DICOM Change Proposal

STATUS	In work
Date of Last Update	2026-05-27
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Submission Date	2026-03-11

Change Number	CP-2619
Log Summary: Inconsistencies in MDC	
Name of Standard PS3.16	

Summary

The ISO/IEEE 11073 family of standards (often used for point-of-care medical device communication), has been included in DICOM.

The usage of Medical Device Communication (MDC) Coded Concepts in PS3.16 has many inconsistencies and problems compared to the ISO/IEEE source:

- MDC Codes are used which are not unique in the ISO/IEEE source for MDC.
  Different CodeMeanings were assigned to the same CodeValue.
  Root-cause is in [ISO/IEEE 11073] itself.
  The printed ISO norm (PDF) contains in part 10 some coded concepts listed, which are internally marked “Withdrawn (Pending Ballot)”. Those should not but do appear in the published ISO norm.
  → To be corrected by ISO 11073 committee.
- MDC Codes are used in PS3.16, which do/did not exist in the ISO/IEEE source
- MDC concepts are used where the CodeMeaning is a different PartCode in the ISO/IEEE source
- A 2004/2015 version of ISO/IEEE standard is referenced, while current norm versions are of 2020.

The appropriate long-term solution should be:

1. *Trigger **IEEE 11073™ Standards Committee** to delete the coded concepts which are withdrawn or have other status not appropriate to appear in* ISO/IEEE 11073-10101:2020 an updated norm.
   *This should be done **for ALL tables** in the norm – not only for the terms and coded concepts addressed in this CP.*
2. ***IEEE 11073™ Standards Committee** shall check the norm for uniqueness of the used coded concepts, that are CF_CODE10, PartCode. Each published PartCode shall have exactly one related RefID, respectively exactly one related description for it.*
3. ***IEEE 11073™ Standards Committee and ISO** shall publish an updated norm afterwards.*

To Editor and WG06:
1) This CP solves the issues found so far and addressed in it.
A full check of MDC (PartCode, RefID) used in DICOM against MDC in the norm ISO/IEEE 11073 may be done in future and is not in focus of this CP.
2) Version 5 of this CP incorporates the changes suggested by Paul Schluter, mail 2026-05-26 18:35.
3) The “conflicting area” where codes in MDC were reassigned was carefully checked in PS3.16.
In the mentioned area “10::8192 to 10:9215 (inclusive)” DICOM PS3.16 has only the 4 codes handled in this CP.

Details

1) References to be updated

PS3.16, Table 8-1. Coding Schemes, entry in line “MDC” runs:

ISO/IEEE 11073 Medical Device Nomenclature, including all its subsections ([ISO/IEEE 11073-10101], [ISO/IEEE 11073-10101a], [ISO/IEEE 11073-10102], etc.), encoded as decimal strings <partition>:<element>

The links reference to chapter 2.18, with:
[ISO/IEEE 11073-10101] ISO/IEEE. 2004. *Health informatics - Point-of-care medical device communication - Nomenclature*.

[ISO/IEEE 11073-10101a] ISO/IEEE. 2015. *Health informatics - Point-of-care medical device communication - Nomenclature Amendment 1: Additional Definitions*.

[ISO/IEEE 11073-10102] ISO/IEEE. 2015. . *Health informatics - Point-of-care medical device communication - Annotated ECG - Nomenclature*.

The first norm has been replaced by [ISO/IEEE 11073-10101:**2020**].

The second norm has status “**historical/withdrawn**”.
It seems to be incorporated into [ISO/IEEE 11073-10101:2020]

The third norm remains active, but title is a little bit different.

2) MDC Code does not exist

TID 3301. Stress Test Procedure Description has Row 3 as:

4	>	CONTAINS	CODE	DT (10:11345, MDC, "Lead System")	1	U		BCID 3263 “Electrode Placement Value”

The Code “10:11345” (resp. “10::11345”) does neither exist in [ISO/IEEE 11073-10101:2020] , nor in [ISO/IEEE 11073-10102:2014].

[ISO/IEEE 11073-10102] has a section “ECG Lead Systems” – which would match its usage in TID 3301 as a Concept Name – pointing to values in BCID 3263 “Electrode Placement Value”.

C.13 ECG Lead Systems «ECG_LEAD_SYSTEMS_terms.8g.html»

```
<?xml version="1.0" encoding="UTF-8"?>
<!-- edited with XMLSpy v2008 rel. 2 sp1 (http://www.altova.com) by Paul Schluter (GE Healthcare) -->
<partition xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="http://www.ieee.org/11073/nomenclature"
xsi:schemaLocation="http://www.ieee.org/11073/nomenclature terms.8f.xsd">
  <!-- Edited and verified against ecgleadsys1j.doc PSS 2008-08-23 -->
  <!-- Numeric code numbers assigned. PSS 2008-09-01 -->
  <!-- 2009-04-30 Edited/transformed to conform to terms.8f.xsd (harmonized with IDCO and RTM) -->
  <partitionDescription>
    <title>ECG Lead Systems</title>
    <date>2012-09-27</date>
    <version>0.8.7</version>    <!-- "0.8.7" corresponds to "8g", updated on 2009-09-26 -->
    <!-- NO DISCRIMINATORS ARE USED -->
    <basePart>10</basePart>
    <baseCode>11264</baseCode>
  </partitionDescription>
```

➔ The correct CodeValue is expected to be “**10::11264**”,
with coded concept (10:11264,MDC,”EDG Lead System”) to be used in DICOM TID 3301, Row 4.

3) CID 3227 has lines with same CodeValue, but different CodeMeaning

Table CID 3227. QTc Measurement contains twice two rows where the CodeValue is equal:

Table CID 3227. QTc Measurement

Coding Scheme Designator	Code Value	Code Meaning	ISO/IEEE 11073 MDC Equivalent Reference ID (Informative)
MDC	2:15876	QTc interval global	MDC_ECG_TIME_PD_QTC
MDC	2:33792	QTc interval per lead	MDC_ECG_TIME_PD_QTC_<lead>
MDC	2:15880	QTc global using Bazett formula	MDC_ECG_TIME_PD_QTC_BAZETT
MDC	2:15880	QTc global using Framingham formula	MDC_ECG_TIME_PD_QTC_FRAMINGHAM
MDC	2:15892	QTc global using Fredericia formula	MDC_ECG_TIME_PD_QTC_FREDERICA
MDC	2:15892	QTc global using Hodges formula	MDC_ECG_TIME_PD_QTC_HODGES
MDC	2:34048	QTc per lead using Bazett formula	MDC_ECG_TIME_PD_QTcB_<lead>
MDC	2:34304	QTc per lead using Fredericia formula	MDC_ECG_TIME_PD_QTcF_<lead>

Comparing with [ISO/IEEE 11073-10101:2020] shows that the entries for BAZETT and FREDERICA are correct.

In the other lines the CodeValue must be corrected.

Duration of the interval between the QRS onset and T wave offset, related to heart rate 60 beats per minute of ECG (global), Bazett formula	MDC_ECG_TIME_PD_QTC_BAZETT	2::15880
Duration of the interval between the QRS onset and T wave offset, related to heart rate 60 beats per minute of ECG (global), Framingham formula	MDC_ECG_TIME_PD_QTC_FRAMINGHAM	2::15884
Duration of the interval between the QRS onset and T wave offset, related to heart rate 60 beats per minute of ECG (global), Hodges formula	MDC_ECG_TIME_PD_QTC_HODGES	2::15888
Duration of the interval between the QRS onset and T wave offset, related to heart rate 60 beats per minute of ECG (global), Frederica formula	MDC_ECG_TIME_PD_QTC_FREDERICA	2::15892

4) CID 3335 has two lines with same CodeValue, but different Meaning

Table CID 3335. ECG Annotation has two lines mentioning 10:8192 (resp. 10::8192) :

MDC	10:8192	Defibrillation spike	MDC_ECG_WAVP_DEFIB
MDC	10:8448	atrium Defibrillation spike	MDC_ECG_WAVP_DEFIB_ATR
MDC	10:8704	ventricle Defibrillation spike	MDC_ECG_WAVP_DEFIB_V
MDC	10:8960	transthoracic Defibrillation spike	MDC_ECG_WAVP_DEFIB_EXT
MDC	10:8192	Heart beat	MDC_ECG_BEAT

The MDC Code "`10::8192`" exists in [ISO/IEEE 11073-10102:2014] as "`MDC_ECG_BEAT`":

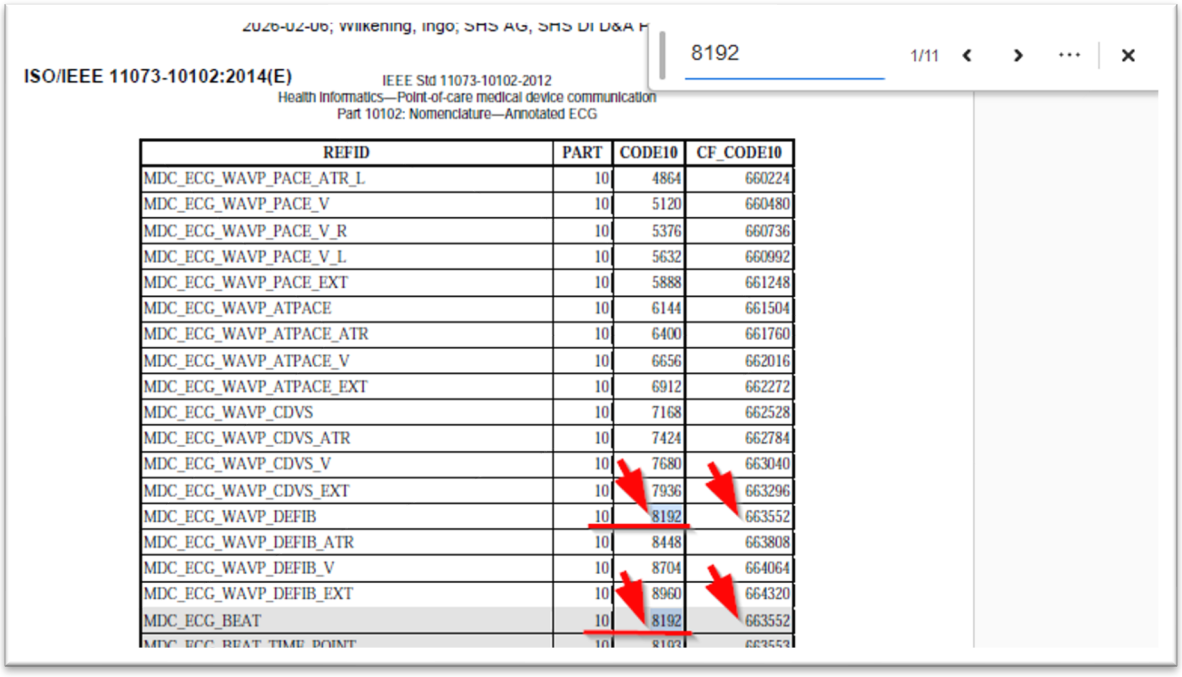
IEEE Std 11073-10102-2012
Health informatics—Point-of-care medical device communication
Part 10102: Nomenclature—Annotated ECG

ECG beat annotations					
SysName	REFID	Mnemonic	Description	PART	CODE10
Pattern, Beat (NOS), Base Pattern | ECG, Heart | CVS	MDC_ECG_BEAT	BEAT	Any beat (unspecified; included in heart rate)	10	8192
Pattern, Normal beat, Base pattern | ECG, Heart | CVS	MDC_ECG_BEAT_NORMAL	NORMAL	Normal beat (sinus beat; normal conduction)	10	8208

The MDC Code "`10::8192`" **same** exists in [ISO/IEEE 11073-10102:2014] as "`MDC_ECG_WAVP_DEFIB`"

Wave components (paced)					
SysName	REFID	Mnemonic	Description	PART	CODE10
ECG, Heart | CVS					
Pattern, Wave, Pacemaker | Cardioversion, Ventricle; Spike, AOI NOS | ECG, Heart | CVS	MDC_ECG_WAVP_CDVS_V	VCDVS	Ventricular cardioversion	10	7680
Pattern, Wave, Pacemaker | Cardioversion, Transthoracic; Spike, AOI NOS | ECG, Heart | CVS	MDC_ECG_WAVP_CDVS_EXT	XCDVS	Cardioversion	10	7936
Pattern, Wave, Pacemaker | Defibrillation; Spike, AOI NOS | ECG, Heart | CVS	MDC_ECG_WAVP_DEFIB	DEFIB	Defibrillation (high-energy shock)	10	8192

Obviously, there is an inconsistency in the [ISO/IEEE 11073-10102:2014] :



REFID	PART	CODE10	CF_CODE10
MDC_ECG_WAVP_PACE_ATR_L	10	4864	660224
MDC_ECG_WAVP_PACE_V	10	5120	660480
MDC_ECG_WAVP_PACE_V_R	10	5376	660736
MDC_ECG_WAVP_PACE_V_L	10	5632	660992
MDC_ECG_WAVP_PACE_EXT	10	5888	661248
MDC_ECG_WAVP_ATPACE	10	6144	661504
MDC_ECG_WAVP_ATPACE_ATR	10	6400	661760
MDC_ECG_WAVP_ATPACE_V	10	6656	662016
MDC_ECG_WAVP_ATPACE_EXT	10	6912	662272
MDC_ECG_WAVP_CDVS	10	7168	662528
MDC_ECG_WAVP_CDVS_ATR	10	7424	662784
MDC_ECG_WAVP_CDVS_V	10	7680	663040
MDC_ECG_WAVP_CDVS_EXT	10	7936	663296
MDC_ECG_WAVP_DEFIB	10	8192	663552
MDC_ECG_WAVP_DEFIB_ATR	10	8448	663808
MDC_ECG_WAVP_DEFIB_V	10	8704	664064
MDC_ECG_WAVP_DEFIB_EXT	10	8960	664320
MDC_ECG_BEAT	10	8192	663552
MDC_ECG_BEAT_TIME_POINT	10	8193	663553

Both RefIDs have been given in Part 10 the same Code10, and the same CF_CODE10.

From the understanding of the submitter they are not the same concept, "BEAT" versus "DEFIB".

Checking the source MDC terms in RTM Management Service, we find these:

Status	CF_CODE10	PartCode	RefID	Discriminators
Withdrawn (Pending Ballot)	663552	10::8192	MDC_ECG_WAVP_DEFIB	
Published	663552	10::8192	MDC_ECG_BEAT	BEAT_RHYTHM_NOISE(0)

Obviously, MDC_ECG_WAVP_DEFIB was withdrawn. It should not have been listed in the ISO norm.
This is the root cause in the [ISO/IEEE 11073-10102].

5) MDC Code "10:8448" is used twice in CID 3335 with two different CodeMeanings:

MDC	10:8448	Bundle branch block beat	MDC_ECG_BEAT_BB_BLK
MDC	10:8448	atrium Defibrillation spike	MDC_ECG_WAVP_DEFIB_ATR

The root cause is same problem in the norm [ISO/IEEE 11073-10102:2014]

Pattern, bundle branch block beat, Base pattern | ECG, Heart | CVS	MDC_ECG_BEAT_BB_BLK	BBB	Bundle branch block beat (unspecified)	10	8448
Pattern, Wave, Pacemaker | Defibrillation, Atrium; Spike, AOI NOS | ECG, Heart | CVS	MDC_ECG_WAVP_DEFIB_ATR	ADEFIB	Atrial defibrillation	10	8448

Both Concepts are not identical.

Checking the source MDC terms in RTM Management Service, we find these:

Status	CF_CODE10	PartCode	RefID	Discriminators
Withdrawn (Pending Ballot)	663808	10::8448	MDC_ECG_WAVP_DEFIB_ATR	
Published	663808	10::8448	MDC_ECG_BEAT_BB_BLK	BEAT_RHYTHM_NOISE(0)

Obviously, MDC_ECG_WAVP_DEFIB_ATR was withdrawn. It should not have been listed in the ISO norm. This is the root cause in the [ISO/IEEE 11073-10102].

6) MDC Code "10:8704" is used twice in CID 3335 with two different CodeMeanings:

MDC	10:8704	Paced beat	MDC_ECG_BEAT_PACED
MDC	10:8704	ventricle Defibrillation spike	MDC_ECG_WAVP_DEFIB_V

The root cause is same problem in the norm [ISO/IEEE 11073-10102:2014]:

Pattern, Paced beat, Base pattern | ECG, Heart | CVS	MDC_ECG_BEAT_PACED	PACED	Paced beat (with ventricular capture)	10	8704
Pattern, Wave, Pacemaker | Defibrillation, Ventricle; Spike, AOI NOS | ECG, Heart | CVS	MDC_ECG_WAVP_DEFIB_V	VDEFIB	Ventricular defibrillation	10	8704

Both Concepts are not identical.

Checking the source MDC terms in RTM Management Service, we find these:

Status	CF_CODE10	PartCode	RefID	Discriminators
Published	664064	10::8704	MDC_ECG_BEAT_PACED	BEAT_RHYTHM_NOISE(0)
Withdrawn (Pending Ballot)	664064	10::8704	MDC_ECG_WAVP_DEFIB_V	

Obviously, MDC_ECG_WAVP_DEFIB_V was withdrawn. It should not have been listed in the ISO norm. This is the root cause in the [ISO/IEEE 11073-10102].

7) MDC Code "10:8960" for RefID MDC_ECG_WAVP_DEFIB_EXT has status "Withdrawn (Pending Ballot)" in RTM Management Service.
The correct PartCode for MDC_ECG_WAVP_DEFIB_EXT is "10:12288", with status "Accepted".

8) MDC Code “2:16000” has Status “Withdrawn (Pending Ballot)”

In RTM Management Service the MDC code “2:16000” is “Withdrawn”.

Withdrawn (Pending Ballot)	147072	2::16000	MDC_ECG_TIME_PD_RR_GL

Therefore, it shall not be used in DICOM. Occurrences must be removed.

The MDC Code “2:16000” is used in CID 3689. ECG Global Waveform Duration:

MDC	2:16000	RR time period, global	MDC_ECG_TIME_PD_RR_GL

The MDC Code “2:16000” is used in **TID 3304. Stress Test Measurement Group, Row 21, as:**

21	>>	INFERRED FROM	NUM	DT (2:16000, MDC, "RR Interval for QTc")	1	U

In RTM Management Service the RefID MDC_ECG_TIME_PD_RR_GL is listed as:

Status	CF_CODE10	PartCode	RefID	Description
Published	147240	2::16168	MDC_ECG_TIME_PD_RR_GL(Preferred)	Duration of the interval between two consecutive QRS complexes
Published	147240	2::16168	MDC_ECG_TIME_PD_RR	Duration of the interval between two consecutive QRS complexes
Published	147240	2::16168	MDC_ECG_RR	Duration of the interval between two consecutive QRS complexes

It is suggested to use (2::16168, MDC, “RR time period, global”) in both cases.

9) There are several other positions in TIDs and CIDs where there is an MDC CodeValue with two different texts (entries related to topics 1 to 7 are not repeated in this table).

Used documents:
[ISO/IEEE 11073-10101:2020]
[ISO/IEEE 11073-10102:2014]

CodeValue	Position 1	Text 1	Text 2	Position 2
10:11216	CID 3680	Moderate noise	Moderate Noise, beats can be detected but cannot be classified	CID 3335
10:11232	CID 3680	Severe noise	Severe Noise, beats cannot be detected or classified	CID 3335
10:11248	CID 3680	No signal	No ECG signal is available	CID 3335
2:6656	CID 3687	P duration, per lead	P duration per lead	CID 3228
2:7168	CID 3687	P offset to QRS onset duration, per lead	PR interval per lead	CID 3228
2:7936	CID 3687	QRS duration, per lead	QRS duration per lead	CID 3228
2:8192	CID 3687	QT duration, per lead	QT interval per lead	CID 3228
2:32768	CID 3687	PP time period, per lead	PP interval per lead	CID 3228
2:33024	CID 3687	RR time period, per lead	RR interval per lead	CID 3228
2:16184	CID 3689	P duration, global	P duration global	CID 3228
2:16140	CID 3689	PP time period, global	PP interval global	CID 3228
2:15872	CID 3689	PR time period, global	PR interval global	CID 3228
2:16156	CID 3689	QRS duration, global	QRS duration global	CID 3228
2:16160	CID 3689	QT duration, global	QT interval global	CID 3228

CID 3335 is used as BCID in TID 3750 Waveform Annotations, Row 18 (U), ValueSet
TID 3750 is a root TID used in PS3.3 for **A.35.23 Waveform Annotation SR IOD**

CID 3680 is used as DCID in TID 3714. ECG Lead Measurements, Row 7 (U), ValueSet
List of includes are:
Root TID 3500 Hämodynamics Report, Row 6 -> TID 3501, Row 15 -> TID 3714
Root TID 3700 ECG Report, Row 14 -> TID 3714

➔ It is suggested to keep CID 3680, and to change CID 3335. This has lower impact.

CID 3228 is used as DCID in TID 3304. Stress Test Measurement Group, Row 19 (U), $Measurement
Includes are: Root TID 3300, Row 11 -> TID 3303, Row 7 -> TID 3304

CID 3687 is used as DCID in TID 3714 ECG Lead Measurements, Row 4, Concept Name (U)
(see above)

CID 3689 is used as DCID in TID 3713 ECG Global Measurements, Row 11 ConceptName (U)
Includes are: Root TID 3700 ECG Report, Row 13->TID 3713

TID 3304 is included: Root TID 3300. Stress Testing Report, Row 11->TID 3303, Row 7->TID 3304

➔ It is suggested to keep CID 3687, CID 3689 and to change CID 3228.

Change Wording:

(relating topic #1) ***Change PS3.16, chapter 2.18, as:***

To Editor: Titles have been checked against current norms in norm database.
Both remaining norms have status "current/valid" as of 2026-02-06.

2.18 Point-of-Care Medical Device Nomenclature

Extracts of ISO/IEEE 11073 reprinted by permission of IEEE, 3 Park Avenue, New York, NY 10016-5997 USA. Copyright by IEEE. http://standards.ieee.org/.

Under license from IEEE, the term codes and descriptions of the ISO/IEEE 11073 Nomenclature are available at no cost through the Rosetta Terminology Mapping Management System of the U.S. National Institute of Standards and Technology. http://rtmms.nist.gov/rtmms/index.htm

[ISO/IEEE 11073-10101] ISO/IEEE. ~~2004~~2020. *Health informatics — **Device interoperability - Part 10101:** Point-of-care medical device communication - Nomenclature*.

~~**[ISO/IEEE 11073-10101a] ISO/IEEE. 2015. *Health informatics - Point-of-care medical device communication - Nomenclature Amendment 1: Additional Definitions.***~~

[ISO/IEEE 11073-10102] ISO/IEEE. 201~~5~~4. *Health informatics - Point-of-care medical device communication **Part 10102: Nomenclature -** Annotated ECG ~~- **Nomenclature***~~*.

(relating topic #1)
Change PS3.16, chapter 8 Coding Schemes, delete reference to [ISO/IEEE 11073-10101a] as:

8 Coding Schemes

[…]

Table 8-1. Coding Schemes

Coding Scheme Designator (0008,0102)	Coding Scheme UID (0008,010C)	Coding Scheme Name (0008,0115)	Coding Scheme Responsible Organization (0008,0116)	Coding Scheme Resources Sequence (0008,0109) Type: URL	Description
[…]					
MDC	2.16.840.1.113883.6.24				ISO/IEEE 11073 Medical Device Nomenclature, including all its subsections ([ISO/IEEE 11073-10101], ~~**[ISO/IEEE 11073-10101a]**~~, [ISO/IEEE 11073-10102], etc.), encoded as decimal strings <partition>:<element>
[…]					

(relating topic #2)
Change PS3.16, TID 3301, as:

TID 3301 Stress Test Procedure Description

Type: **Extensible**
Order: **Significant**
Root: **No**

Table TID 3301. Stress Test Procedure Description

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CONTAINER	DT (55111-9, LN, "Current Procedure Descriptions")	1	M		
2	>	CONTAINS	CODE	DT (109056, DCM, "Stress Protocol")	1	U		BCID 3261 “Stress Protocol”
3	>	CONTAINS	TEXT	DT (109056, DCM, "Stress Protocol")	1	U		
4	>	CONTAINS	CODE	DT (~~10:11345~~10:11264, MDC, "Lead System")	1	U		BCID 3263 “Electrode Placement Value”

(relating topic #3) ***Change PS3.16, CID 3227 QTc Measurement, as:***

CID 3227 QTc Measurement

[…]

Table CID 3227. QTc Measurement

Coding Scheme Designator	Code Value	Code Meaning	ISO/IEEE 11073 MDC Equivalent Reference ID (Informative)
MDC	2:15876	QTc interval global	MDC_ECG_TIME_PD_QTC
MDC	2:33792	QTc interval per lead	MDC_ECG_TIME_PD_QTC_<lead>
MDC	2:15880	QTc global using Bazett formula	MDC_ECG_TIME_PD_QTC_BAZETT
MDC	~~2:15880~~ 2:15884	QTc global using Framingham formula	MDC_ECG_TIME_PD_QTC_FRAMINGHAM
MDC	2:15892	QTc global using Fredericia formula	MDC_ECG_TIME_PD_QTC_FREDERICA
MDC	~~2:15892~~ 2:15888	QTc global using Hodges formula	MDC_ECG_TIME_PD_QTC_HODGES
MDC	2:34048	QTc per lead using Bazett formula	MDC_ECG_TIME_PD_QTcB_<lead>
MDC	2:34304	QTc per lead using Fredericia formula	MDC_ECG_TIME_PD_QTcF_<lead>

(relating topics #4, #5, #6, #7) ***Change PS3.16, CID 3335 ECG Annotation, as:***

Note:
The table show the CodesValues to be replaced – same as the positions where the CodeValue is not to be replaced. The code 10:8960 (resp. 10::8960) is used only once in PS3.16.

CID 3335 ECG Annotation

[…]

Table CID 3335. ECG Annotation

Coding Scheme Designator	Code Value	Code Meaning	ISO/IEEE 11073 MDC Equivalent Reference ID (Informative)
[…]			
MDC	~~10:8192~~ 10:11520	Defibrillation spike	MDC_ECG_WAVP_DEFIB
[…]			
MDC	10:8192	Heart beat	MDC_ECG_BEAT
[…]			
MDC	~~10:8448~~ 10:11776	atrium defibrillation spike	MDC_ECG_WAVP_DEFIB_ATR
[…]			
MDC	10:8448	Bundle branch block beat	MDC_ECG_BEAT_BB_BLK
[…]			
MDC	~~10:8704~~ 10:12032	ventricle Defibrillation spike	MDC_ECG_WAVP_DEFIB_V
[…]			
MDC	10:8704	Paced beat	MDC_ECG_BEAT_PACED
[…]			
MDC	~~10:8960~~ 10:12288	transthoracic Defibrillation spike	MDC_ECG_WAVP_DEFIB_EXT
[…]			

(relating topics #8) ***Change PS3.16, CID 3689. ECG Global Waveform Duration, as:***

CID 3689 ECG Global Waveform Duration

[…]

Table CID 3689. ECG Global Waveform Duration

Coding Scheme Designator	Code Value	Code Meaning	ISO/IEEE 11073 MDC Equivalent Reference ID (Informative)
MDC	2:16184	P duration, global	MDC_ECG_TIME_PD_P_GL
MDC	2:16140	PP time period, global	MDC_ECG_TIME_PD_PP_GL
MDC	2:16144	PQ time period, global	MDC_ECG_TIME_PD_PQ_GL
MDC	2:15872	PR time period, global	MDC_ECG_TIME_PD_PR_GL
MDC	2:16148	PQ segment time period, global	MDC_ECG_TIME_PD_PQ_SEG_GL
MDC	2:16156	QRS duration, global	MDC_ECG_TIME_PD_QRS_GL
MDC	2:16160	QT duration, global	MDC_ECG_TIME_PD_QT_GL
MDC	~~2:16000~~ 2:16168	RR time period, global	MDC_ECG_TIME_PD_RR_GL
MDC	2:16004	QTU time period, global	MDC_ECG_TIME_PD_QTU_GL

(relating topics #9) ***Change PS3.16, TID 3304. Stress Test Measurement Group****, as:*

TID 3304 Stress Test Measurement Group

[…]

Table TID 3304. Stress Test Measurement Group

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
		[...]						
20	>	CONTAINS	INCLUDE	DTID 300 "Measurement"	1-n	U		$Measurement = DCID 3227 "QTc Measurement" $Units = DT (ms, UCUM, "ms") $TargetSite = DCID 3001 "ECG Lead" $Equation = DCID 3678 "QT Correction Algorithm"
21	>>	INFERRED FROM	NUM	~~DT (2:16000, MDC, "RR Interval for QTc")~~ DT (2:16168, MDC, "RR time period global")	1	U		UNITS = DT (ms, UCUM, "ms")
		[...]						

(relating topics #9)
***Change PS3.16, CID 3335 ECG Annotation**, as:*

CID 3335 ECG Annotation

[…]

Table CID 3335. ECG Annotation

Coding Scheme Designator	Code Value	Code Meaning	ISO/IEEE 11073 MDC Equivalent Reference ID (Informative)
MDC	10:11216	Moderate Noise~~, beats can be detected but cannot be classified~~	MDC_ECG_NOISE_MODERATE
MDC	10:11232	Severe Noise~~, beats cannot be detected or classified~~	MDC_ECG_NOISE_SEVERE
MDC	10:11248	No ~~ECG~~ signal~~ is available~~	MDC_ECG_NOISE_NOSIGNAL

(relating topics #9)
***Change PS3.16,* CID 3335 ECG Annotation**, as*:*

CID 3228 ECG Timing Measurement

[…]

Table CID 3228. ECG Timing Measurement

Coding Scheme Designator	Code Value	Code Meaning	ISO/IEEE 11073 MDC Equivalent Reference ID (Informative)
MDC	2:15872	PR ~~interval~~time period, global	MDC_ECG_TIME_PD_PR
MDC	2:16160	QT ~~interval~~duration, global	MDC_ECG_TIME_PD_QT
MDC	2:16156	QRS duration, global	MDC_ECG_TIME_PD_QRS
MDC	2:16184	P duration, global	MDC_ECG_TIME_PD_P
MDC	2:16140	PP ~~interval~~time period, global	MDC_ECG_TIME_PD_PP
MDC	2:16168	RR interval global	MDC_ECG_TIME_PD_RR
MDC	2:7168	~~PR interval per lead~~ P offset to QRS onset duration, per lead	MDC_ECG_TIME_PD_PR_<lead>
MDC	2:8192	QT ~~interval~~duration, per lead	MDC_ECG_TIME_PD_QT_<lead>
MDC	2:7936	QRS duration, per lead	MDC_ECG_TIME_PD_QRS_<lead>
MDC	2:6656	P duration, per lead	MDC_ECG_TIME_PD_P_<lead>
MDC	2:32768	PP ~~interval~~time period, per lead	MDC_ECG_TIME_PD_PP_<lead>
MDC	2:33024	RR ~~interval~~time period, per lead	MDC_ECG_TIME_PD_RR_<lead>

***Change PS3.16,* Add to table J-1 (new format as of CP2476)**, as*:*

Retired Coding Scheme Designator	Retired Code Value	Retired Code Meaning	Replacement Coding Scheme Designator	Replace-ment Code Value	Replacement Code Meaning	Notes (informal)
		[…]				
MDC	**10:11345**	**Lead System**	**MDC**	**10:11264**	**Lead System**	**CP2619**
MDC	**2:15880**	**QTc global using Framingham formula**	**MDC**	**2:15884**	**QTc global using Framingham formula**	**CP2619**
MDC	**2:15892**	**QTc global using Hodges formula**	**MDC**	**2:15888**	**QTc global using Hodges formula**	**CP2619**
MDC	**10:8192**	**Defibrillation spike**	**MDC**	**10:11520**	**Defibrillation spike**	**CP2619**
MDC	**10:8448**	**atrium defibrillation spike**	**MDC**	**10:11776**	**atrium defibrillation spike**	**CP2619**
MDC	**10:8704**	**ventricle Defibrillation spike**	**MDC**	**10:12032**	**ventricle Defibrillation spike**	**CP2619**
MDC	**10:8960**	**transthoracic Defibrillation spike**	**MDC**	**10:12288**	**transthoracic Defibrillation spike**	**CP2619**
MDC	**2:16000**	**RR time period, global**	**MDC**	**2:16168**	**RR time period, global**	**CP2619**
MDC	**2:16000**	**RR Interval for QTc**	**MDC**	**2:16168**	**RR time period, global**	**CP2619**