XDisect use in a Healthcare B2B Portal Scenario

A patient visits a doctor at a facility, which has a corporate arrangement with this patient's HMO. The doctor needs to see the medical activity for this patient across the numerous clinics/facilities participating in the HMO. The claims administrator also needs to see this information.

In this sample XDisect is utilized to store the primary contact information for each patient visit/contact. The problem is that each clinic/service provider stores the data differently and even stores different amounts of data. XDisect makes it easy to accommodate storing this variability without requiring the changing of database schemas.

We will show the actual different XML structures submitted by the participating service providers.

Scenario :
Doctor/Health Care Administrator is looking for patient based on their social security number. We will first show the drill down walk through to a particular patient

Case 1:
User knows the exact location within the record where to find the social security no.

Shows the drill down walk through to a particular patient by searching for a social security number we will first show the first search which only gets the contacts where soc-sec-no was provided in a known location and explain how in normal database use this would have been easy the we will. We will show the ability to retrieve the different records for each of the contacts for the customer by utilizing the variable taxonomy query. Show the sub query allowing us to pull out the prescription only records for that I.D. Need to talk them through the related look up we use in greg's taxonomy browser which helps tie child parent records together on related fields and how relational merge include capability can bring together sub records on different Id fields. Since not all participating facilities will be utilized the we will need to be able to look up the same person by different field identifiers eg one calls it tax id and the other calls it soc-sec-no and another calls it id. We don't have that working in the demo. We may want to also run a query for anything that has visit*diagnosis which includes heart even
Though it is modeled differently.

Patient Record Samples

This section provides some samples of patient records for two patients Joe and Chetan maintained by different clinics/service providers

Patient General Information Record For Chetan Patel in Clinic 1

```
<patient>
    <id>clinic1-cpatel-001</id>
    <name>chetan patel</name>
    <address>1575, Tenaka Place, Sunnyvale, CA-94087 </address>
    <office_telephone_number>408 364 1741</office_telephone_number>
    <home_telephone_number>408 733 8463</home_telephone_number>
    <social_security_number></social_security_number>
    <healthcare>
      <provider_name>kaiser</provider_name>
      <type>Kaiser-planA</type>
      <id>cpatel_kplanA_002</id>
    </healthcare>
</patient>
```

Patient General Information Record for Chetan Patel in Clinic 2

```
<patient>
  <id>940-09-01</id>
  <personal>
    <name>
      <first>chetan</first>
      <last>patel</last>
    </name>
    <birth_date>1971-08-10</birth_date>
    <address>
      <street>1575, Tenaka Pl, #R3</street>
      <city>Sunnyvale</city>
      <state>California</state>
      <postal_code>94087</postal_code>
    </address>
    <phone>408 364 1741</phone>
    <resident>
      <social_security_number>777-99-5555</social_security_number>
      <issue_date>1996-08-10</issue_date>
     </resident>
  </personal>
  <healthcare>
      <name>kaiser</name>
      <id>98-5569-01</id>
      <type>Kaiser-planA</type>
      <coverage>medical & dental</coverage>
      <id>cpatel_kplanA_002</id>
  </healthcare>
</patient>
```

Patient Visit Records for Chetan Patel in Clinic 1

```
<visit>
    <patient_id>clinic1-cpatel-001</patient_id>
    <patient_name>chetan patel</patient_name>
    <doctor_id>greg-001-01-02</doctor_id>
    <doctor_name>greg</doctor_name>
    <date>2000-05-30</date>
    <symptoms>chest pain</symptoms>
    <diagnosis>heart burn</diagnosis>
    <prescription>tums</prescription>
    <comments>patient was advised to cut down on gassy foods</comments>
    <payment_type>cash</payment_type>
    <amount>10</amount>
    <currency>USD</currency>
</visit>

<visit>
    <patient_id>clinic1-cpatel-001</patient_id>
    <patient_name>chetan patel</patient_name>
    <doctor_id>greg-001-01-02</doctor_id>
    <doctor_name>greg</doctor_name>
    <date>2000-04-01</date>
    <symptoms>chest pain</symptoms>
    <diagnosis>heart burn</diagnosis>
    <payment_type>cash</payment_type>
    <amount>10</amount>
    <currency>USD</currency>
</visit>
```

Patient Visit Records For Chetan Patel in Clinic 2

```
<visit>
    <id>2000-05-30-005</id>
    <patient>
        <id>940-09-01</id>
        <name>chetan patel</name>
    </patient>
    <date>2000-05-30</date>
    <start_time>15:30</start_time>
    <end_time>16:10</end_time>
    <next_visit_reminder>2000-06-15</next_visit_reminder>
    <description>heart pain</description>
    <doctor>
        <name>jignesh patel </name>
        <id>187-98-5567</id>
        <diagnosis>heart burn</diagnosis>
```

```
        <comments>
            Patient needs to control their dietary habits. Until the problem is fixed,
            the patient has been recommended monthly visits for a while.
        </comments>
    </doctor>
    <prescription_id>cpatel-1002</prescription_id>
    <fees>
        <payment_type>credit</payment_type>
        <credit_card>
          <type>visa</type>
           <id>2974-5660-0179-8543</id>
           <expiration_date>2000-12-30</expiration_date>
        </credit_card>
        <amount>10</amount>
        <currency>USD</currency>
     </fees>
</visit>

<visit>
    <id>2000-05-30-005</id>
    <patient>
        <id>940-09-01</id>
        <name>chetan patel</name>
    </patient>
    <date>2000-05-15</date>
    <start_time>10:30</start_time>
    <end_time>11:20</end_time>
    <next_visit_reminder>2000-05-21</next_visit_reminder>
    <description>heart pain</description>
    <doctor>
        <name>jignesh patel</name>
        <id>187-98-5567</id>
        <diagnosis>heart burn</diagnosis>
        <comments>Patient needs to control their dietary habits.</comments>
    </doctor>
    <prescription_id> cpatel-1003</prescription_id>
    <fees>
        <payment_type>credit</payment_type>
        <credit_card>
          <type>visa</type>
           <id>2974-5660-0179-8543</id>
           <expiration_date>2000-12-30</expiration_date>
        </credit_card>
        <amount>15</amount>
        <currency>USD</currency>
    </fees>
```

</visit>

Sample Prescription Records for Chetan Patel

Shows prescription records of different shapes for the same patient in different clinics.

```
<prescription>
   <id>cpatel-1002</id>
   <doctor>
     <id>greg-001-01-02</id>
     <name>greg vonkuster</name>
     <licence>
        <id>98754</id>
        <state>CA</state>
        <expires>09/08/2000</expires>
      </licence>
   </doctor>
   <patient>
      <id>940-09-01</id>
      <name>chetan patel</name>
   </patient>
   <drug>antacid </drug>
   <dosage>
      <quantity>400</quantity>
      <unit>ml<unit>
      <duration>7 days</duration>
      <course>4 times every day</course>
   </dosage>
</prescription>

<prescription>
   <id>cpatel-1003</id>
   <doctor>
     <id>greg-001-01-02</id>
     <name>greg vonkuster</name>
   </doctor>
   <patient_id>940-09-01</patient_id>
   <patient_name>chetan patel</patient_name>
   <drug>beconase </drug>
   <dosage>
      <quantity>200 ml</quantity>
      <course>7 days, 4 times every day up the nostril</course>
   </dosage>
</prescription>
```

Scenario :

A person is preparing to visit skilled specialists in his area. Now normally the person wants a specialist within 5 miles that participates in his insurance group that has an open appointment in the next two weeks and who has the skills requested. XDisect makes it easy to find the right doctor. The person has to wait two weeks but if by chance the doctor has an appointment open up earlier then person wants to be paged. XDisect's event capability makes this relatively easy.

Sample record for Physician B

Note that this physician record is fairly simple with no complex structures. This could be easily represented in the database with a physician table and a skills table

```
<physician>
  <id>spatel-001</id>
  <name>sanjana patel</name>
  <phone>408 733 8463</phone>
  <licence_id>98576</licence_id>
  <licence_state>MI</licence_state>
  <licence_expires>2000-09-08</licence_expires>
  <skills>laser keratotonomy</skills>
  <skills>cataract</skills>
  <availability>Mon-Fri 9:00am – 4:00pm</availability>
</physician>
```

Sample record for Physician B

This is a more complex physician record. This physician has modeled name as a nested structure, He has categorized his skills into various categories and also modeled his availability/ hours as another nested structure. This may require a few more tables to represent and store in the database

```
<physician>
   <id>greg-001-01-02</id>
   <name>
      <first>greg</first>
      <last>vonkuster</last>
   </name>
   <licence>
      <id>98754</id>
      <state>CA</state>
      <expires>09/08/2000</expires>
   </licence>
   <phone>408 732 3937</phone>
   <skills>
```

```
    <ophthalmology>
      <surgery>
        <laser>
          <keratonomy>
              correction of  vision through laser
          </keratonomy>
        </laser>
      </surgery>
    </ophthalmology>
  </skills>
  <skills>
    <ophthalmology>
      <surgery>
        <cataract>
            removal of cataracts
        </cataract>
      </surgery>
    </ophthalmology>
  </skills>
  <availability>
    <days>Monday – Friday </days>
    <time>9:00am – 4:00pm</time>
  <availability>
</physician>
```

Show the drill down through physician to ophthalmology to laser Keratonomy. Also drill down from physician to skills to ophthalmology to laser keratonomy. We also show the flexible search, which allows the two different physician records to still find what they are looking for by skill.

Talk them through the conjunctive queries and how many of the clauses would have come directly from the users profile.

Talk them through the XDisect event mechanism that will make the notification of the available day possible.