.2.4 FDA Name Simulation Studies

One hundred seventeen practitioners participated in DMEPA's prescription studies for Dapzura RT. 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[h] identified 98 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 any lessons learned from recent post-marketing experience, which may have altered our previous conclusion regarding the acceptability of the name. We note that none of the product characteristics have changed and we agree with the findings from our previous review for the names evaluated previously. Therefore, we identified seven 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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[g] Guidance for Industry: Best Practices in Developing Proprietary Names for Human Prescription Drug Products. 2020. Available from: https://www fda.gov/regulatory-information/search-fda-guidance-documents.

[h] POCA search conducted on August 23, 2021 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%	1
Moderately similar name pair: combined match percentage score ≥55% to ≤ 69%	6
Low similarity name pair: combined match percentage score ≤54%	0

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

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

2.2.8 Communication of DMEPA's Analysis at Midpoint of Review

DMEPA 1 communicated our findings to the Division of Anti-Infectives (DAI). At that time we also requested additional information or concerns that could inform our review. On October 19, 2021, the Division of Anti-Infectives (DAI) stated no additional concerns with the proposed proprietary name, Dapzura RT.

3 CONCLUSION

The proposed proprietary name, Dapzura RT, is acceptable.

If you have any questions or need clarifications, please contact Amy Chung, OSE project manager, at 204-402-4547.

3.1 COMMENTS TO BAXTER HEALTHCARE CORPORATION

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

If any of the proposed product characteristics as stated in your submission, received on July 30, 2021, 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. [i]

[i] 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[j]. 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

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

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 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. The OND or OGD Regulatory Division is requested to provide any further information that might inform DMEPA's final decision on the proposed name.

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

   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. Dapzura RT Study (Conducted on August 11, 2021)

Handwritten Medication Order/Prescription	**Verbal Prescription**
Medication Order: Dapzura RT 420 mg intravenous infusion over 30 minutes every 24 hours Outpatient Prescription: Dapzura RT Take to clinic Dispense # 10 vials	Dapzura RT Take to clinic. Dispense 10 vials
CPOE Study Sample (displayed as sans-serif, 12-point, bold font)	
Dapzura RT	

FDA Prescription Simulation Responses (Aggregate Report)

262 People Received Study
117 People Responded

Study Name: Dapzura RT

Total	36	28	22	31	
INTERPRETATION	**OUTPATIENT**	**CPOE**	**VOICE**	**INPATIENT**	**TOTAL**
DABSURA RT	0	0	1	0	1
DABZURA	1	0	0	0	1
DAPERVA RT	0	0	0	1	1
DAPIRZA RT	0	0	0	1	1
DAPIURA RTR	0	0	0	1	1
DAPIZURA RI	0	0	0	1	1
DAPRURA RT	0	0	0	1	1
DAPRUZA	1	0	0	0	1
DAPSURA	0	0	0	1	1
DAPSURA RT	0	0	5	3	8
DAPSURAYA RT	0	0	1	0	1
DAPSURE RT	0	0	0	1	1
DAPURA RT	0	0	0	1	1
DAPVERA RT	0	0	0	1	1
DAPVURA RT	0	0	0	1	1
DAPZERA RT	0	0	1	0	1
DAPZORA RT	0	0	1	0	1
DAPZURA	4	0	0	2	6
DAPZURA RI	0	0	0	2	2
DAPZURA RT	23	28	13	13	77
DAPZURE RT	1	0	0	1	2
DAPZURO	1	0	0	0	1
DAPZURO RT	3	0	0	0	3
DAYPZURA RT	1	0	0	0	1
DAYPZURE RT	1	0	0	0	1

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

No.	**Proposed name:** Dapzura RT **Established name:** daptomycin **Dosage form:** for Injection **Strength(s):** 500 mg/vial **Usual Dose:** 4 mg/kg to 12 mg/kg once every 24 or 48 hours	**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.**
		POCA Search "Dapzura"	**POCA Search "Dapzurart"**	
1.	Dapzura	80	100	Name is the subject of this review.

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 (%)	
		POCA Search "Dapzura"	**POCA Search "Dapzurart"**
1.	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:** Dapzura RT **Established name:** daptomycin **Dosage form:** for Injection **Strength(s):** 500 mg/vial **Usual Dose:** 4 mg/kg to 12 mg/kg once every 24 or 48 hours	**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**
		POCA Search "Dapzura"	**POCA Search "Dapzurart"**	
1.	(b) (4) ***	62		This name pair has sufficient orthographic and phonetic differences.
2.	Opzelura***	61		Orthographically, the letter 'a' in the second position of the root name, Dapzura, and 'el' letter string in the infix for Opzelura***, not present in Dapzura, provides sufficient orthographic

No.	Proposed name: Dapzura RT Established name: daptomycin Dosage form: for Injection Strength(s): 500 mg/vial Usual Dose: 4 mg/kg to 12 mg/kg once every 24 or 48 hours	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
		POCA Search "Dapzura"	POCA Search "Dapzurart"	
				differences when compared with the root name Dapzura. Phonetically, the Opzelura*** name contains an extra syllable when compared with the root name Dapzura. Also, the onset of the 1st syllables ('D' vs. 'O'), the ending sounds of the second syllables ('r' vs. 'h'), and the third syllables ('ah' vs. 'lur') sound different when compared with the root name, Dapzura. In addition to the orthographic and phonetic differences, the following product characteristics may help to minimize the risk of error: • Dapzura is weight based dosing (ranging between 4 mg/kg to 10 mg/kg). The dose would be to be included on the medication order/prescription for Dapzura RT. • The modifier "RT"*** if included on a prescription/ medication order, would help minimize

No.	Proposed name: Dapzura RT Established name: daptomycin Dosage form: for Injection Strength(s): 500 mg/vial Usual Dose: 4 mg/kg to 12 mg/kg once every 24 or 48 hours	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
		POCA Search "Dapzura"	POCA Search "Dapzurart"	
				potential name confusion. • The products vary in strength (500 mg/vial vs. 1.5%), frequency of administration (every 24 or 48 hours vs. twice daily). If route of administration (intravenous infusion vs. topical) and dosage form (for injection vs. cream) are included on the medication order/prescription, there is no overlap between the products. When all of the aforementioned mitigations are considered in totality, we find the risk of confusion is adequately minimized in this case.

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

No.	Name	POCA Score (%)	
		POCA Search "Dapzura"	POCA Search "Dapzurart"
1.	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
		POCA Search "Dapzura"	POCA Search "Dapzurart"	
1.	(b) (4) ***	60		(b) (4)
2.	Azurite		58	Product is not a drug. It is a soft, deep-blue copper mineral produced by weathering of copper ore deposits.
3.	Darpaz	58	48	Name identified in RxNorm database. Unable to find product characteristics in commonly used drug databases.

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

No.	Name	POCA Score (%)	
		POCA Search "Dapzura"	POCA Search "Dapzurart"
1.	Amvuttra***	55	

[k] 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

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/

DEBORAH E MYERS
10/19/2021 12:03:18 PM

VALERIE S VAUGHAN
10/19/2021 03:36:51 PM

MISHALE P MISTRY
10/19/2021 03:40:11 PM

PROPRIETARY NAME REVIEW

Division of Medication Error Prevention and Analysis (DMEPA)
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:	December 9, 2020
Application Type and Number:	NDA 213645
Product Name and Strength:	Dapzura RT (daptomycin) for Injection, 500 mg/vial
Product Type:	Single Ingredient Product
Rx or OTC:	Prescription (Rx)
Applicant/Sponsor Name:	Baxter Healthcare Corporation (Baxter)
Panorama #:	2020-42743080
DMEPA Safety Evaluator:	Deborah Myers, RPh, MBA
DMEPA Team Leader:	Otto L. Townsend, PharmD

Contents

1 INTRODUCTION

This review evaluates the proposed proprietary name, Dapzura RT, 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. Baxter submitted an external name study, conducted by [redacted] (b) (4) for this proposed proprietary name.

1.1 PRODUCT INFORMATION

The following product information is provided in the proprietary name submission received on September 11, 2020.

- Intended Pronunciation: dap zur' ah ar tee
- Active Ingredient: daptomycin
- Indication of Use:
  - Complicated skin and skin structure infections (cSSSI) in adult and pediatric patients (1 to 17 years of age)
  - *Staphylococcus aureus* bloodstream infections (bacteremia), in adult patients including those with right-sided infective endocarditis
  - *Staphylococcus aureus* bloodstream infections (bacteremia) in pediatric patients (1 to 17 years of age).
- Route of Administration: intravenous infusion
- Dosage Form: for Injection
- Strength: 500 mg/vial
- Dose and Frequency:

Adult Patients

- Administer to **adult patients** intravenously in 0.9% sodium chloride, either by injection over a 2-minute period or by infusion over a 30-minute period.
- Recommended dosage regimen for adult patients:

Creatinine Clearance (CL_{CR})	Dosage Regimen	
	cSSSI For 7 to 14 days	*S. aureus* Bacteremia For 2 to 6 weeks
≥30 mL/min	4 mg/kg once every 24 hours	6 mg/kg once every 24 hours
<30 mL/min, including hemodialysis and CAPD	4 mg/kg once every 48 hours*	6 mg/kg once every 48 hours*
*Administered following hemodialysis on hemodialysis days.		

Pediatric Patients

- **Unlike in adults, do NOT administer by injection over a two (2) minute period to pediatric patients.**
- Administer to pediatric patients intravenously in 0.9% sodium chloride, by infusion over a 30- or 60-minute period, based on age.
- Recommended dosage regimen for pediatric patients (1 to 17 years of age) with cSSSI, based on age:

Age group	Dosage*	Duration of therapy
12 to 17 years	5 mg/kg once every 24 hours infused over 30 minutes	Up to 14 days
7 to 11 years	7 mg/kg once every 24 hours infused over 30 minutes	
2 to 6 years	9 mg/kg once every 24 hours infused over 60 minutes	
1 to less than 2 years	10 mg/kg once every 24 hours infused over 60 minutes	
*Recommended dosage is for pediatric patients (1 to 17 years of age) with normal renal function. Dosage adjustment for pediatric patients with renal impairment has not been established.		

- Recommended dosage regimen for pediatric patients (1 to 17 years of age) with *S. aureus* bacteremia, based on age:

Age group	Dosage*	Duration of therapy
12 to 17 years	7 mg/kg once every 24 hours infused over 30 minutes	Up to 42 days
7 to 11 years	9 mg/kg once every 24 hours infused over 30 minutes	
1 to 6 years	12 mg/kg once every 24 hours infused over 60 minutes	
*Recommended dosage is for pediatric patients (1 to 17 years of age) with normal renal function. Dosage adjustment for pediatric patients with renal impairment has not been established.		

- How Supplied: Carton containing one vial.
- Storage: Store original packages at 20°C to 25°C (68°F to 77°F); excursions permitted to 15°C to 30°C (59°F to 86°F) [see USP Controlled Room Temperature] [*see Dosage and Administration*].

2 RESULTS

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

2.1 MISBRANDING ASSESSMENT

The Office of Prescription Drug Promotion (OPDP) determined that Dapzura RT would not misbrand the proposed product. The Division of Medication Error Prevention and Analysis

(DMEPA) and the Division of Anti-Infectives (DAI) concurred with the findings of OPDP's assessment for Dapzura RT. Also, see *Section 2.2.3* for additional comments from OPDP.

2.2 SAFETY ASSESSMENT

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

2.2.1 United States Adopted Names (USAN) Search

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

2.2.2 Components of the Proposed Proprietary Name

Baxter did not provide a derivation or intended meaning for the proposed proprietary root name, Dapzura, in their submission. However, Baxter included that the intended meaning of their proposed modifier, "RT," is "Room Temperature." We assess the modifier in *Section 2.2.8* below.

Additionally, we note that the root name, Dapzura, includes the letter strings "-ap-" and "-ra." The medical abbreviations; "ap" can be used for "before dinner" and "RA" can be used for the joint disease, "Rheumatoid arthritis." In some circumstances, the incorporation of medical abbreviations in proprietary names can inadvertently be a source of error.[b] Although we typically discourage the inclusion of medical abbreviations in proprietary names, we determined that the locations of both abbreviations, "ap" and "ra", in the infix (ap) and suffix (ra) of the root name, are unlikely to be separated from the surrounding letters (the suffix "ra" is surrounded by the modifier "RT" if included) in a manner that would lead to confusion in this case. Thus, in this case, we do not object to the inclusion of the letter strings 'ap' and 'ra' in the infix and suffix of the proposed proprietary root name.

Beyond these abbreviations, we note that the root name, Dapzura, does not contain any additional components (i.e. 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

In response to the OSE, October 9, 2020 e-mail, the Division of Anti-Infectives (DAI) did not forward any comments or concerns relating to Dapzura RT at the initial phase of the review. Also, in their misbranding assessment communication, OPDP commented that while they have no concerns with Dapzura RT from a promotional perspective, they noted the (b) (4) (b) (4) proposed proprietary named, (b) (4) ***, which is currently being reviewed. Additionally, OPDP noted that "RT" could represent an abbreviation for other words in the medical lexicon such as radiation therapist, radiologic technologist, reaction time, etc. and deferred to DMEPA to determine if there is a safety concern with the "RT" modifier.

[a] USAN stem search conducted on September 15, 2020.

[b] Draft Guidance for Industry: Best Practices in Developing Proprietary Names for Drugs. 2014. Available from: http://www fda.gov/downloads/drugs/guidancecomplianceregulatoryinformation/guidances/ucm398997.pdf.

We have evaluated and analyzed the proposed proprietary named, (b) (4) *** (see Appendix E). Additionally, we assess the modifier, "RT", in *Section 2.2.8* below.

2.2.4 FDA Name Simulation Studies

Eighty-four practitioners participated in DMEPA's prescription studies for Dapzura RT. 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[c] identified 91 names with a combined phonetic and orthographic score of ≥55% or an individual phonetic or orthographic score ≥70%. 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.

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%	1
Moderately similar name pair: combined match percentage score ≥55% to ≤ 69%	83
Low similarity name pair: combined match percentage score ≤54%	7

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

Our analysis of the 91 names contained in Table 1 determined none of the names will pose a risk for confusion with Dapzura RT as described in Appendices C through H.

2.2.8 Safety Assessment of the Proposed Modifier 'RT'

Daptomycin for Injection was originally approved in 2003 under NDA 021572 as Cubicin which must be stored under refrigerated conditions. In 2016, a reformulated version of daptomycin, Cubicin RF, was approved under NDA 021572, but this formulation can be stored at room temperature. In addition to Cubicin, there are currently 15 approved abbreviated new drug

[c] POCA search conducted on September 15, 2020 in version 4.4.

applications for daptomycin for injection products that must be stored under refrigerated conditions. The proposed product would introduce the second daptomycin for injection product to the market that does not require storage under refrigerated conditions, but can be stored at room temperature.

Baxter proposes the modifier "RT" to convey that the proposed product is intended to be stored at "room temperature." We also note, "RT" is a medical abbreviation (e.g., "radiation therapy" and "respiratory therapy").

To determine if the modifier, "RT" is currently utilized in proprietary names, we searched the Institute for Safe Medication Practices' (ISMP) List of Products with Drug Name Suffixes and found that the "RT" modifier already exists in drug nomenclature, such as in the name, Novoseven RT.[d] The modifier 'RT' in Novoseven RT is intended to mean "room temperature" and Novoseven RT can be stored at room temperature. We also searched our internal database and determined that we recently reviewed and found acceptable the proposed proprietary name, Definity RT[e], and the intended meaning of the modifier is also "room temperature."

We note that the abbreviation "RT" can be defined as "right", "route", "respiratory therapist", "respiratory therapy", "room temperature" or "round-trip."[f] The abbreviation 'RT' can also refer to many medical terms including but not limited to "rectal temperature", "radiation therapy", "Radiologic Technologist".[g] We also note that "RT" is not included on ISMP's List of Error-Prone Abbreviations, Symbols, and Dose Designations.[h]

We acknowledge and agree that the abbreviation "RT" alone can represent many medical terms. However, our research found that when "RT" is used as a modifier in drug nomenclature, its established meaning is "room temperature" and we are not aware of medication errors related to the use of RT in drug nomenclature.

Additionally, we note that the root name "Dapzura" is not currently marketed or proposed as any other formulation; however, a modifier added to the root name is being proposed to differentiate this product from other daptomycin for injection products that require storage at refrigerated temperatures (i.e., Cubicin). While reliance on the proprietary name as the means to convey storage information is not without flaws, since products are not always ordered by proprietary name, in this case, the addition of a modifier can indicate there is something to be aware of with this product's storage requirements.

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[d] ISMP's List of Products with Drug Name Suffixes [Internet]. Horsham (PA): Institute for Safe Medication Practices. 2010. Available from: https://www.ismp.org/sites/default/files/attachments/2018-04/drugnamesuffixes.pdf.

[e] Kane, D. Proprietary Name Review for Definity RT (NDA 021064/S-024). Silver Spring (MD): FDA, CDER, OSE, DMEPA (US); 2020 AUG 24. RCM No.: 2020-40337949.

[f] Merriam-Webster. "Rt". In Merriam-Webster.com medical dictionary. Retrieved 2020 OCT 29, available from https://www.merriam-webster.com/dictionary/rt#medicalDictionary.

[g] Davis NM. Medical Abbreviations: 32,000 Conveniences at the Expense of Communication and Safety, 15th Edition, 2011.

[h] ISMP's List of Error-Prone Abbreviations, Symbols, and Dose Designations [Internet]. Horsham (PA): Institute for Safe Medication Practices. 2017. Available from: https://www.ismp.org/recommendations/error-prone-abbreviations-list.

Dapzura RT is intended to be stored at room temperature (i.e., "at 20°C to 25°C (68°F to 77°F); excursions permitted to 15°C to 30°C (59°F to 86°F) [see USP Controlled Room Temperature]"). It is not uncommon to use modifiers to denote a specific formulation or packaging configuration as part of a proprietary name. The addition of the modifier "RT" to the root name, Dapzura, may help to convey the storage conditions for this proposed daptomycin for injection product relative to other currently marketed daptomycin products.

We note that omission and oversight of a modifier is cited in literature as a common cause of medication error. Postmarketing experience shows medication errors if the modifier is omitted and the product characteristics are similar or overlap. However, any residual risks of confusion between the formulations can be managed with labeling mitigation strategies that will be conveyed in our Label and Labeling review.

The use of the modifier "RT" in the proposed proprietary name, "Dapzura RT", is consistent with the established use for this modifier (i.e., room temperature). Thus, we find the modifier acceptable in this case.

2.2.9 Communication of DMEPA's Analysis at Midpoint of Review

DMEPA communicated our findings to the Division of Anti-Infectives (DAI) via e-mail on December 7, 2020. At that time we also requested additional information or concerns that could inform our review. Per e-mail correspondence from the Division of Anti-Infectives (DAI) on December 9, 2020, they stated no additional concerns with the proposed proprietary name, Dapzura RT.

3 CONCLUSION

The proposed proprietary name, Dapzura RT, is acceptable.

If you have any questions or need clarifications, please contact Nicholas Miles, OSE project manager, at 301-796-7025.

3.1 COMMENTS TO BAXTER HEALTHCARE CORPORATION

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

If any of the proposed product characteristics as stated in your submission, received on September 11, 2020, 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. [i]

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

***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[j]. 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

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

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 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. The OND or OGD Regulatory Division is requested to provide any further information that might inform DMEPA's final decision on the proposed name.

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

   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.

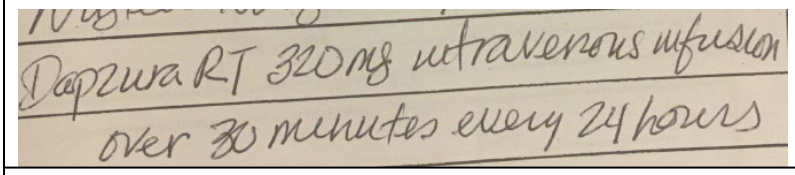
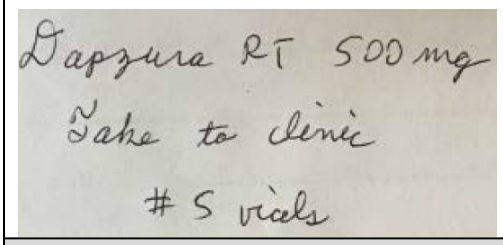
	Orthographic Checklist (Y/N to each question) • Do the names begin with different first letters? Note that even when names begin with different first letters, certain letters may be confused with each other when scripted. • Are the lengths of the names dissimilar* when scripted? *FDA considers the length 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. Dapzura RT Study (Conducted on September 22, 2020)

Handwritten Medication Order/Prescription	**Verbal Prescription**
Medication Order:  	Dapzura RT 500 mg Take to clinic. Dispense 5 vials
Outpatient Prescription:  	
CPOE Study Sample (displayed as sans-serif, 12-point, bold font)	
Dapzura RT	

FDA Prescription Simulation Responses (Aggregate Report)

210 People Received Study
84 People Responded

Study Name: Dapzura RT

Total	30	16	14	24	
INTERPRETATION	**OUTPATIENT**	**CPOE**	**VOICE**	**INPATIENT**	**TOTAL**
DABSURA RT	0	0	1	0	1
DABZURA RT	0	0	2	0	2
DAPSERA RT	0	0	1	0	1
DAPSURA RT	0	0	2	0	2
DAPTURA RT	1	0	1	0	2
DAPZARE RT	1	0	0	0	1
DAPZERA RZ	0	0	1	0	1
DAPZURA	2	0	0	0	2
DAPZURA RT	22	16	4	23	65
DAPZURA RT 500 MG	1	0	0	0	1
DAPZURE RT	1	0	0	0	1
DAPZURE RX	1	0	0	0	1
DAPZWA RT	0	0	0	1	1
DAZURA RT	1	0	0	0	1
GABDURA RT	0	0	1	0	1
GABSURA RT	0	0	1	0	1

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

No.	**Proposed name:** Dapzura RT **Established name:** daptomycin **Dosage form:** for Injection **Strength(s):** 500 mg/vial **Usual Dose:** 4 mg/kg to 12 mg/kg once every 24 or 48 hours	**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.**
		POCA Search "Dapzura"	**POCA Search "Dapzurart"**	
1.	(b) (4) ***	70		Proposed proprietary name for NDA 210598 found unacceptable by DMEPA (OSE# 2017-18929786). NDA 210598 was approved under the proprietary name Yupelri.

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 (%)	
		POCA Search "Dapzura"	**POCA Search "Dapzurart"**
1.	(b) (4) ***	56	
2.	Zuragard	45	57

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:** Dapzura RT **Established name:** daptomycin **Dosage form:** for Injection **Strength(s):** 500 mg/vial **Usual Dose:** 4 mg/kg to 12 mg/kg once every 24 or 48 hours	**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**
		POCA Search "Dapzura"	**POCA Search "Dapzurart"**	
1.	Addaprin	55		This name pair has sufficient orthographic and phonetic differences.

No.	**Proposed name:** Dapzura RT **Established name:** daptomycin **Dosage form:** for Injection **Strength(s):** 500 mg/vial **Usual Dose:** 4 mg/kg to 12 mg/kg once every 24 or 48 hours	**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**
		POCA Search "Dapzura"	**POCA Search "Dapzurart"**	
2.	Apra	56		This name pair has sufficient orthographic and phonetic differences.
3.	Azuro	58		This name pair has sufficient orthographic and phonetic differences.
4.	Cardura	63		This name pair has sufficient orthographic and phonetic differences.
5.	(b) (4) ***	55		This name pair has sufficient orthographic and phonetic differences.
6.	Daypro	58		This name pair has sufficient orthographic and phonetic differences.
7.	(b) (4) ***	60	62	This name pair has sufficient orthographic and phonetic differences.
8.	Decara	60		This name pair has sufficient orthographic and phonetic differences.
9.	Deflazacort		57	This name pair has sufficient orthographic and phonetic differences.
10.	Detrol LA	56		This name pair has sufficient orthographic and phonetic differences.
11.	Dopram	58		This name pair has sufficient orthographic and phonetic differences.
12.	Doxapram	58	56	This name pair has sufficient orthographic and phonetic differences.
13.	Duaklir	55		This name pair has sufficient orthographic and phonetic differences.

No.	**Proposed name:** Dapzura RT **Established name:** daptomycin **Dosage form:** for Injection **Strength(s):** 500 mg/vial **Usual Dose:** 4 mg/kg to 12 mg/kg once every 24 or 48 hours	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**
		POCA Search "Dapzura"	POCA Search "Dapzurart"	
14.	Dulera	58		This name pair has sufficient orthographic and phonetic differences.
15.	Duraprep	54	58	This name pair has sufficient orthographic and phonetic differences.
16.	Edurant		56	This name pair has sufficient orthographic and phonetic differences.
17.	Khapzory	62		This name pair has sufficient orthographic and phonetic differences.
18.	Natpara	66		This name pair has sufficient orthographic and phonetic differences.
19.	Ridaura	59		This name pair has sufficient orthographic and phonetic differences.
20.	Santura	60		This name pair has sufficient orthographic and phonetic differences.
21.	(b) (4) ***	64		This name pair has sufficient orthographic and phonetic differences.
22.	(b) (4) ***	57		This name pair has sufficient orthographic and phonetic differences.

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

No.	Name	POCA Score (%)	
		POCA Search "Dapzura"	POCA Search "Dapzurart"
1.	Biclora	54	
2.	Duract		54

No.	Name	POCA Score (%)	
		POCA Search "Dapzura"	POCA Search "Dapzurart"
3.	Durad	54	
4.	Duratan		50
5.	Dura-Tap Pd		52
6.	Durlaza	54	
7.	Zipsor	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
		POCA Search "Dapzura"	POCA Search "Dapzurart"	
1.	Apara	58		Name identified in RxNorm database. Unable to find product characteristics in commonly used drug databases.
2.	Darpaz	58	48	Name identified in RxNorm database. Unable to find product characteristics in commonly used drug databases.
3.	Daypro Alta		59	Brand discontinued with no generic equivalents available.
4.	Deapril-ST		57	Brand discontinued with no generic equivalents available. ANDA 085020 withdrawn FR effective 05/01/1991.
5.	Depandrate		59	Name identified in RxNorm database. Unable to find product characteristics in commonly used drug databases.
6.	Depestrate		58	Name identified in RxNorm database. Unable to find product characteristics in commonly used drug databases.
7.	Depinar	58		Brand discontinued with no generic equivalents available. NDA 011208 withdrawn FR effective 04/04/1990.
8.	Depodur	67		Brand discontinued with no generic equivalents available. NDA 021671 withdrawn FR effective 11/03/2016.
9.	Dermazor	56		Product is not a drug. It is the name of a pharmaceutical company, Dermazor Pharm.

No.	Name	POCA Score (%)		Failure preventions
		POCA Search "Dapzura"	POCA Search "Dapzurart"	
10.	Dexacort		56	Brand discontinued with no generic equivalents available. NDA 013413 withdrawn FR effective 06/16/2006 and NDA 014242 withdrawn FR effective 12/07/2007.
11.	Dixarit		58	International product marketed in Denmark, Belgium, Ireland, New Zealand, Netherlands, South Africa, Singapore, and the United Kingdom. International product formerly marketed in Australia, Canada, Germany, Hong Kong, and Malaysia.
12.	Dopar	56		Brand discontinued with no generic equivalents available.
13.	Duraflor	55		International product marketed in Canada.
14.	Natural Red 26		60	Product is not a drug. It is a natural red pigment derived from safflower, earlier known as carthamine. It is used as a dye and a food coloring.
15.	Pap-Urea	68		Name identified in RxNorm database. Product is deactivated and no generic equivalents are available.
16.	Pedural	61		Name identified in RxNorm database. Unable to find product characteristics in commonly used drug databases.
17.	Peg-12 Laurate		55	Product is not a drug. It is a liquid emulsifier for cosmetic formulations.
18.	Peg-4 Laurate		55	Product is not a drug. It is a liquid emulsifier for cosmetic formulations.
19.	Peg-8 Laurate		55	Product is not a drug. It is the polyethylene glycol ester of Lauric Acid and is used in cosmetics and beauty products as a surfactant and emulsifying agent.
20.	Taurate		57	Product is not a drug. It is the salt form of the amino acid, taurine.

No.	Name	POCA Score (%)		Failure preventions
		POCA Search "Dapzura"	POCA Search "Dapzurart"	
21.	(b) (4) ***	66		(b) (4)
22.	(b) (4) ***		58	Proposed proprietary name for NDA 212728 was found unacceptable by DMEPA (OSE# 2019-34863111, dated 12/19/2019). Request for Proprietary Name Review Withdrawn on 01/03/2020. NDA 212728 was approved on 2/27/2020 under the proprietary name Nurtec ODT.
23.	(b) (4) ***	60		(b) (4)
24.	(b) (4) ***	56		Proposed proprietary name for IND 127944 was found unacceptable by DMEPA (OSE# 2019-33148014 dated 01/10/2020). NDA 213702 was approved on 06/15/2020 under the proprietary name Zepzelca
25.	(b) (4) ***	58	60	(b) (4)
26.	(b) (4) ***	52	58	Proposed proprietary name for NDA 210872 found unacceptable by DMEPA (OSE# 2018-24256508). NDA 210872 was approved under the proprietary name ZuraGard.

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

No.	Name	POCA Score (%)	
		POCA Search "Dapzura"	POCA Search "Dapzurart"
1.	(b) (4)***	56	
2.	Afluria 2015-2016	55	
3.	Afluria 2016-2017	55	
4.	Afluria 2017-2018	55	
5.	Afluria 2018-2019	55	
6.	(b) (4)***	56	
7.	Apap Fruit		60
8.	Apidra	60	
9.	(b) (4)***	64	
10.	Azedra	56	
11.	Betadur CR		56
12.	Enaprilat		56
13.	Kevzara	59	
14.	(b) (4)i***	61	
15.	(b) (4)***	56	
16.	Neutragard		57
17.	Nocdurna	59	
18.	(b) (4)***	56	
19.	Nutracort		57
20.	Nuzyra	56	
21.	(b) (4)***	60	
22.	(b) (4)***	56	
23.	Psoradrate		56
24.	Septra	56	
25.	Sudatrate		57
26.	(b) (4)***	56	
27.	Tafluprost		56
28.	Tazorac	60	58
29.	Teat Guard		60
30.	Tudorza	56	
31.	Vitrasert		56
32.	Xtampza ER		55
33.	Zyclara	56	

[k] 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

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