CR Integration Tests

## TEST: OHIE-CR-01 – Patient Identity Feed – Invalid register patient message

*This test validates that the Client Registry rejects a poorly formed message lacking appropriate assigner information in PID-3.*

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| Pre-Conditions | | |
| # | Inputs/Test Description | Expected Outcomes |
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| Test Steps | | |
| 10 | Test harness sends ADT^A01 message where the CX.4 of the PID is missing.  MSH|^~\&|TEST\_HARNESS^^|TEST^^|CR1^^|MOH\_CAAT^^|20141104174451||ADT^A01^ADT\_A01| TEST-CR-01-10|P|2.3.1  EVN||20101020  PID|||RJ-438^^^&&||JOHNSTON^ROBERT^^^^^L|MURRAY^^^^^^L|19830205|M|||1220 Centennial Farm Road^^ELLIOTT^IA^51532||^PRN^PH^^^712^7670867||||||481-27-4185  PV1||I | Receiver rejects the message with an AR or AE  Response is ACK^A01  Response version is 2.3.1 |

## TEST: OHIE-CR-02 – Patient Identity Feed – Auto-fill CX.4 data

*This test validates that the Client Registry is capable of populating the CX.4.1 from CX.4.2 and CX.4.3 or vice-versa given partial data in the CX.4 field.*

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| Pre-Conditions | | |
| # | Inputs/Test Description | Expected Outcomes |
| 5 | Setup the receiver so that OID 2.16.840.1.113883.3.72.5.9.1 has assigning authority of TEST | |
| Test Steps | | |
| 10 | Test harness sends ADT^A01 message where the CX.4.1 of the PID is missing but the message contains CX.4.2 and CX.4.3.  MSH|^~\&|TEST\_HARNESS^^|TEST^^|CR1^^|MOH\_CAAT^^|20141104174451||ADT^A01^ADT\_A01|TEST-CR-02-10|P|2.3.1  EVN||20101020  PID|||RJ-438^^^&2.16.840.1.113883.3.72.5.9.1&ISO||JOHNSTON^ROBERT^^^^^L|MURRAY^^^^^^L|19830205|M|||1220 Centennial Farm Road^^ELLIOTT^IA^51532||^PRN^PH^^^712^7670867||||||481-27-4185  PV1||I | * Receiver Accepts Message with an AA * Response is ACK^A01 * Response is version 2.3.1 * MSH-5 and MSH-6 matches “TEST\_HARNESS|TEST” |
| 20 | Test harness ensures that patient was registered and receiver has populated CX.4.1 from the CX.4.2 and CX.4.3 values by executing:  MSH|^~\&|TEST\_HARNESS|TEST|CR1|MOH\_CAAT|20090223144546||QBP^Q23^QBP\_Q21|TEST-CR-02-20|P|2.5  QPD|IHE PIX Query|Q0220|RJ-438^^^&2.16.840.1.113883.3.72.5.9.1&ISO^PI RCP|I | * Receiver Accepts message with an AA * Response is RSP^K23 * Response message contains exactly one PID segment * PID-3 of PID segment contains an identifier having:   + PID.3.4.1 = TEST   + PID.3.4.2 = 2.16.840.1.113883.3.72.5.9.1   + PID.3.4.3 = ISO |
| 30 | Test harness sends ADT^A01 message where the CX.4.2 and CX.4.3 of the PID are missing but the message contains CX.4.1  MSH|^~\&|TEST\_HARNESS^^|TEST^^|CR1^^|MOH\_CAAT^^|20141104174451||ADT^A01^ADT\_A01|TEST-CR-02-30|P|2.3.1  EVN||20101020  PID|||RJ-439^^^TEST||JONES^JENNIFER^^^^^L|SMITH^^^^^^L|19840125|F|||123 Main Street West ^^NEWARK^NJ^30293||^PRN^PH^^^409^30495||||||  PV1||I | * Receiver Accepts Message with an AA * MSH-5 and MSH-6 matches “TEST\_HARNESS|TEST” |
| 40 | Test harness ensures patient was registered and receiver has populated CX.4.2 and CX.4.3 from the CX.4.1 value provided by executing:  MSH|^~\&|TEST\_HARNESS|TEST|CR1|MOH\_CAAT|20090223144546||QBP^Q23^QBP\_Q21|TEST-CR-02-40|P|2.5  QPD|IHE PIX Query|Q0220|RJ-439^^^TEST^PI RCP|I | * Receiver Accepts message with an AA * Response message contains exactly one PID segment * PID-3 of PID segment contains an identifier having:   + PID.3.4.1 = TEST   + PID.3.4.2 = 2.16.840.1.113883.3.72.5.9.1   + PID.3.4.3 = ISO |

## TEST: OHIE-CR-03 – Patient Identity Feed – Blocks unknown assigning authority

*This test ensures that the receiver rejects messages which contain identifiers assigned from authorities which are unknown.*

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| Pre-Conditions | | |
| # | Inputs/Test Description | Expected Outcomes |
| 5 | Remove any configuration in the recipient which references OID 2.16.840.1.113883.3.72.5.9.4 or TEST\_BLOCK | |
| Test Steps | | |
| 10 | Test harness sends ADT^A01 message having the invalid OID in CX.4.2.  MSH|^~\&|TEST\_HARNESS^^|TEST^^|CR1^^|MOH\_CAAT^^|20141104174451||ADT^A01^ADT\_A01|TEST-CR-03-10|P|2.3.1  EVN||20101020  PID|||RJ-999-2^^^&2.16.840.1.113883.3.72.5.9.4&ISO||THAMES^ROBERT^^^^^L| |1983|M|||1220 Centennial Farm Road^^ELLIOTT^IA^51532||^PRN^PH^^^712^7670867||||||481-27-4185  PV1||I | * Receiver rejects message with error code AE or AR * MSH-5 and MSH-6 matches “TEST\_HARNESS|TEST” * Meaning MSA or ERR segment is conveyed showing the error * Response is ACK^A01 * Response Version is 2.3.1 |
| 20 | Test harness sends ADT^A01 message having invalid assigning authority name in CX.4.1  MSH|^~\&|TEST\_HARNESS^^|TEST^^|CR1^^|MOH\_CAAT^^|20141104174451||ADT^A01^ADT\_A01|TEST-CR-03-20|P|2.3.1  EVN||20101020  PID|||RJ-999-2^^^TEST\_BLOCK||THAMES^ROBERT^^^^^L| |1983|M|||1220 Centennial Farm Road^^ELLIOTT^IA^51532||^PRN^PH^^^712^7670867||||||481-27-4185  PV1||I | * Receiver rejects message with error code AE or AR * MSH-5 and MSH-6 matches “TEST\_HARNESS|TEST” * Meaning MSA or ERR segment is conveyed showing the error * Response is ACK^A01 * Response Version is 2.3.1 |

## TEST: OHIE-CR-04 – Patient Identity Feed – Blocks invalid assigning authority

*This test ensures that two assigning authorities cannot assign identifiers from the other’s assigning domain. In this test, the harness mimics two authorities (TEST\_HARNESS\_A and TEST\_HARNESS\_B). They each register a patient and the harness then verifies that TEST\_HARNESS\_B does not assign an identifier from TEST\_HARNESS\_A’s identity domain.*

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| Pre-Conditions | | |
| # | Inputs/Test Description | Expected Outcomes |
| 5 | Setup the receiver so that OID 2.16.840.1.113883.3.72.5.9.2 has assigning authority of TEST\_A which can be assigned from TEST\_HARNESS\_A | |
| 10 | Setup the receiver so that OID 2.16.840.1.113883.3.72.5.9.3 has assigning authority of TEST\_B which can be assigned from TEST\_HARNESS\_B | |
| Test Steps | | |
| 20 | Test harness (as TEST\_HARNESS\_A) sends ADT^A01 registering a new patient with an identifier from TEST\_A domain.  MSH|^~\&|TEST\_HARNESS\_A^^|TEST^^|CR1^^|MOH\_CAAT^^|20141104174451||ADT^A01^ADT\_A01|TEST-CR-04-20|P|2.3.1  EVN||20101020  PID|||RJ-439^^^TEST\_A||JONES^JENNIFER^^^^^L|SMITH^^^^^^L|19840125|F|||123 Main Street West ^^NEWARK^NJ^30293||^PRN^PH^^^409^30495||||||  PV1||I | * Receiver Accepts Message with an AA * MSH-5 and MSH-6 matches “TEST\_HARNESS\_A|TEST” * Response is ACK^A01 * Response version is 2.3.1 |
| 30 | Test harness (as TEST\_HARNESS\_B) attempts to send an ADT^A01 for authority A.  MSH|^~\&|TEST\_HARNESS\_B^^|TEST^^|CR1^^|MOH\_CAAT^^|20141104174451||ADT^A01^ADT\_A01|TEST-CR-04-30|P|2.3.1  EVN||20101020  PID|||NFD-3049542-23^^^TEST\_A||JONES^JENNIFER^^^^^L|SMITH^^^^^^L|19840125|F|||123 Main Street West ^^NEWARK^NJ^30293||^PRN^PH^^^409^30495||||||  PV1||I | * Receiver rejects the message with an AE or AR * An MSA message exists with an appropriate error code * MSH-5 and MSH-6 matches “TEST\_HARNESS\_B|TEST” * Response is ACK^A01 * Response Version is 2.3.1 |

## TEST: OHIE-CR-05 – Patient Identity Feed – Minimal data set

*This test ensures that the receiver does not reject a message containing only an identifier, and one of gender, date of birth, mother’s identifier. This test makes no assertion about merging/matching patients*

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| Pre-Conditions | | |
| # | Inputs/Test Description | Expected Outcomes |
| 5 | Setup the receiver such that OID 2.16.840.1.113883.3.72.5.9.1 has assigning authority of TEST which can be assigned from TEST\_HARNESS | |
| 10 | Ensure that the following patient is registered in the receiver (can be done with the ADT message provided). Name: Jennifer Jones, id: RJ-439^^^TEST, gender: F, dob: 1984-01-25  MSH|^~\&|TEST\_HARNESS^^|TEST^^|CR1^^|MOH\_CAAT^^|20141104174451||ADT^A01^ADT\_A01|TEST-CR-05-10|P|2.3.1  EVN||20101020  PID|||RJ-439^^^TEST||JONES^JENNIFER^^^^^L|SMITH^^^^^^L|19840125|F|||123 Main Street West ^^NEWARK^NJ^30293||^PRN^PH^^^409^30495||||||  PV1||I | |
| Test Steps | | |
| 20 | Test harness sends an ADT^A01 message with minimal data set containing information for a newborn with only an identifier, gender and date of birth.  MSH|^~\&|TEST\_HARNESS^^|TEST^^|CR1^^|MOH\_CAAT^^|20141104174451||ADT^A01^ADT\_A01|TEST-CR-05-20|P|2.3.1  EVN||20141001  PID|||RJ-441^^^TEST||||20141001|M|||||||||||||  PV1||I | * Receiver Accepts Message with an AA * MSH-5 and MSH-6 matches “TEST\_HARNESS|TEST” * Response is ACK^A01 * Response is version 2.3.1 |
| 30 | Test harness verifies the infant record was created in the receiver.  MSH|^~\&|TEST\_HARNESS|TEST|CR1|MOH\_CAAT|20090223144546||QBP^Q23^QBP\_Q21|TEST-CR-05-30|P|2.5  QPD|IHE PIX Query|Q0530|RJ-441^^^TEST^PI RCP|I | * Receiver responds with an AA * Receiver sends exactly one PID segment with identifier RJ-441 in domain TEST in PID-3 |

## TEST: OHIE-CR-06 – Patient Identity Feed – Auto-merge between patients with matching NID

*This test ensures that the receiver is able to merge patient data from an assigning authority (TEST\_A) which has an national patient identifier (assigning authority NID). The demographics data does not match, this is to test that matching is done on explicit identifiers.*

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| Pre-Conditions | | |
| # | Inputs/Test Description | Expected Outcomes |
| 5 | Setup the receiver such that OID 2.16.840.1.113883.3.72.5.9.2 has assigning authority of TEST\_A which can be assigned from TEST\_HARNESS\_A | |
| 10 | Setup the receiver such that OID 2.16.840.1.113883.3.72.5.9.9 has assigning authority of NID which can be assigned from NID\_AUTH | |
| 20 | Ensure that the following patient is registered in the receiver (can be done with the ADT message provided). Name: John Smith, id: NID-000345435^^^NID^NNXXX, gender: M, dob: 1980  MSH|^~\&|NID\_AUTH^^|TEST^^|CR1^^|MOH\_CAAT^^|20141104174451||ADT^A01^ADT\_A01|TEST-CR-06-20|P|2.3.1  EVN||20101020  PID|||NID-000345435^^^NID^NNXXX||SMITH^JOHN^^^^^L||1980|M|||||||||||  PV1||I | |
| Test Steps | | |
| 30 | Test harness (as TEST\_HARNESS\_A) sends a registration message for patient Jon [sic] Smith having a more specific date of birth, with NID of NID-000345435 and local identifier of TEST\_A of RJ-449.  MSH|^~\&|TEST\_HARNESS\_A^^|TEST^^|CR1^^|MOH\_CAAT^^|20141104174451||ADT^A01^ADT\_A01|TEST-CR-06-30|P|2.3.1  EVN||20141001  PID|||RJ-449^^^TEST\_A^PI~NID-000345435^^^NID^PI||SMITH^JON^^^^^L||198005|M|||||||||||||  PV1||I | * Receiver Accepts Message with an AA * MSH-5 and MSH-6 matches “TEST\_HARNESS|TEST” |
| 40 | Test harness verifies the record was linked with the NID by executing a PIX query  MSH|^~\&|TEST\_HARNESS\_A|TEST|CR1|MOH\_CAAT|20090223144546||QBP^Q23^QBP\_Q21|TEST-CR-06-40|P|2.5  QPD|IHE PIX Query|Q0640|NID-000345435^^^NID^PI RCP|I | * Receiver responds with an AA * Receiver sends exactly one PID segment with identifier RJ-449 in domain TEST\_A in one of the PID-3 repetitions |

## TEST: OHIE-CR07 – Patient Identity Feed – Match with mother’s identifier

*This test ensures that the receiver is able to match an incoming patient with their mother via the “Mother’s Identifier” property. In this test, the harness with register a patient (the mother) and subsequently will register an infant record (only dob, gender and id) with the mother’s identifier attached. The test will ensure that the link occurred by validating a demographic query contains the mother’s name.*

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| Pre-Conditions | | |
| # | Inputs/Test Description | Expected Outcomes |
| 5 | Setup the receiver such that OID 2.16.840.1.113883.3.72.5.9.1 has assigning authority of TEST which can be assigned from TEST\_HARNESS | |
| 10 | Ensure that the following patient is registered in the receiver (can be done with the ADT message provided). Name: Jennifer Jones, id: RJ-439^^^TEST, gender: F, dob: 1984-01-25  MSH|^~\&|TEST\_HARNESS^^|TEST^^|CR1^^|MOH\_CAAT^^|20141104174451||ADT^A01^ADT\_A01|TEST-CR-07-10|P|2.3.1  EVN||20101020  PID|||RJ-439^^^TEST||JONES^JENNIFER^^^^^L|SMITH^^^^^^L|19840125|F|||123 Main Street West ^^NEWARK^NJ^30293||^PRN^PH^^^409^30495||||||  PV1||I | |
| Test Steps | | |
| 20 | Test harness sends an ADT^A01 message with minimal data set containing information for a newborn with only an identifier, gender and date of birth with mother’s identifier.  MSH|^~\&|TEST\_HARNESS^^|TEST^^|CR1^^|MOH\_CAAT^^|20141104174451||ADT^A01^ADT\_A01|TEST-CR-07-20|P|2.3.1  EVN||20101020  PID|||RJ-440^^^TEST||||20141001|M|||||||||||||RJ-439^^^TEST  PV1||I | * Receiver Accepts Message with an AA * MSH-5 and MSH-6 matches “TEST\_HARNESS|TEST” |
| 30 | Test harness verifies the infant record was created in the receiver.  MSH|^~\&|TEST\_HARNESS|TEST|CR1|MOH\_CAAT|20090223144546||QBP^Q23^QBP\_Q21|TEST-CR-07-30|P|2.5  QPD|IHE PIX Query|Q0530|RJ-440^^^TEST^PI RCP|I | * Receiver responds with an AA * Receiver sends exactly one PID segment with identifier RJ-440 in domain TEST in PID-3 |
| 40 | Test harness verifies the infant record has mother’s information attached to it by sending a PDQ message with infant’s identifier.  MSH|^~\&|TEST\_HARNESS|TEST|CR1|MOH\_CAAT|20090226131520-0600||QBP^Q22^QBP\_Q21|TEST-CR-07-40|P|2.5  QPD|Q22^Find Candidates^HL7|Q0740|@PID.3.1^RJ-440~@PID.3.4.1^TEST  RCP|I|10^RD | * Receiver responds with an AA * Receiver sends exactly one PID segment with identifier RJ-440 in domain TEST in PID-3 * Receiver conveys mother’s name in PID-6 with value of JONES^JENNIFER * Receiver conveys mother’s identifier in PID-21 of RJ-439 in domain TEST |

## TEST: OHIE-CR-08 – Patient Identity Feed – Full patient record

*This test ensures that the receiver is able to store and usefully convey (regurgitate) a more complete patient record having multiple names, addresses, telephone numbers, mother’s identifier, mother’s name, birth date, multiple birth order, etc.*

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| Pre-Conditions | | |
| # | Inputs/Test Description | Expected Outcomes |
| 5 | Setup the receiver such that OID 2.16.840.1.113883.3.72.5.9.1 has assigning authority of TEST which can be assigned from TEST\_HARNESS | |
| Test Steps | | |
| 10 | Test harness sends an ADT^A01 message with complex data set.  MSH|^~\&|TEST\_HARNESS^^|TEST^^|CR1^^|MOH\_CAAT^^|20141104174451||ADT^A01^ADT\_A01|TEST-CR-08-10|P|2.3.1  EVN||20101020  PID|||RJ-442^^^TEST||FOSTER^FANNY^FULL^^^^L|FOSTER^MARY^^^^^L|1970|F|||123 W34 St^^FRESNO^CA^30495||^PRN^PH^^^419^31495|^^PH^^^034^059434|EN|S|||||  PV1||I | * Receiver Accepts Message with an AA * MSH-5 and MSH-6 matches “TEST\_HARNESS|TEST” |
| 30 | Test harness verifies demographics data matches by executing a PDQ query with the patient’s identifier.  MSH|^~\&|TEST\_HARNESS|TEST|CR1|MOH\_CAAT|20090226131520-0600||QBP^Q22^QBP\_Q21|TEST-CR-08-30|P|2.5  QPD|Q22^Find Candidates^HL7|Q0740|@PID.3.1^RJ-442~@PID.3.4.1^TEST  RCP|I|10^RD | * Receiver responds with an AA * Receiver sends exactly one PID segment with identifier RJ-442 in domain TEST in PID-3 * Receiver sends:   + PID-5=FOSTER^FANNY^FULL^^^^L   + PID-6=FOSTER^MARY^^^^^L   + PID-7=1970   + PID-8=F   + PID-11=123 W34 St^^FRESNO^CA^20495   + PID-13=^PRN^PH^^^419^31495   + PID-14=^^PH^^^034^059434   + PID-15=EN   + PID-16=S |

## TEST: OHIE-CR-09 – Patient Identity Query – Identifier query

*In this test, the test harness will register a patient with a local identifier (TEST domain) and will subsequently query the receiver to retrieve the identifiers linked to the newly registered patient.*

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| Pre-Conditions | | |
| # | Inputs/Test Description | Expected Outcomes |
| 5 | Setup the receiver so that OID 2.16.840.1.113883.3.72.5.9.1 has assigning authority of TEST | |
| 7 | Setup the receiver so that OID 2.16.840.1.113883.3.72.5.9.9 has assigning authority of NID | |
| Test Steps | | |
| 10 | Test harness sends PIX query for identifier RJ-443 (an un-registered patient) and validates the receiver behaves appropriately.  MSH|^~\&|TEST\_HARNESS|TEST|CR1|MOH\_CAAT|20090223144546||QBP^Q23^QBP\_Q21|TEST-CR-09-10|P|2.5  QPD|IHE PIX Query|Q0910|RJ-443^^^TEST^PI RCP|I | * Receiver accepts the message with AE * Receiver conveys no data found with AE in QAK * Receiver indicates error by sending an ERR segment with QPD^1^3^1^1 |
| 20 | Test harness sends PIX query for identifier RJ-443 (an un-registered patient) in domain RANDOM (an un-registered) domain  MSH|^~\&|TEST\_HARNESS|TEST|CR1|MOH\_CAAT|20090223144546||QBP^Q23^QBP\_Q21|TEST-CR-09-20|P|2.5  QPD|IHE PIX Query|Q0920|RJ-443^^^RANDOM^PI RCP|I | * Receiver rejects the message with AE * Receiver conveys query error with AE in QAK * Receiver indicates error by sending an ERR segment with QPD^1^3^4^1 |
| 30 | Test harness sends ADT^A01 message registering a patient.  MSH|^~\&|TEST\_HARNESS^^|TEST^^|CR1^^|MOH\_CAAT^^|20141104174451||ADT^A01^ADT\_A01|TEST-CR-09-30|P|2.3.1  EVN||20101020  PID|||RJ-443^^^TEST||SMITH^STEPHANIE^^^^^L||198306|F|||  PV1||I | * Receiver Accepts Message with an AA * MSH-5 and MSH-6 matches “TEST\_HARNESS|TEST” |
| 40 | Test harness ensures that patient was registered by executing:  MSH|^~\&|TEST\_HARNESS|TEST|CR1|MOH\_CAAT|20090223144546||QBP^Q23^QBP\_Q21|TEST-CR-09-40|P|2.5  QPD|IHE PIX Query|Q0940|RJ-443^^^TEST^PI RCP|I | * Receiver Accepts message with an AA * Response message contains exactly one PID segment * QAK of OK * PID-3 of PID segment contains an identifier having:   + PID.3.1.1 = RJ-443   + PID.3.4.1 = TEST   + PID.3.4.2 = 2.16.840.1.113883.3.72.5.9.1   + PID.3.4.3 = ISO |

## TEST: OHIE-CR-10 – Patient Identity Query – Identifier query with specific request response domains

*In this test, the test harness will register a patient with a local identifier (TEST domain). The receiver is the assigning authority for the ECID domain and should generate an ECID by whatever means the software performs this task. The test harness will then ask the receiver to do a cross reference between the TEST domain and the ECID domain. This test ensures that the receiver adheres to the “What Domains Returned” query parameter.*

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| Pre-Conditions | | |
| # | Inputs/Test Description | Expected Outcomes |
| 5 | Setup the receiver so that OID 2.16.840.1.113883.3.72.5.9.1 has assigning authority of TEST | |
| 7 | Setup the receiver so that OID 2.16.840.1.113883.3.72.5.9.9 has assigning authority of NID | |
| 10 | Ensure a patient with the following information is registered in the receiver:  Name: Betty Boop, ID: RJ-444 in domain TEST, DOB: 1935  This can be registered by sending the following message to the recipient:  MSH|^~\&|TEST\_HARNESS^^|TEST^^|CR1^^|MOH\_CAAT^^|20141104174451||ADT^A01^ADT\_A01|TEST-CR-09-30|P|2.3.1  EVN||20101020  PID|||RJ-444^^^TEST||BOOP^BETTY^^^^^L||1935|F|||  PV1||I | |
| Test Steps | | |
| 20 | Test harness requests the receiver to explicitly give it the TEST domain identifiers by sending:  MSH|^~\&|TEST\_HARNESS|TEST|CR1|MOH\_CAAT|20090223144546||QBP^Q23^QBP\_Q21|TEST-CR-10-20|P|2.5  QPD|IHE PIX Query|Q1020|RJ-444^^^TEST^PI|^^^TEST RCP|I | * Receiver Accepts message with an AA * QAK of OK * Response message contains exactly one PID segment * PID contains exactly one PID-3 having:   + PID.3.1.1 = RJ-444   + PID.3.4.1 = TEST   + PID.3.4.2 = 2.16.840.1.113883.3.72.5.9.1 |
| 30 | Test harness requests the receiver to explicitly give it the domain identifiers from an invalid domain (RANDOM) by sending:  MSH|^~\&|TEST\_HARNESS|TEST|CR1|MOH\_CAAT|20090223144546||QBP^Q23^QBP\_Q21|TEST-CR-10-30|P|2.5  QPD|IHE PIX Query|Q1030|RJ-444^^^TEST^PI|^^^RANDOM RCP|I | * Receiver rejects the message with an AE * Receiver indicates query error with QAK of AE * Receiver indicates the error with ERR having QPD^1^4 |
| 40 | Test harness requests the receiver to explicitly give it the domain identifier from a valid domain (NID) for which no identifiers have been associated with the patient by sending:  MSH|^~\&|TEST\_HARNESS|TEST|CR1|MOH\_CAAT|20090223144546||QBP^Q23^QBP\_Q21|TEST-CR-10-40|P|2.5  QPD|IHE PIX Query|Q1040|RJ-444^^^TEST^PI|^^^NID RCP|I | * Receiver accepts the message with AA * Receiver indicates no data found with QAK of NF * No PID segments are sent in the response message. |

## TEST: OHIE-CR-11 – Patient Demographics Query – Identifier query

*This test case ensures that the recipient of the query can perform a patient demographics query based on the PID-3 values provided in an admit message.*

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| Pre-Conditions | | |
| # | Inputs/Test Description | Expected Outcomes |
| 5 | Setup the receiver so that OID 2.16.840.1.113883.3.72.5.9.1 has assigning authority of TEST | |
| 7 | Setup the receiver so that OID 2.16.840.1.113883.3.72.5.9.9 has assigning authority of NID | |
| 10 | Ensure that the following patient is registered in the receiver (can be done with the ADT message provided). Name: Jennifer Jones, id: RJ-439^^^TEST, gender: F, dob: 1984-01-25  MSH|^~\&|TEST\_HARNESS^^|TEST^^|CR1^^|MOH\_CAAT^^|20141104174451||ADT^A01^ADT\_A01|TEST-CR-11-10|P|2.3.1  EVN||20101020  PID|||RJ-439^^^TEST||JONES^JENNIFER^^^^^L|SMITH^^^^^^L|19840125|F|||123 Main Street West ^^NEWARK^NJ^30293||^PRN^PH^^^409^30495||||||  PV1||I | |
| Test Steps | | |
| 20 | Test harness sends a PDQ message containing a patient identifier which is known to the receiver:  MSH|^~\&|TEST\_HARNESS|TEST|CR1|MOH\_CAAT|20090226131520-0600||QBP^Q22^QBP\_Q21|TEST-CR-11-20|P|2.5  QPD|Q22^Find Candidates^HL7|Q1120|@PID.3.1^RJ-439~@PID.3.4.1^TEST  RCP|I|10^RD | * Receiver Accepts Message with an AA * QAK segment contains OK * Response contains a PID segment containing:   + PID-3=439^^^TEST   + PID-5=JONES^JENNIFER   + PID-6=19840125 |
| 30 | Test harness sends a PDQ message containing a patient identifier which is unknown to the receiver:  MSH|^~\&|TEST\_HARNESS|TEST|CR1|MOH\_CAAT|20090226131520-0600||QBP^Q22^QBP\_Q21|TEST-CR-11-30|P|2.5  QPD|Q22^Find Candidates^HL7|Q1130|@PID.3.1^RJ-9483~@PID.3.4.1^TEST  RCP|I|10^RD | * Receiver accepts the message with AA * QAK segment contains NF * Response contains no PID segments |
| 40 | Test harness sends a PDQ message with an invalid query parameter of @PID.3.4.99  MSH|^~\&|TEST\_HARNESS|TEST|CR1|MOH\_CAAT|20090226131520-0600||QBP^Q22^QBP\_Q21|TEST-CR-11-40|P|2.5  QPD|Q22^Find Candidates^HL7|Q1140|@PID.3.1^RJ-9483~@PID.3.4.99^NOVALUE  RCP|I|10^RD | * Receiver rejects the message with AR or AE * QAK segment contains AE * Response contains no PID segments |
| 50 | Test harness sends a PDQ message and specifies what domains should be returned in the QPD-8 containing a valid domain of TEST  MSH|^~\&|TEST\_HARNESS|TEST|CR1|MOH\_CAAT|20090226131520-0600||QBP^Q22^QBP\_Q21|TEST-CR-11-50|P|2.5  QPD|Q22^Find Candidates^HL7|Q1150|@PID.3.1^RJ-439~@PID.3.4.1^TEST|||||^^^TEST  RCP|I|10^RD | * Receiver accepts message with an AA * QAK segment contains OK * Response contains exactly one PID segment   + PID-3 (Exactly one)=439^^^TEST   + PID-5=JONES^JENNIFER   + PID-6=19840125 |
| 60 | Test harness sends a PDQ message and specifies what domains should be returned in QPD-8 with a valid domain of NID which has no matching identifiers.  MSH|^~\&|TEST\_HARNESS|TEST|CR1|MOH\_CAAT|20090226131520-0600||QBP^Q22^QBP\_Q21|TEST-CR-11-60|P|2.5  QPD|Q22^Find Candidates^HL7|Q1160|@PID.3.1^RJ-439~@PID.3.4.1^TEST|||||^^^NID  RCP|I|10^RD | * Receiver accepts message with an AA * QAK segment contains NF * No PID segments are returned in the response |
| 70 | Test harness sends a PDQ message and specifies what domains should be returned in QPD-8 with an invalid domain of RANDOM.  MSH|^~\&|TEST\_HARNESS|TEST|CR1|MOH\_CAAT|20090226131520-0600||QBP^Q22^QBP\_Q21|TEST-CR-11-70|P|2.5  QPD|Q22^Find Candidates^HL7|Q1170|@PID.3.1^RJ-439~@PID.3.4.1^TEST|||||^^^RANDOM  RCP|I|10^RD | * Receiver rejects the message with AE * Receiver indicates query error with QAK of AE * No PID segments are returned * Receiver indicates QPD^1^8 in the ERR segment |

## TEST: OHIE-CR-12 – Patent Demographics Query – Query by name

*This test ensures that the recipient of the query can perform an exact match on a patient’s name as provided in an admit message. The test will additionally test partial matching using phonetics and patterns. The recipient must pass one of the phonetic or pattern matching cases.*

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| --- | --- | --- |
| Pre-Conditions | | |
| # | Inputs/Test Description | Expected Outcomes |
| 5 | Setup the receiver so that OID 2.16.840.1.113883.3.72.5.9.1 has assigning authority of TEST | |
| 7 | Setup the receiver so that OID 2.16.840.1.113883.3.72.5.9.9 has assigning authority of NID | |
| 10 | Ensure that the following patient is registered in the receiver (can be done with the ADT message provided). Name: Jennifer Jones, id: RJ-439^^^TEST, gender: F, dob: 1984-01-25  MSH|^~\&|TEST\_HARNESS^^|TEST^^|CR1^^|MOH\_CAAT^^|20141104174451||ADT^A01^ADT\_A01|TEST-CR-12-10|P|2.3.1  EVN||20101020  PID|||RJ-439^^^TEST||JONES^JENNIFER^^^^^L|SMITH^^^^^^L|19840125|F|||123 Main Street West ^^NEWARK^NJ^30293||^PRN^PH^^^409^30495||||||  PV1||I | |
| Test Steps | | |
| 20 | Test harness sends a PDQ message containing a name which is known to the receiver:  MSH|^~\&|TEST\_HARNESS|TEST|CR1|MOH\_CAAT|20090226131520-0600||QBP^Q22^QBP\_Q21|TEST-CR-12-20|P|2.5  QPD|Q22^Find Candidates^HL7|Q1220|@PID.5.1^JONES~@PID.5.2^JENNIFER  RCP|I|10^RD | * Receiver Accepts Message with an AA * QAK segment contains OK * Response contains a PID segment containing:   + PID-3=439^^^TEST   + PID-5=JONES^JENNIFER   + PID-6=19840125 |
| 30 | Test harness sends a PDQ message containing a patient name which is unknown to the receiver:  MSH|^~\&|TEST\_HARNESS|TEST|CR1|MOH\_CAAT|20090226131520-0600||QBP^Q22^QBP\_Q21|TEST-CR-12-30|P|2.5  QPD|Q22^Find Candidates^HL7|Q1230|@PID.5.1^HOOD~@PID.5.2^ROBIN  RCP|I|10^RD | * Receiver accepts the message with AA * QAK segment contains NF * Response contains no PID segments |
| 40 | Test harness sends a PDQ message containing a name which is known to the receiver, and indicates a domains to be returned of TEST in QPD-8.  MSH|^~\&|TEST\_HARNESS|TEST|CR1|MOH\_CAAT|20090226131520-0600||QBP^Q22^QBP\_Q21|TEST-CR-12-40|P|2.5  QPD|Q22^Find Candidates^HL7|Q1240|@PID.5.1^JONES~@PID.5.2^JENNIFER|||||^^^TEST  RCP|I|10^RD | * Receiver Accepts Message with an AA * QAK segment contains OK * Response contains exactly one PID segment containing:   + PID-3 (Exactly one)=439^^^TEST   + PID-5=JONES^JENNIFER   + PID-6=19840125 |
| 45 | Test harness sends a PDQ message containing a patient name which is known to the receiver and indicates a domains to be returned which is invalid in QPD-8:  MSH|^~\&|TEST\_HARNESS|TEST|CR1|MOH\_CAAT|20090226131520-0600||QBP^Q22^QBP\_Q21|TEST-CR-12-45|P|2.5  QPD|Q22^Find Candidates^HL7|Q1245|@PID.5.1^JONES~@PID.5.2^JENNIFER|||||^^^RANDOM  RCP|I|10^RD | * Receiver rejects the message with AE * Receiver indicates query error with QAK of AE * No PID segments are returned * Receiver indicates QPD^1^8 in the ERR segment |
| 50 (o) | Test harness sends a PDQ message containing a wildcard match which is known to the receiver:  MSH|^~\&|TEST\_HARNESS|TEST|CR1|MOH\_CAAT|20090226131520-0600||QBP^Q22^QBP\_Q21|TEST-CR-12-50|P|2.5  QPD|Q22^Find Candidates^HL7|Q1250|@PID.5.1^JO\*~@PID.5.2^JEN\*|||||  RCP|I|10^RD | * Receiver accepts the message with an AA * Receiver indicates query success of OK in QAK * Receiver returns at least one PID segment containing the match for Jennifer Jones * Receiver sends a QRI segment with a QRI-3 indicating pattern match and strength of the match |
| 60 (o) | Test harness sends a PDQ message containing a phonetically equivalent name of a known patient to the receiver:  Test harness sends a PDQ message containing a wildcard match which is known to the receiver:  MSH|^~\&|TEST\_HARNESS|TEST|CR1|MOH\_CAAT|20090226131520-0600||QBP^Q22^QBP\_Q21|TEST-CR-12-60|P|2.5  QPD|Q22^Find Candidates^HL7|Q1260|@PID.5.1^JONEZ~@PID.5.2^JENIPHER|||||  RCP|I|10^RD | * Receiver accepts the message with an AA * Receiver indicates query success of OK in QAK * Receiver returns at least one PID segment containing the match for Jennifer Jones * Receiver sends a QRI segment with a QRI-3 indicating phonetic match and strength of the match |
| 70 (o) | Test harness sends a PDQ message containing a name variant match which is known to the receiver:  MSH|^~\&|TEST\_HARNESS|TEST|CR1|MOH\_CAAT|20090226131520-0600||QBP^Q22^QBP\_Q21|TEST-CR-12-70|P|2.5  QPD|Q22^Find Candidates^HL7|Q1270|@PID.5.1^JONES~@PID.5.2^JENN|||||  RCP|I|10^RD | * Receiver accepts the message with an AA * Receiver indicates query success of OK in QAK * Receiver returns at least one PID segment containing the match for Jennifer Jones * Receiver sends a QRI segment with a QRI-3 indicating variant match and strength of the match |

## TEST: OHIE-CR-13 – Patient Demographics Query – Query by mother’s identifier

*This test ensures that the recipient of the query can perform a query by the patient’s mother’s identifier.*

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| Pre-Conditions | | |
| # | Inputs/Test Description | Expected Outcomes |
| 5 | Setup the receiver such that OID 2.16.840.1.113883.3.72.5.9.1 has assigning authority of TEST which can be assigned from TEST\_HARNESS | |
| 10 | Ensure that the following patient is registered in the receiver (can be done with the ADT message provided). Name: Jennifer Jones, id: RJ-439^^^TEST, gender: F, dob: 1984-01-25  MSH|^~\&|TEST\_HARNESS^^|TEST^^|CR1^^|MOH\_CAAT^^|20141104174451||ADT^A01^ADT\_A01|TEST-CR-13-10|P|2.3.1  EVN||20101020  PID|||RJ-439^^^TEST||JONES^JENNIFER^^^^^L|SMITH^^^^^^L|19840125|F|||123 Main Street West ^^NEWARK^NJ^30293||^PRN^PH^^^409^30495||||||  PV1||I | |
| 15 | Ensure that the following patient is registered in the receiver (can be done with the ADT message provided). RJ-440^^^TEST, gender: M, DOB: 2014-10-01  MSH|^~\&|TEST\_HARNESS^^|TEST^^|CR1^^|MOH\_CAAT^^|20141104174451||ADT^A01^ADT\_A01|TEST-CR-13-15|P|2.3.1  EVN||20101020  PID|||RJ-440^^^TEST||||20141001|M|||||||||||||RJ-439^^^TEST  PV1||I | |
| Test Steps | | |
| 20 | Test harness sends a query with mother’s identifier components specified.  MSH|^~\&|TEST\_HARNESS|TEST|CR1|MOH\_CAAT|20090226131520-0600||QBP^Q22^QBP\_Q21|TEST-CR-13-20|P|2.5  QPD|Q22^Find Candidates^HL7|Q1320|@PID.21.1^RJ-439~@PID.21.4.1^TEST  RCP|I|10^RD | * Receiver responds with an AA * Receiver sends exactly one PID segment with identifier RJ-440 in domain TEST in PID-3 |
| 30 | Test harness verifies the infant record was created in the receiver.  MSH|^~\&|TEST\_HARNESS|TEST|CR1|MOH\_CAAT|20090226131520-0600||QBP^Q22^QBP\_Q21|TEST-CR-13-30|P|2.5  QPD|Q22^Find Candidates^HL7|Q0740|@PID.6.1^JONES~@PID.6.2^JENNIFER  RCP|I|10^RD | * Receiver responds with an AA * Receiver sends exactly one PID segment with identifier RJ-440 in domain TEST in PID-3 |

## TEST: OHIE-CR-14 – Patient Demographics Query – Query by date of birth

*This test ensures that the recipient supports the semantics of date matching and approximate matches by date range. This test case will query for an exact date of birth as provided in an admit message, and a fuzzy date of birth (year, and year/month).*

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| Pre-Conditions | | |
| # | Inputs/Test Description | Expected Outcomes |
| 5 | Setup the receiver such that OID 2.16.840.1.113883.3.72.5.9.1 has assigning authority of TEST which can be assigned from TEST\_HARNESS | |
| 10 | Ensure that the following patient is registered in the receiver (can be done with the ADT message provided). Name: Jennifer Jones, id: RJ-439^^^TEST, gender: F, dob: 1984-01-25  MSH|^~\&|TEST\_HARNESS^^|TEST^^|CR1^^|MOH\_CAAT^^|20141104174451||ADT^A01^ADT\_A01|TEST-CR-14-10|P|2.3.1  EVN||20101020  PID|||RJ-439^^^TEST||JONES^JENNIFER^^^^^L|SMITH^^^^^^L|19840125|F|||123 Main Street West ^^NEWARK^NJ^30293||^PRN^PH^^^409^30495||||||  PV1||I | |
| Test Steps | | |
| 20 | Test harness sends a query with date of birth precise to the year in which a patient’s date of birth falls.  MSH|^~\&|TEST\_HARNESS|TEST|CR1|MOH\_CAAT|20090226131520-0600||QBP^Q22^QBP\_Q21|TEST-CR-14-20|P|2.5  QPD|Q22^Find Candidates^HL7|Q1420|@PID.7^1984  RCP|I|10^RD | * Receiver responds with an AA * Receiver indicates records found with QAK of OK * Receiver sends exactly one PID segment with identifier RJ-439 in domain TEST in PID-3 |
| 30 | Test harness sends a query with date of birth precise to the month in which the patient’s date of birth falls.  MSH|^~\&|TEST\_HARNESS|TEST|CR1|MOH\_CAAT|20090226131520-0600||QBP^Q22^QBP\_Q21|TEST-CR-14-30|P|2.5  QPD|Q22^Find Candidates^HL7|Q1430|@PID.7^198401  RCP|I|10^RD | * Receiver responds with an AA * Receiver indicates records found with QAK of OK * Receiver sends exactly one PID segment with identifier RJ-439 in domain TEST in PID-3 |
| 40 | Test harness sends a query with date of birth precise to the day in which a patient’s date of birth falls.  MSH|^~\&|TEST\_HARNESS|TEST|CR1|MOH\_CAAT|20090226131520-0600||QBP^Q22^QBP\_Q21|TEST-CR-14-40|P|2.5  QPD|Q22^Find Candidates^HL7|Q1440|@PID.7^19840125  RCP|I|10^RD | * Receiver responds with an AA * Receiver indicates records found with QAK of OK * Receiver sends exactly one PID segment with identifier RJ-439 in domain TEST in PID-3 |
| 50 | Test harness sends a query with date of birth precise to the year in which the patient’s date of birth does not fall.  MSH|^~\&|TEST\_HARNESS|TEST|CR1|MOH\_CAAT|20090226131520-0600||QBP^Q22^QBP\_Q21|TEST-CR-14-50|P|2.5  QPD|Q22^Find Candidates^HL7|Q1450|@PID.7^1900  RCP|I|10^RD | * Receiver responds with an AA * Receiver indicates no records found with QAK of NF * Receiver sends no PID segments |

## TEST: OHIE-CR-15 – Patient Demographics Query – Query by multiple demographics fields

*This test ensures that the recipient of the query can perform a query on a series of demographics fields. The test harness will perform a query on a series of combinations of parameters such as name + gender, name + date of birth, gender + date of birth.*

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| --- | --- | --- |
| Pre-Conditions | | |
| # | Inputs/Test Description | Expected Outcomes |
| 5 | Setup the receiver such that OID 2.16.840.1.113883.3.72.5.9.1 has assigning authority of TEST which can be assigned from TEST\_HARNESS | |
| 10 | Ensure that the following patient is registered in the receiver (can be done with the ADT message provided). Name: Jennifer Jones, id: RJ-439^^^TEST, gender: F, dob: 1984-01-25  MSH|^~\&|TEST\_HARNESS^^|TEST^^|CR1^^|MOH\_CAAT^^|20141104174451||ADT^A01^ADT\_A01|TEST-CR-15-10|P|2.3.1  EVN||20101020  PID|||RJ-439^^^TEST||JONES^JENNIFER^^^^^L|SMITH^^^^^^L|19840125|F|||123 Main Street West ^^NEWARK^NJ^30293||^PRN^PH^^^409^30495||||||  PV1||I | |
| Test Steps | | |
| 20 | Test harness sends a query with patient’s name and gender which results in a match.  MSH|^~\&|TEST\_HARNESS|TEST|CR1|MOH\_CAAT|20090226131520-0600||QBP^Q22^QBP\_Q21|TEST-CR-15-20|P|2.5  QPD|Q22^Find Candidates^HL7|Q1520|@PID.8^F~@PID.5.1^JONES  RCP|I|10^RD | * Receiver responds with an AA * Receiver indicates records found with QAK of OK * Receiver sends exactly one PID segment with identifier RJ-439 in domain TEST in PID-3 |
| 30 | Test harness sends a query with fuzzy date of birth and patient’s name which results in a match.  MSH|^~\&|TEST\_HARNESS|TEST|CR1|MOH\_CAAT|20090226131520-0600||QBP^Q22^QBP\_Q21|TEST-CR-15-30|P|2.5  QPD|Q22^Find Candidates^HL7|Q1530|@PID.7^1984~@PID.5.1^JONES~@PID.5.2^JENNIFER  RCP|I|10^RD | * Receiver responds with an AA * Receiver indicates records found with QAK of OK * Receiver sends exactly one PID segment with identifier RJ-439 in domain TEST in PID-3 |
| 40 | Test harness sends a query with date of birth precise to the day in which a gender which results in a match.  MSH|^~\&|TEST\_HARNESS|TEST|CR1|MOH\_CAAT|20090226131520-0600||QBP^Q22^QBP\_Q21|TEST-CR-15-40|P|2.5  QPD|Q22^Find Candidates^HL7|Q1540|@PID.7^19840125~@PID.8^F  RCP|I|10^RD | * Receiver responds with an AA * Receiver indicates records found with QAK of OK * Receiver sends exactly one PID segment with identifier RJ-439 in domain TEST in PID-3 |
| 50 | Test harness sends a query with patient’s name and gender which results in no match.  MSH|^~\&|TEST\_HARNESS|TEST|CR1|MOH\_CAAT|20090226131520-0600||QBP^Q22^QBP\_Q21|TEST-CR-15-50|P|2.5  QPD|Q22^Find Candidates^HL7|Q1550|@PID.8^M~@PID.5.1^JONES~@PID.5.2^JENNIFER  RCP|I|10^RD | * Receiver responds with an AA * Receiver indicates no records found with QAK of NF * Receiver sends no PID segments |
| 60 | Test harness sends a query with fuzzy date of birth and patient’s name which results in no match.  MSH|^~\&|TEST\_HARNESS|TEST|CR1|MOH\_CAAT|20090226131520-0600||QBP^Q22^QBP\_Q21|TEST-CR-15-60|P|2.5  QPD|Q22^Find Candidates^HL7|Q1560|@PID.7^1984~@PID.5.1^JONES~@PID.5.2^JASON  RCP|I|10^RD | * Receiver responds with an AA * Receiver indicates no records found with QAK of NF * Receiver sends no PID segments |

## TEST: OHIE-CR-16 – Valid Patient Identity Merge

*This test will ensure that the client registry can appropriately handle a merge condition whereby a local assigning authority notifies the client registry of a local merge (two local identifiers are in fact the same person).*

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| Pre-Conditions | | |
| # | Inputs/Test Description | Expected Outcomes |
| 5 | Setup the receiver such that OID 2.16.840.1.113883.3.72.5.9.1 has assigning authority of TEST which can be assigned from TEST\_HARNESS | |
| 10 | Ensure that the following patient is registered in the receiver (can be done with the ADT message provided). Name: Jennifer Jones, id: RJ-439^^^TEST, gender: F, dob: 1984-01-25  MSH|^~\&|TEST\_HARNESS^^|TEST^^|CR1^^|MOH\_CAAT^^|20141104174451||ADT^A01^ADT\_A01|TEST-CR-16-10|P|2.3.1  EVN||20101020  PID|||RJ-439^^^TEST||JONES^JENNIFER^^^^^L|SMITH^^^^^^L|19840125|F|||123 Main Street West ^^NEWARK^NJ^30293||^PRN^PH^^^409^30495||||||  PV1||I | |
| 15 | Ensure that the following patient is registered in the receiver (can be done with the ADT message provided). Name: Jenn Jones, id: RJ-999^^^TEST, gender: F, dob: 1984-01  MSH|^~\&|TEST\_HARNESS^^|TEST^^|CR1^^|MOH\_CAAT^^|20141104174451||ADT^A01^ADT\_A01|TEST-CR-16-15|P|2.3.1  EVN||20101020  PID|||RJ-999^^^TEST||JONES^JENN^^^^^L||198401|F|||||||||||  PV1||I | |
| Test Steps | | |
| 20 | Test harness sends a query to verify there are two Jennifer Jones with identifiers assigned in TEST domain.  MSH|^~\&|TEST\_HARNESS|TEST|CR1|MOH\_CAAT|20090226131520-0600||QBP^Q22^QBP\_Q21|TEST-CR-16-20|P|2.5  QPD|Q22^Find Candidates^HL7|Q1620|@PID.5.1^JONES|||||^^^TEST  RCP|I|10^RD | * Receiver responds with an AA * Receiver indicates records found with QAK of OK * Receiver sends two PID segments one having identifier RJ-439 in domain TEST in PID-3 and another having RJ-999 in domain TEST in PID-3 |
| 30 | Test harness sends a merge message and instructs the recipient to merge identifier RJ-999 into record RJ-439.  MSH|^~\&|TEST\_HARNESS^^|TEST^^|CR1^^|MOH\_CAAT^^|20141104174451||ADT^A40^ADT\_A40|TEST-CR-16-30|P|2.3.1  EVN||20101020  PID|||RJ-439^^^TEST||JONES^JENN^^^^^L||198401|F|||||||||||  MRG|RJ-999^^^TEST | * Receiver responds with an AA |
| 40 | Test harness verifies the identifier was merged using the following PIX query.  MSH|^~\&|TEST\_HARNESS|TEST|CR1|MOH\_CAAT|20090223144546||QBP^Q23^QBP\_Q21|TEST-CR-16-40|P|2.5  QPD|IHE PIX Query|Q1640|RJ-439^^^TEST^PI|^^^TEST RCP|I | * Receiver responds with an AA * Receiver indicates data found by sending QAK of OK * Receiver responds with exactly one PID segment having :   + One PID-3 containing the RJ-439 identifier in domain TEST   + One PID-3 containing the RJ-999 identifier in domain TEST |
| 50 | Test harness verifies old identifier is de-referenced from patient record  MSH|^~\&|TEST\_HARNESS|TEST|CR1|MOH\_CAAT|20090223144546||QBP^Q23^QBP\_Q21|TEST-CR-16-50|P|2.5  QPD|IHE PIX Query|Q1650|RJ-999^^^TEST^PI|^^^TEST RCP|I | * Receiver accepts the message with AE * Receiver conveys no data found with AE in QAK * Receiver indicates error by sending an ERR segment with QPD^1^3^1^1 |
| 60 | Test harness may send a query to verify there are still two Jennifer Jones in the target (i.e. the old record still exists, but the identifiers were merely merged).  MSH|^~\&|TEST\_HARNESS|TEST|CR1|MOH\_CAAT|20090226131520-0600||QBP^Q22^QBP\_Q21|TEST-CR-16-60|P|2.5  QPD|Q22^Find Candidates^HL7|Q1660|@PID.5.1^JONES  RCP|I|10^RD | * Receiver responds with an AA * Receiver indicates records found with QAK of OK * Receiver sends two PID segments one having identifier RJ-439 and RJ-999 in domain TEST in PID-3 and another having no identifiers in domain TEST in PID-3 |

## TEST: OHIE-CR-17 – Patient Identity Merge No Assigning Authority

*This test will ensure that the client registry appropriately handles a merge condition whereby the local authority has not assigning authority to perform or merge the identifiers provided. This test will also ensure that merges across assigning authorities cannot be performed.*

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| Pre-Conditions | | |
| # | Inputs/Test Description | Expected Outcomes |
| 5 | Setup the receiver so that OID 2.16.840.1.113883.3.72.5.9.2 has assigning authority of TEST\_A which can be assigned from TEST\_HARNESS\_A | |
| 10 | Setup the receiver so that OID 2.16.840.1.113883.3.72.5.9.3 has assigning authority of TEST\_B which can be assigned from TEST\_HARNESS\_B | |
| 15 | Ensure that the following patient is registered in the receiver (can be done with the ADT message provided). Name: Sam Smith, id: RJ-203^^^TEST\_A, gender: F, dob: 1989-02-25  MSH|^~\&|TEST\_HARNESS\_A^^|TEST^^|CR1^^|MOH\_CAAT^^|20141104174451||ADT^A01^ADT\_A01|TEST-CR-17-15|P|2.3.1  EVN||20101020  PID|||RJ-203^^^TEST\_A||SMITH^SAM^^^^^L||19890225|F|||||||||||  PV1||I | |
| 20 | Ensure that the following patient is registered in the receiver (can be done with the ADT message provided). Name: Samantha Smith, id: RJ-292^^^TEST\_A, gender: F, dob: 1989-02  MSH|^~\&|TEST\_HARNESS\_A^^|TEST^^|CR1^^|MOH\_CAAT^^|20141104174451||ADT^A01^ADT\_A01|TEST-CR-17-20|P|2.3.1  EVN||20101020  PID|||RJ-292^^^TEST\_A||SMITH^SAMANTHA^^^^^L||198902|F|||||||||||  PV1||I | |
| 25 | Ensure that the following patient is registered in the receiver (can be done with the ADT message provided). Name: Samantha Smith, id: SJ-204^^^TEST\_B, gender: F, dob: 1989-02  MSH|^~\&|TEST\_HARNESS\_B^^|TEST^^|CR1^^|MOH\_CAAT^^|20141104174451||ADT^A01^ADT\_A01|TEST-CR-17-25|P|2.3.1  EVN||20101020  PID|||SJ-204^^^TEST\_B||SMITH^SAMANTHA^^^^^L||198902|F|||||||||||  PV1||I | |
| Test Steps | | |
| 30 | Test harness (as TEST\_HARNESS\_B) sends ADT^A40 message attempting to merge identities from TEST\_A domain.  MSH|^~\&|TEST\_HARNESS\_B^^|TEST^^|CR1^^|MOH\_CAAT^^|20141104174451||ADT^A40^ADT\_A40|TEST-CR-17-30|P|2.3.1  EVN||20101020  PID|||RJ-203^^^TEST\_A||SMITH^SAM^^^^^L||198902|F|||||||||||  MRG|RJ-292^^^TEST\_A | * Receiver rejects message with an AE * MSH-5 and MSH-6 matches “TEST\_HARNESS\_B|TEST” * An ERR segment exists identifying the error |
| 40 | Test harness (as TEST\_HARNESS\_B) sends ADT^A40 message attempting to merge across domains by instructing the receiver to merge an identifier from TEST\_A into TEST\_B.  MSH|^~\&|TEST\_HARNESS\_B^^|TEST^^|CR1^^|MOH\_CAAT^^|20141104174451||ADT^A40^ADT\_A40|TEST-CR-17-40|P|2.3.1  EVN||20101020  PID|||SJ-204^^^TEST\_B||SMITH^SAM^^^^^L||198902|F|||||||||||  MRG|RJ-292^^^TEST\_A | * Receiver rejects message with an AE or AR * MSH-5 and MSH-6 matches “TEST\_HARNESS\_B|TEST” * An ERR segment exists identifying the error |
| 50 | Test harness (as TEST\_HARNESS\_B) sends ADT^A40 message attempting to merge a patient identifier which does not exist.  MSH|^~\&|TEST\_HARNESS\_B^^|TEST^^|CR1^^|MOH\_CAAT^^|20141104174451||ADT^A40^ADT\_A40|TEST-CR-17-50|P|2.3.1  EVN||20101020  PID|||SJ-204^^^TEST\_B||SMITH^SAM^^^^^L||198902|F|||||||||||  MRG|RJ-292^^^TEST\_B | * Receiver rejects message with an AE or AR * MSH-5 and MSH-6 matches “TEST\_HARNESS\_B|TEST” * An ERR segment exists identifying the error with HL7 code of 204 (key does not exist) |

## TEST: OHIE-CR-18 – Patient Identity Feed – Auto-merge between patients with matching NID (as non medical ID)

*This test ensures that the receiver is able to merge patient data from an assigning authority (TEST\_A) which has an national identifier (not assigned by central authority as a PID). The demographics data does not match, this is to test that matching is done on explicit identifiers.*

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| Pre-Conditions | | |
| # | Inputs/Test Description | Expected Outcomes |
| 5 | Setup the receiver such that OID 2.16.840.1.113883.3.72.5.9.2 has assigning authority of TEST\_A which can be assigned from TEST\_HARNESS\_A | |
| 10 | Setup the receiver such that OID 2.16.840.1.113883.3.72.5.9.B has assigning authority of TEST\_A which can be assigned from TEST\_HARNESS\_B | |
| 15 | Setup the receiver such that OID 2.16.840.1.113883.3.72.5.9.9 has assigning authority of NID | |
| 17 | Perform necessary steps to ensure that the receiver is configured to merge patients based on the SSN field (PID-19) | |
| Test Steps | | |
| 20 | Test harness (as TEST\_HARNESS\_A) sends a registration message for patient Yannick Jones having a date of birth to the month, with NID of NID-000345439 and local identifier of TEST\_A of RJ-460.  MSH|^~\&|TEST\_HARNESS\_A^^|TEST^^|CR1^^|MOH\_CAAT^^|20141104174451||ADT^A01^ADT\_A01|TEST-CR-18-20|P|2.3.1  EVN||20141001  PID|||RJ-460^^^TEST\_A||JONES^YANNICK^^^^^L||199004|M|||||||||||NID-000345439^^^NID  PV1||I | * Receiver Accepts Message with an AA * MSH-5 and MSH-6 matches “TEST\_HARNESS\_A|TEST” |
| 30 | Test harness (as TEST\_HARNESS\_B) sends a registration message for patient Yan Jones having a more specific date of birth, with NID of NID-000345439 and local identifier of TEST\_B of RB-469.  MSH|^~\&|TEST\_HARNESS\_B^^|TEST^^|CR1^^|MOH\_CAAT^^|20141104174451||ADT^A01^ADT\_A01|TEST-CR-18-30|P|2.3.1  EVN||20141001  PID|||RB-469^^^TEST\_B||JONES^YAN^^^^^L||19900404|M|||||||||||NID-000345439^^^NID  PV1||I | * Receiver Accepts Message with an AA * MSH-5 and MSH-6 matches “TEST\_HARNESS\_B|TEST” |
| 40 | Test harness verifies the record from TEST\_B is linked with TEST\_A via the NID  MSH|^~\&|TEST\_HARNESS\_A|TEST|CR1|MOH\_CAAT|20090223144546||QBP^Q23^QBP\_Q21|TEST-CR-06-40|P|2.5  QPD|IHE PIX Query|RB-469^^^NID^PI RCP|I | * Receiver responds with an AA * Receiver sends exactly one PID segment with identifier RJ-449 in domain TEST\_A in one of the PID-3 repetitions |

## TEST-OHIE-CR-19 – Update Valid Patient

*In this test, the test harness will issue a series of updates to a patients representing events that occur during the lifecycle of a patient record including updating the legal name of the patient, death information, etc.*

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| Pre-Conditions | | |
| # | Inputs/Test Description | Expected Outcomes |
| 5 | Setup the receiver so that OID 2.16.840.1.113883.3.72.5.9.1 has assigning authority of TEST which can be assigned from TEST\_HARNESS | |
| 10 | Ensure that the following patient is registered in the receiver (can be done with the ADT message provided). Name: Joan Smith, id: RJ-903^^^TEST, gender: F, dob: 1989-09-20  MSH|^~\&|TEST\_HARNESS^^|TEST^^|CR1^^|MOH\_CAAT^^|20141104174451||ADT^A01^ADT\_A01|TEST-CR-19-10|P|2.3.1  EVN||20101020  PID|||RJ-903^^^TEST||SMITH^JOAN^^^^^L||19890920|F|||||||||||  PV1||I | |
| 20 | Ensure that the following patient is registered in the receiver (can be done with the ADT message provided). Name: Ashley Foster, id: RJ-992^^^TEST, gender: M, dob: 1950  MSH|^~\&|TEST\_HARNESS^^|TEST^^|CR1^^|MOH\_CAAT^^|20141104174451||ADT^A01^ADT\_A01|TEST-CR-19-20|P|2.3.1  EVN||20101020  PID|||RJ-992^^^TEST||FOSTER^ASHLEY^^^^^L||1950|M|||||||||||  PV1||I | |
| 25 | Ensure that the following patient is registered in the receiver (can be done with the ADT message provided). Name: Unnamed, id: RJ-904^^^TEST, gender: F, dob: 2014-10-10  MSH|^~\&|TEST\_HARNESS^^|TEST^^|CR1^^|MOH\_CAAT^^|20141104174451||ADT^A01^ADT\_A01|TEST-CR-19-25|P|2.3.1  EVN||20101020  PID|||RJ-904^^^TEST||||20141010|F|||||||||||  PV1||I | |
| Test Steps | | |
| 30 | Test harness sends ADT^A08 message attempting to update record RJ-903’s address and telephone number.  MSH|^~\&|TEST\_HARNESS^^|TEST^^|CR1^^|MOH\_CAAT^^|20101101160913||ADT^A08^ADT\_A01|TEST-CR-19-30|P|2.3.1  EVN||20101020  PID|||RJ-903^^^&2.16.840.1.113883.3.72.5.9.1&ISO||SMITH^JOANIE^^^^^L||19890920|F|||2452 Emma Street^^COTTON CENTER^TX^79021|| ^PRN^PH^^^806^8791233||||||  PV1||R | * Receiver accepts message with an AA or CA * MSH-5 and MSH-6 matches “TEST\_HARNESS |TEST” * Response message is ACK^A08 |
| 35 | Test harness verifies the record was updated.  MSH|^~\&|TEST\_HARNESS|TEST|CR1|MOH\_CAAT|20090223144546||QBP^Q23^QBP\_Q21|TEST-CR-19-35|P|2.5  QPD|IHE PIX Query|RJ-903^^^TEST^PI RCP|I | * Receiver responds with an AA * Receiver sends exactly one PID segment having:   + Identifier RJ-903 in domain TEST in one of the PID-3 repetitions   + 8791233 in telephone number slot   + Address is updated |
| 40 | Test harness sends ADT^A08 message attempting to update record RJ-992 to record a date of death.  MSH|^~\&|TEST\_HARNESS^^|TEST^^|CR1^^|MOH\_CAAT^^|20101101160913||ADT^A08^ADT\_A01|TEST-CR-19-40|P|2.3.1  EVN||20101020  PID|||RJ-992^^^TEST||FOSTER^ASHLEY^^^^^L||1950|M|||||||||||||||||||||20140902|Y  PV1||R | * Receiver accepts message with an AA or CA * MSH-5 and MSH-6 matches “TEST\_HARNESS |TEST” * Response message is ACK^A08 |
| 45 | Test harness verifies the record was updated.  MSH|^~\&|TEST\_HARNESS|TEST|CR1|MOH\_CAAT|20090223144546||QBP^Q23^QBP\_Q21|TEST-CR-19-45|P|2.5  QPD|IHE PIX Query|RJ-992^^^TEST^PI RCP|I | * Receiver responds with an AA * Receiver sends exactly one PID segment having:   + Identifier RJ-992 in domain TEST in one of the PID-3 repetitions   + 20140902 in ate of death field |
| 50 | Test harness sends ADT^A08 message attempting to add a name to the infant record.  MSH|^~\&|TEST\_HARNESS^^|TEST^^|CR1^^|MOH\_CAAT^^|20101101160913||ADT^A08^ADT\_A01|TEST-CR-19-50|P|2.3.1  EVN||20101020  PID|||RJ-904^^^TEST||JONES^SADIE^^^^^L||20141010|F|||||||||||||||||||||  PV1||R | * Receiver accepts message with an AA or CA * MSH-5 and MSH-6 matches “TEST\_HARNESS |TEST” * Response message is ACK^A08 |
| 55 | Test harness verifies record was updated  MSH|^~\&|TEST\_HARNESS|TEST|CR1|MOH\_CAAT|20090223144546||QBP^Q23^QBP\_Q21|TEST-CR-19-55|P|2.5  QPD|IHE PIX Query|RJ-992^^^TEST^PI RCP|I | * Receivers responds with AA * Receiver sends exactly one PID segment having:   + Identifier RJ-992 in domain TEST in one of the PID-3 repetitions   + Sadie Jones is registered in the names |

## TEST: OHIE-CR-20 – Invalid Updates

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| Pre-Conditions | | |
| # | Inputs/Test Description | Expected Outcomes |
| 5 | Setup the receiver so that OID 2.16.840.1.113883.3.72.5.9.2 has assigning authority of TEST\_A which can be assigned from TEST\_HARNESS\_A | |
| 10 | Remove all references to OID 2.16.840.1.113883.3.72.5.9.4 with assigning authority TEST\_BLOCK | |
| 12 | Setup the receiver so that OID 2.16.840.1.113883.3.72.5.9.3 has assigning authority of TEST\_B which can be assigned from TEST\_HARNESS\_B | |
| 15 | Ensure that the following patient is registered in the receiver (can be done with the ADT message provided). Name: Unnamed, id: RJ-888^^^TEST\_A, gender: M, dob: 2014-11-10  MSH|^~\&|TEST\_HARNESS\_A^^|TEST^^|CR1^^|MOH\_CAAT^^|20141104174451||ADT^A01^ADT\_A01|TEST-CR-19-25|P|2.3.1  EVN||20101020  PID|||RJ-888^^^TEST\_A||||20141010|F|||||||||||  PV1||I | |
| Test Steps | | |
| 20 | Test harness sends ADT^A08 message for a patient which does not exist in a domain that is valid.  MSH|^~\&|TEST\_HARNESS\_A^^|TEST^^|CR1^^|MOH\_CAAT^^|20101101160913||ADT^A08^ADT\_A01|TEST-CR-20-20|P|2.3.1  EVN||20101020  PID|||RJ-XXX-XXXX-XXXX^^^TEST\_A||DAVIS^JEFFERSON^^^^^L||1934|M|||  PV1||R | * Receiver rejects the message with a AR or AE * MSH-5 and MSH-6 matches “TEST\_HARNESS\_A|TEST” * Response message is ACK^A08 * Response is version 2.3.1 |
| 30 | Test harness sends ADT^A08 message attempting to update record in an invalid patient identity domain.  MSH|^~\&|TEST\_HARNESS\_A^^|TEST^^|CR1^^|MOH\_CAAT^^|20101101160913||ADT^A08^ADT\_A01|TEST-CR-20-30|P|2.3.1  EVN||20101020  PID|||RJ-992^^^TEST\_BLOCK||FOSTER^ASHLEY^^^^^L||1950|M|||||||||||||||||||||  PV1||R | * Receiver rejects the message with an AR or AE * MSH-5 and MSH-6 matches “TEST\_HARNESS\_A|TEST” * Response message is ACK^A08 * An ERR segment is returned |
| 40 | Test harness sends ADT^A08 message attempting to add a name for the infant record in a domain for which it has not issued a create message  MSH|^~\&|TEST\_HARNESS\_B^^|TEST^^|CR1^^|MOH\_CAAT^^|20101101160913||ADT^A08^ADT\_A01|TEST-CR-20-40|P|2.3.1  EVN||20101020  PID|||RJ-888^^^TEST\_A||JONES^BRODIE^^^^^L||20141110|F|||||||||||||||||||||  PV1||R | * Receiver rejects message with an AR or AE * MSH-5 and MSH-6 matches “TEST\_HARNESS\_B|TEST” * Response message is ACK^A08 * An ERR segment is returned |
| 50 | Test harness sends ADT^A08 message attempting to add a name for the infant record without specifying the identity domain.  MSH|^~\&|TEST\_HARNESS\_A^^|TEST^^|CR1^^|MOH\_CAAT^^|20101101160913||ADT^A08^ADT\_A01|TEST-CR-20-50|P|2.3.1  EVN||20101020  PID|||RJ-888|JONES^BRODIE^^^^^L||20141110|F|||||||||||||||||||||  PV1||R | * Receiver rejects the message with an AR or AE * MSH-5 and MSH-6 matches “TEST\_HARNESS\_A|TEST” * Response message is ACK^A08 * An ERR segment is returned |