DICOM Correction Proposal

<table>
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<td>Date of Last Update</td>
<td>2023/08/30</td>
</tr>
<tr>
<td>Person Assigned</td>
<td>Kevin O'Donnell</td>
</tr>
<tr>
<td>Submitter Name</td>
<td>Harry Solomon</td>
</tr>
<tr>
<td>Submission Date</td>
<td>2022/11/10</td>
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Correction Number: CP-2269

Log Summary: Clarify matching multiple values

Name of Standard: PS3.4

Rationale for Correction:
The "Multiple Value Matching" option for queries was added in Sup223, which allows multiple values in the Query request. There might be some confusion with the "Matching Multiple Values" functionality of matching the Query request to multiple values in an attribute of a stored entity. The text regarding the latter is clarified.

Correction Wording:

Modify C.2.2.2.8 as shown.

C.2.2.2.8 Multiple Value Matching

**Multiple Value Matching refers to providing multiple values in the Key Attribute. This section describes how to perform matching with such Key Attributes. Section C.2.2.3 describes what to return when an entity Attribute is matched that contains multiple values.**

If Extended Negotiation of Multiple Value Matching is successful, **and** for Attributes with VR of AE, AS, AT, CS, LO, PN, SH, or UC and a defined VM greater than 1, a Key Attribute with multiple values specified in a request shall indicate matching to a multi-valued entity Attribute. Such a match is successful only if each and every value in the Key Attribute matches a value in the corresponding Attribute in the entity.

Key Attribute Values shall not include wild cards.

The order of Attribute Values in the request need not match the order in the corresponding entity Attribute.

**Note**

1. This is a logical 'AND' function for all values in the Key Attribute. E.g., a value of CT\PT for Modalities in Study (0008,0061) in the Request Identifier will match only Studies that include both a CT Series and a PT Series.
2. There may be additional values in the entity Attribute that do not match values in the Key Attribute.
3. Multiple Value Matching does not apply to Specific Character Set (0008,0005), which is not a Key Attribute for matching, but rather specifies the encoding of characters in the Identifier.
4. In the absence of successful Extended Negotiation for Multiple Value Matching, the semantics of multiple values in a Key Attribute is undefined.
Modify C.2.2.3 as shown:

C.2.2.3 Matching Multi-valued Values Entity Attributes

When using Single Value Matching, Wild Card Matching, or Range Matching for matching a Key Attribute to an entity Attribute that has a value multiplicity of greater than one, if any of the values match, then all values shall be returned.

When using Multiple Value Matching, if matching is successful, then all values shall be returned.