RESOURCE AND PATIENT MANAGEMENT SYSTEM

IHS PCC Suite

(BJPC)

QMan User Manual
Volume III: Power User’s Guide

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Preface

The purpose of this manual is to provide information specific to the QMan by reviewing the Power User’s Guide.
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</tr>
</tbody>
</table>
1.0 Subqueries: Advanced Tools and Methods

1.1 Changing Contexts

To find clinical attributes, QMan must switch contexts, on the fly, in the middle of his search. The process of changing contexts to evaluate a subset of attributes is called SUBQUERY. All clinical attributes are evaluated with subqueries. Consider the following criteria:

<table>
<thead>
<tr>
<th>Demographic Attributes</th>
<th>Clinical Attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td>Weight</td>
</tr>
<tr>
<td>Age</td>
<td>DX</td>
</tr>
<tr>
<td>Tribe</td>
<td>RX</td>
</tr>
<tr>
<td>SSN</td>
<td>Lab Values</td>
</tr>
</tbody>
</table>

In this search, AGE, SEX, WEIGHT, and TRIBE are all attributes of PATIENT. However, DATE, and VALUE are attributes of WEIGHT. In order to carry out the full analysis, you temporarily switch contexts from PATIENT to WEIGHT. If all the WEIGHT criteria are met, then the subquery will evaluate as a “hit.” If all the PATIENT criteria are met, then the entire search will be considered a “hit.”

1.2 Analytic Methods

1.2.1 Subquery Conditions

QMan’s approach to subqueries is relatively straightforward. Whenever he encounters a clinical attribute, he switches contexts. For each patient, he locates all the entries of the clinical attribute and stores them in a temporary holding area. When all the entries for a patient have been collected, QMan examines them one-by-one and applies the set of subquery criteria in the order you specified. If, at any point, an entry fails to meet the criteria, it is tossed out of the holding area. If any entries remain after all values have been checked, the subquery evaluates as a “hit,” and QMan goes on to repeat this process for the next patient.

So far, you have learned about three classes of logical conditions which can be used in subqueries:

- **Boolean**: uses the following symbols for number: >, <, <=, =, ‘=’, etc.
- **Alphanumeric**: contains the following for text: starts/ends with, follows, etc.
- **Temporal**: uses the following for dates: before*, after*, during*, on, etc.
Those marked with a “*” apply to all clinical attributes. The conditions are defined in detail in later chapters.

In fact, there are many other conditions which you can use to build sophisticated subqueries:

**Ordinal**: last*, first*, highest, lowest

**Computed**: average, total count*, sum, change, span

**Quantitative**: at least*, at most*

**Relative**: relative age*, relative date*

**Global**: all*, any*, null*, exists, not null*, etc.

*Those marked with a “*” apply to all clinical attributes. The conditions are defined in detail in later chapters.

The ordinal, computed, and quantitative conditions differ from the rest because they depend on the other entries in the holding area to be evaluated. For example, when you evaluate a weight with a Boolean condition (e.g., WEIGHT>250 lbs.), result is completely independent of the other weights in the holding area. However, when you evaluate a weight with an ordinal condition (e.g., HIGHEST 3 WEIGHTS) the result absolutely depends on what other weights are in the holding area at that moment.

Suppose you must find all weights over 250 lbs. To find weights over 250 lbs, QMan can examine each weight individually and immediately sort out the ones that are over 250 lbs.

Now you want to find the highest three weights. This time, knowing about an individual value is not sufficient to make a decision. QMan must wait until he knows all the values. Only then can QMan find the highest three values and eliminate the others.

![Figure 1-1: Finding the 3 highest weights](image)
1.2.2 Effect of Criteria Order on Results

Whenever you use an ordinal, computed, or quantitative condition in a subquery (i.e., one that depends on the other entries in the holding area for evaluation), the order in which you enter the subquery conditions will affect the results! Until now, you have been able to enter attributes and conditions in any order without affecting the outcome. In subqueries, however, you must take great care. Seemingly insignificant variations in the order in which criteria are applied might, in fact, have a very significant effect on the results. Consider the following example for patient X.

<table>
<thead>
<tr>
<th>WEIGHT</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>60</td>
<td>1985</td>
</tr>
<tr>
<td>70</td>
<td>1986</td>
</tr>
<tr>
<td>80</td>
<td>1987</td>
</tr>
<tr>
<td>90</td>
<td>1988</td>
</tr>
<tr>
<td>100</td>
<td>1989</td>
</tr>
</tbody>
</table>

**Subquery #1**

1. LESS THAN 89 POUNDS
2. LAST 2

In applying the first criterion, we are left with the 60-, 70-, and 80-pound values. Applying the second criterion to these three weights, we are left with the 70- and 80-pound values (2 “hits”).

**Subquery #2**

1. LAST 2
2. LESS THAN 89 POUNDS

In this subquery, the order of the criteria is reversed. By applying the first criterion, we are left with two values, 90 and 100. However, neither of these values meets the second criterion, so there are no “hits.”

Here are a few other things you need to know about subqueries. Whenever you use a generic condition (NULL, ALL, etc.), the subquery will automatically terminate and no other conditions can be added. If you enter several conditions and then enter NULL, the effect will be to “invert” the subquery. Suppose you enter VALUE > 100, DATE AFTER 1988, NULL. QMan will locate all patients who did not have a value greater than 100 after 1989.
If you use a computed condition, such as AVERAGE, all of the individual values in the holding area will disappear, and they will be replaced by a single value that has a totally different meaning (e.g., units) than the values which preceded it. Once a value has been reduced to singularity, many of the usual conditions such as AFTER, HIGHEST, LAST, become meaningless and can no longer be accessed in this context. However, the Boolean operators usually remain in effect; for example, AVERAGE WEIGHT LESS THAN 200.

Only the values and the dates of the last clinical attribute entered will be displayed (see “Rule of Last” in Volume I). Moreover, no other elements or intermediate values from the subquery will be displayed.

We will build some subqueries using the special conditions you have just learned about in later chapters.

1.3 Subqueries with Multiple Context Switches

Until now, you have only been allowed to see two subquery attributes: VALUE and DATE. There are, in fact, many other subquery attributes which are useful for research, QA, and management. They fall into three categories:

- Visit-related
- Category-specific
- Multi-level

**Visit-Related Attributes**

Each entry placed in the holding area during a subquery is linked to a unique VISIT. The attributes of the VISIT become the attributes of the entry; however, yet another context shift is required to evaluate the visit attributes. For example, suppose you want to find all males with weights over 300 lbs. recorded at the Sells Clinic in 1988.

<table>
<thead>
<tr>
<th>Subject</th>
<th>Query</th>
<th>Subquery</th>
<th>Sub-Subquery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient =&gt;</td>
<td>Sex = Male</td>
<td>Value &gt; 300</td>
<td>Location = Sells</td>
</tr>
<tr>
<td>Weight =&gt;</td>
<td>Date &gt; 1/1/88</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In this example, 2 context switches are required: PATIENT to WEIGHT and WEIGHT to VISIT.

The following visit attributes are available for use in subqueries: after, before, between (dates), clinic, date visit entered into PCC, location of encounter, purpose of visit, provider, relative age, service category, visit type.
Visit attributes are treated just like VALUE and DATE in the subquery. They are accessed directly as is demonstrated in the following examples.

```
What is the subject of your search? LIVING PATIENTS // <Enter>

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]

Attribute of LIVING PATIENTS: SEX <Enter>

CHOOSE FROM:
M       MALE
F       FEMALE
Value: F <Enter> FEMALE

Computing Search Efficiency Rating..................

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]
SEX IS FEMALE [SER = 1.17]

Attribute of LIVING PATIENTS: SBP <Enter>

SUBQUERY: Analysis of multiple SYSTOLIC BPS

First condition/attribute of "SYSTOLIC BP": OVER 140 <Enter>

Next condition/attribute of "SYSTOLIC BP": AFTER <Enter>
Exact date: 1/1/89 <Enter> (JAN 01, 1989)

Subject of subquery: SYSTOLIC BP
GREATER THAN 140
AFTER JAN 1,1989

Next condition/attribute of "SYSTOLIC BP": CLINIC <Enter>
1   CLINIC
2   CLINICAL IMPRESSIONS
CHOOSE 1-2: 1 <Enter>

Enter CLINIC: DIABETIC <Enter> 06
Enter ANOTHER CLINIC: <Enter>

The following have been selected =>
DIABETIC

Subject of subquery: SYSTOLIC BP
GREATER THAN 140
AFTER JAN 1,1989
CLINIC (DIABETIC)
```
Next condition/attribute of "SYSTOLIC BP": <Enter>
Computing Search Efficiency Rating.................................

Subject of search: PATIENTS
ALIVE TODAY        [SER = .01]
SEX IS FEMALE      [SER = 1.17]

Subject of subquery: SYSTOLIC BP
GREATER THAN 140
AFTER JAN 1,1989
CLINIC (DIABETIC)

Attribute of LIVING PATIENTS:

Figure 1-2: Sample query with multiple context switches

1.4 Category-Specific Attributes

Clinical attributes fall into the following categories:

- Contract Health Services
- Dental Services
- Diagnostic Examinations
- Hospitalizations
- Immunizations
- Lab Tests
- Measurements
- Medications
- Patient Education Topics
- Diagnoses or Purposes of Visits
- Procedures
- Providers
- Skin Tests

Within each category, there may be specific attributes. For example, for LAB results, you can search on the DATE and VALUE as well as a flag which indicates that the value fell outside normal or critical limits. For medications you can search on the VALUE (i.e., what was prescribed), DATE, QUANTITY DISPENSED, AND DAYS PRESCRIBED. A complete listing of category-specific attributes is found in the table on the next page.
<table>
<thead>
<tr>
<th>Data Category</th>
<th>Access to Attribute</th>
<th>Special Output Available</th>
<th>Subquery Attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADA Codes</td>
<td>Indirect</td>
<td>Yes</td>
<td>Operative Site Units</td>
</tr>
<tr>
<td>Purpose of Visit</td>
<td>Indirect</td>
<td>Yes</td>
<td>Cause of Injury</td>
</tr>
<tr>
<td>(Diagnoses)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Date of Injury</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>First/Revisit</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ICD Narrative</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Place of Accident</td>
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<td></td>
<td></td>
<td></td>
<td>Primary/Secondary</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Provider Narrative</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Special Cause of DX</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Stage</td>
</tr>
<tr>
<td>Exams</td>
<td>Direct</td>
<td>No</td>
<td>Positive/Negative Result</td>
</tr>
<tr>
<td>Hospitalization</td>
<td>NA</td>
<td>Yes</td>
<td>Admission Type</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Admitting Diagnosis</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Admitting Service</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Discharge Date</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Discharge Service</td>
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<td></td>
<td></td>
<td></td>
<td>Discharge Type</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Number of consults</td>
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<td>Immunizations</td>
<td>Direct</td>
<td>No</td>
<td>Contraindicated</td>
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<td>Lot Number</td>
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<td></td>
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<td></td>
<td>Reaction</td>
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<td>Lab Results</td>
<td>Direct</td>
<td>Yes</td>
<td>Abnormal/Normal</td>
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<tr>
<td>Measurements</td>
<td>Direct</td>
<td>No</td>
<td>None</td>
</tr>
<tr>
<td>Medications</td>
<td>Indirect</td>
<td>Yes</td>
<td>Quantity Dispensed</td>
</tr>
<tr>
<td>Patient Education</td>
<td>Indirect</td>
<td>No</td>
<td>Level of Understanding</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Provider of Education</td>
</tr>
<tr>
<td>Procedures</td>
<td>Indirect</td>
<td>Yes</td>
<td>Infection</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Operating Provider</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Principal Provider</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td>Reason for Procedure (DX)</td>
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<td></td>
<td>Procedure Date</td>
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<tr>
<td>Skin Tests</td>
<td>Direct</td>
<td>No</td>
<td>Date Read</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Result (Pos/Neg)</td>
</tr>
<tr>
<td>Treatments</td>
<td>Indirect</td>
<td>No</td>
<td>Number of treatments</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Provider of Treatments</td>
</tr>
</tbody>
</table>
1.5 Multi-Level Subqueries

All of the attributes discussed thus far bear an explicit relationship to the entries which are evaluated during a subquery. Now we’re going to make one clinical attribute an attribute of another clinical attribute. Why would you want to do that? Actually, many of the queries that you generate, particularly those related to quality assurance, involve linking two clinical attributes. Consider the following query:

Find all cases in which a patient was given a prescription for HYDROCHLOROTHIAZIDE (a diuretic), and determine whether the patient also had a SERUM POTASSIUM test to determine the side effects of the diuretic within 6 months of the prescription. So the attribute of the prescription (hydrochlorothiazide) actually becomes another clinical attribute (serum potassium).

What is the subject of your search? LIVING PATIENTS // <Enter>

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]

Attribute of LIVING PATIENTS: RX <Enter>

Enter RX: HCTZ <Enter>

1  HCTZ  HYDROCHLOROTHIAZIDE 50MG
2  HCTZ  HYDROCHLOROTHIAZIDE 50MG TAB 30S
3  HCTZ  HYDROCHLOROTHIAZIDE 25MG TAB  N/F
4  HCTZ  HYDROCHLOROTHIAZIDE 50MG TAB 60S
5  HCTZUD HYDROCHLOROTHIAZIDE 50MG TAB UD

CHOOSE 1-5: 1 <Enter>  HYDROCHLOROTHIAZIDE 50MG

Enter ANOTHER RX: HCTZ <Enter>

1  HCTZ  HYDROCHLOROTHIAZIDE 50MG
2  HCTZ  HYDROCHLOROTHIAZIDE 50MG TAB 30S
3  HCTZ  HYDROCHLOROTHIAZIDE 25MG TAB  N/F
4  HCTZ  HYDROCHLOROTHIAZIDE 50MG TAB 60S
5  HCTZUD HYDROCHLOROTHIAZIDE 50MG TAB UD

CHOOSE 1-5: 2 <Enter>  HYDROCHLOROTHIAZIDE 50MG TAB 30S

Enter ANOTHER RX: HCTZ <Enter>

1  HCTZ  HYDROCHLOROTHIAZIDE 50MG
2  HCTZ  HYDROCHLOROTHIAZIDE 50MG TAB 30S
3  HCTZ  HYDROCHLOROTHIAZIDE 25MG TAB  N/F
4  HCTZ  HYDROCHLOROTHIAZIDE 50MG TAB 60S
5  HCTZUD HYDROCHLOROTHIAZIDE 50MG TAB UD

CHOOSE 1-5: 3 <Enter>  HYDROCHLOROTHIAZIDE 25MG TAB

Enter ANOTHER RX: HCTZ <Enter>

1  HCTZ  HYDROCHLOROTHIAZIDE 50MG
2  HCTZ  HYDROCHLOROTHIAZIDE 50MG TAB 30S
3  HCTZ  HYDROCHLOROTHIAZIDE 25MG TAB  N/F
4  HCTZ  HYDROCHLOROTHIAZIDE 50MG TAB 60S
5  HCTZUD HYDROCHLOROTHIAZIDE 50MG TAB UD

CHOOSE 1-5: 4 <Enter>  HYDROCHLOROTHIAZIDE 50MG TAB 60S

Enter ANOTHER RX: HCTZ <Enter>

1  HCTZ  HYDROCHLOROTHIAZIDE 50MG
<table>
<thead>
<tr>
<th></th>
<th>HCTZ  HYDROCHLOROTHIAZIDE 50MG TAB 30S</th>
<th></th>
<th>HCTZ  HYDROCHLOROTHIAZIDE 50MG TAB 60S</th>
<th></th>
<th>HCTZUD HYDROCHLOROTHIAZIDE 50MG TAB UD</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>HCTZ  HYDROCHLOROTHIAZIDE 25MG TAB</td>
<td>N/F</td>
<td>HCTZ  HYDROCHLOROTHIAZIDE 50MG TAB 60S</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>HCTZ  HYDROCHLOROTHIAZIDE 50MG TAB</td>
<td></td>
<td>HCTZUD HYDROCHLOROTHIAZIDE 50MG TAB UD</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Choose 1-5:**  **5**  Enter HCTZUD HYDROCHLOROTHIAZIDE 50MG TAB UD

Enter another RX:  **Enter**

The following have been selected =>

- HYDROCHLOROTHIAZIDE 50MG
- HYDROCHLOROTHIAZIDE 50MG TAB 30S
- HYDROCHLOROTHIAZIDE 25MG TAB
- HYDROCHLOROTHIAZIDE 50MG TAB 60S
- HYDROCHLOROTHIAZIDE 50MG TAB UD

Want to save this RX group for future use?  **NO**//  **Y**  Enter (YES)

**Group name:** HCTZ Enter TEST

**SUBQUERY:** Analysis of multiple RXS

First condition/attribute of "RX":  **POTASS**

- **1** POTASSIUM, PERITONEAL FLUID
- **2** POTASSIUM, SERUM
- **3** POTASSIUM, URINE

Choose 1-3:  **2** Enter

**Figure 1-3:** Sample multi-level subquery

How can a SERUM POTASSIUM be an attribute of a medication??!! As we continue to follow the dialog, the relationship will become clear.

Do you want to screen each RX according to the SERUM POTASSIUM values obtained on the SAME visit?  **YES**//  **N**  Enter (NO)

Well then, do you want me to screen each RX according to SERUM POTASSIUM values obtained on TEMPORALLY RELATED visits?  **YES**//

**Figure 1-4:** Screening according to serum potassium values

In this example, the medication and the lab result were implicitly related by time. Either they were entered on THE SAME VISIT or their VISITS ARE TEMPORALLY related in a way that you defined. In this case, we are not just interested in serum potassium values obtained on the same visit as the prescription. We want to see serum potassium values obtained within 6 months before or 6 months after the prescription for hydrochlorothiazide.
Enter the relative starting point of the time frame: \(-6M\) <Enter>
Enter the relative ending point of the time frame: \(+6M\) <Enter>

SUBQUERY: Analysis of multiple SERUM POTASSIUMS

First condition/attribute of "SERUM POTASSIUM":

Select one of the following:

1. FIND ALL LIVING PATIENTS who have a SERUM POTASSIUM recorded
2. CANCEL this attribute

What do you want to do: FIND// <Enter> ALL LIVING PATIENTS who have a SERUM POTASSIUM recorded

Next condition/attribute of "RX": <Enter>
Computing Search Efficiency Rating..........

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]
RX (HYDROCHLOROT/HYDROCHLOROT...) [SER = 22.96]
Subject of subquery: RX
SERUM POTASSIUMS ENTERED FROM 6 MOS BEFORE TO 6 MOS AFTER EA. RX

Attribute of LIVING PATIENTS:

Figure 1-5: Sample query by time frame

The jump from medication to lab result is more than a simple context switch. You are actually moving to a DEEPER LEVEL of subquery. This sub-subquery, if you will, has its own separate clinical attribute and its own realm of context. The ability to do sub-subqueries is a complex, powerful, and necessary part of QMan. For instance almost all QA searches live here. QMan allows you to traverse as many levels as you wish.

But beware! Each time you go down one level, the search complexity increases geometrically. By the time you have traversed 3 or 4 levels, you will have outstripped the computer’s ability to complete the search in a timely manner, and you will have exceeded your internal PC’s ability to fully comprehend what you are trying to accomplish!
2.0 Release Notes

BJPC Version 2.0 Patch 2 contains the following modifications and enhancements. The identification number listed in the parentheses (e.g., CR274) refers to the specific change request (CR) requirement.

2.1 Designated Provider Specialty Management (BDP)

The following modifications apply to the BDP application:

- Do Not Display Flag: Added functionality to allow the site to flag a provider category to not be displayed in the Demographic component of the health summary. This was accomplished by adding a new field to the BDP DESG SPEC PROV CATEGORY file called “DISPLAY ON HEALTH SUMMARY.” The option called Add Local Provider Categories was renamed Add/Edit Provider Categories and this field was added to the list of data elements to update. (CR295)

- New Specialty Categories: Added three new categories: HIV Case Manager, HIV Provider, and Public Health Nurse. (CR274 and CR102)

- Populate New Specialty Categories: Added a post-init action that copies the existing HIV Case Manager and HIV Provider from the HIV Management System to this package. (CR274)

2.2 PCC Data Entry (APCD)

The following changes apply to the APCD application.

Family History Modifications

- Modified the FHX mnemonic to be a list manager-based interface that allows the user to add, edit, or delete Family History entries. (CR216 and CR320)

- Modified the entry of family history to stuff the ICD narrative if no provider narrative is entered. (CR 324)

2.2.1 Visit Re-Linker Log

Created a log to track all visits modified through the visit re-linker process. These visits have had one or more V File entries moved or re-linked to another visit. A report lists all visits that were modified by the re-linker process, and options are provided to purge the log and to display a visit by its Internal Entry Number (IEN) to make review of the visits easier. This is a prospective change, meaning that only visits affected by the re-linker after the installation date of this version (Version 2.0) of the IHS PCC Suite will be logged and reported. (CR013)
2.2.2 **Visit Delete/Merge Log**

Created a log to keep track of all deleted or merged visits. A report lists all deleted or merged visits, and an option to purge the log is provided. The visit delete option was modified to prompt for a reason for the visit deletion; this prompt is optional. This is a prospective change, meaning that only visits deleted or merged after the installation date of this version (Version 2.0) of the IHS PCC Suite will be logged and reported.

These options can be found on the following menu under the PCC Supervisor menu:

- VRLR List of Visits Modified by the Visit Re-Linker
- PVRL Purge Visit Re-linker Log
- PVDM List of Visits Deleted/Merged
- PUDM Purge Visit Delete/Merge Log
- VIEN Display a Visit by Visit IEN

2.2.3 **3M Present on Admission**

Added Present on Admission as a prompt in the 3M coder interface. (CR254)

2.2.4 **Personal History (PHX)**

Added two new fields: Multiple Birth? and Multiple Birth Type to the PHX mnemonic. (CR244)

2.2.5 **Problem List Note Narrative Length**

Expanded the Note Narrative to 160 characters. (CR323)

2.2.6 **Provider Narrative Length**

All mnemonics that prompt for provider narrative will accept up to 160 characters for the provider narrative. This has been increased from 80 characters.

2.2.7 **Patient Education (PED): Readiness to Learn**

Added Readiness to Learn and re-sequenced the prompts according to the Education workgroup recommendations. (CR242)

2.2.8 **Asthma Control (ACON)**

Added a new mnemonic, ACON, to update and record a patient’s asthma control. (CR240)
2.2.9  POV Stage
Disabled the stage prompt for asthma severity when an asthma diagnosis is entered; this function has been moved to the new Problem List Classification. (CR278)

2.2.10 Problem List Classification Field
Added a new field in the BGP ASTHMA DXS taxonomy, Classification, to be prompted for when an asthma diagnosis is entered. Allowable values are 1, 2, 3, or 4, which stand for 1-Intermittent, 2-Mild Persistent, 3-Moderate Persistent, and 4-Severe Persistent. The following mnemonics were updated: PL, PO, and MP. (CR207, CR276)

2.2.11 Reproductive Factors Mnemonics
FP and RF mnemonics have been restructured to prompt for reproductive history with individual fields rather than a string.

2.3  PCC Health Summary (APCH)
The following changes apply to the APCH application.

2.3.1 Patient Wellness Handout Management
Created a new menu for managing patient wellness handouts (PWHs). The user can now select from 14 components to create a customized PWH.

**Menu**
- PWH - Generate a Patient Wellness Handout
- DEF - Update Default PWH for a Site
- AAP - Print Asthma Action Plan
- MPWT - Create/Modify Patient Wellness Type
- TPWH - Number of PWHs Given to Patients Report

The following PWH components are available:

<table>
<thead>
<tr>
<th>ACTIVITY LEVEL</th>
<th>HEIGHT/WEIGHT/BMI</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALLERGIES</td>
<td>HIV SCREENING</td>
</tr>
<tr>
<td>ASK ME THREE QUESTIONS</td>
<td>IMMUNIZATIONS DUE</td>
</tr>
<tr>
<td>BLOOD PRESSURE</td>
<td>IMMUNIZATIONS RECEIVED</td>
</tr>
<tr>
<td>CANCER SCREENING</td>
<td>MEDICATIONS</td>
</tr>
<tr>
<td>CHOLESTEROL</td>
<td>PATIENT GOALS</td>
</tr>
</tbody>
</table>
Two standard PWH types are distributed with this version:

- **Adult Regular**: Contains all 14 components
- **Medication Reconciliation**: Contains Medications and Allergies

A PWH log was created. Each time a PWH is generated, the log records the patient to whom the handout was given, the date, the location, and the user who generated the handout. A report has been developed to tally PWH production.

The default wellness handout to be used at a site can be defined by updating that field in the PCC Master control file using option DEF Update Default PWH for a Site.

### 2.3.2 Health Summary Component (New) for Tallying Patient Wellness Handouts

Created a new component to list the PWHs given to a patient.

### 2.3.3 Health Summary Component (New) for Patient Wellness Handout

Created a component to display the full PWH for a patient.

### 2.3.4 Health Summary Component (New) for Meds - Controlled Substances

Created a component to list all prescriptions for controlled substances.

### 2.3.5 Health Summary Component Modification: Lab

Added the date and time of lab results to both the LAB DATA - MOST RECENT BY DATE and the LABORATORY DATA - MOST RECENT components. (CR171)

### 2.3.6 Health Summary Component Modification: Medication

Modified the text “on hold” to “active but not yet dispensed.”

### 2.3.7 Health Summary Component Modification: Family History

Modified the format to sort by the new Relationship field and display the new fields, and renamed the component to FAMILY HEALTH HISTORY. The component now displays the following fields: Relationship (to patient), Relation Description, Status (e.g., Living, Deceased, etc.), Diagnosis, Age at Onset; Multiple Birth (Y/N), and Type (e.g., Twin, etc.). If Status is “deceased,” Age at Death and Cause of Death are displayed. (CR225, CR325)
2.3.8 Health Summary Component Modification: Reproductive Factors

The previous Reproductive Factors (REPFAC) string display (GPLCSATA) has been changed to the following string, which is a concatenation of the new Reproductive History Component fields with each field separated by a semicolon. The entire string will be displayed for any patient who has at least one value in any of the Component fields.

Total number of Pregnancies; Full Term; Premature; Abortions, Induced; Abortions, Spontaneous; Ectopic Pregnancies; Multiple Births; Living Children

2.3.9 Reminder (New): Osteoporosis Screening

Added a reminder for osteoporosis screening in women ages 65 and older; the logic is consistent with the Clinical Reporting System (CRS) performance measure. The screening is due every two years. The reminder is turned off in the default package; to see this reminder on a health summary a site must activate the reminder and attach it to the summary types. (CR237)

2.3.10 Reminder (New): Assessment of Function

Added a reminder for assessment of function as an annual screening for patients 65 and older. Assessment of function includes assessing ability for toileting, bathing, shopping, etc. This data is captured in PCC using the EL mnemonic and it populates the V Elder file. The reminder is turned off in the default package; to see this reminder on a health summary a site must activate the reminder and attach it to the summary types. (CR188)

2.3.11 Reminder Modification: Pap and Mammogram Reminders

Modified the Pap and Mammogram health maintenance reminders to use the next due date in Women’s Health only if it is more current than the due date in Health Summary reminders. (CR257)

2.3.12 Reminder Modification: Alcohol Screening

Added a check for Current Procedural Terminology (CPT) codes using the BGP ALCOHOL SCREENING CPTS taxonomy (99408, 99409, G0396, G0397, and H0049) in both PCC and the Behavioral Health module, making the reminder more consistent with the CRS performance measure. (CR109)

2.3.13 Reminder Modification: Adult MMR 2-DOSE Version

Fixed this reminder to look for CPT codes, diagnosis codes, and procedure codes for the measles, mumps, and rubella (MMR) vaccines. (CR109)
2.3.14 Reminder Modification: Diabetes Screening
Changed category to “General.” (CR109)

2.3.15 Reminder Modification: Colorectal Scope/XRAY
Modified logic to reference BGP COLO PROCES and BGP SIG PROCES taxonomies, rather than individual procedure codes. (CR109)

2.3.16 Asthma Action Plan (New Report)
Added the asthma action plan from the asthma register system to the health summary. This menu option can be found under the new PATIENT WELLNESS HANDOUT menu. The action plan has been redesigned according to the Asthma Workgroup specifications and includes new fields added in this PCC version as well as the previous version. (CR281)

2.3.17 Problem List Display
Added classification to the problem list display if it is entered. (CR277)

2.3.18 Supplement Modifications: Asthma
Redesigned the asthma supplement according to the Asthma Workgroup specifications and included new fields added in this PCC version as well as the previous version. (CR289)

2.3.19 Reminders and Best Practice Prompts Text Modifications
Updated the description, logic, display text, and tooltips for all reminders and Best Practice prompts.

2.3.20 Best Practice Prompts Modifications
Updated the logic and text for the following Best Practice prompts:
- ASTHMA: ACTION PLAN
- ASTHMA: ADD/INCREASE INHALED STEROIDS
- ASTHMA: CONTROL CLASSIFICATION
- ASTHMA: FLU SHOT
- ASTHMA: INCREASED RISK FOR EXACERBATION
- ASTHMA: PRIMARY CARE PROVIDER
- ASTHMA: SEVERITY CLASSIFICATION
2.4 PCC Management Reports (APCL)

The following changes apply to the APCL application.

2.4.1 Activity Reports

Modified certain reports to prompt the user for two additional filters, Location of encounter and Clinic, which limit the report to a selected set of locations or clinics. The following reports, listed by discipline group, were updated: (CR205)

- TSPR Time and Patient Services by Provider
- TSSU Time and Patient Services by Service Unit
- PPPR Primary Problem by Provider
- PPLO Primary Problem by Facility
- PPSU Primary Problem by Service Unit
- INPR Number of Individuals seen by Provider
- INSU Number of Individuals seen by Service Unit
- AGE Patient Services by Age and Sex
- TEN Top Ten Primary Diagnoses
- TSCR Time and Services by Provider for Chart Reviews

2.4.2 DEMO PATIENTS Report Filter

All PCC Management reports have been updated to prompt users whether to include a site’s Demo/Test patients in their reports.

To use this feature, the site’s demo patient search template must be updated to include all of its Demo/Test patients. This option is locked with the security key APCLZ UPDATE DEMO TEMPLATE, which should be assigned to the user or users who manage this list of patients. Choosing the new option, DPST Update the Demo/Test Patient Search Template (under OTH Other PCC Management Reports/Options in the PCC Management Reports menu), adds the Demo/Test patients to the list.

The following prompt now displays when a management report is run:

Select one of the following:
I    Include ALL Patients
E    Exclude DEMO Patients
O    Include ONLY DEMO Patients
 Demo Patient Inclusion/Exclusion: E//
Type **E** to exclude any patient who is on the Demo/Test patient list from the report. Type **I** to include all patients, including the Demo/Test patients, or type **O** to include only the Demo/Test patients. (CR287)

### 2.4.3 PGEN/VGEN Menus

Updated to allow the user to select one of three menu display options for the Selection, Print, and Sort items: (1) in a predefined order (the original display option); (2) in alphabetical order by item title; or (3) in order by category group. (CR251)

### 2.4.4 PGEN/VGEN

Added the new Select/Sort/Print options listed below:

- **Date of Last Osteoporosis Screen**: Added as a PGEN Select, Sort, and Print item because it is a new health maintenance reminder. (CR226)
- **Readiness to Learn**: Removed as a Health Factor PGEN and VGEN Select, Sort, and Print item, because it is no longer a health factor. (CR242)
- **Upcoming Appointments**: Added as a PGEN Select and Print item and a VGEN Print and Sort item. When used as a Select item, the user can select the appointment date range and appointment clinics. The report lists only patients who have an appointment in one of those clinics during that date range, and the Print item displays only upcoming or pending appointments. Walk-in and chart requests are excluded from the pending appointment display in the Print item. (CR126)
- **Problem List Date of Onset**: Added as a PGEN and VGEN Select and Print item. If used as a Select item, the user must enter the beginning and ending date and may specify a particular set of diagnoses. When used as a Print item, the system prints all entries from the problem list with the date of onset, unless this item was also used as a Select item. In this case only the problem list entries matching the selected diagnoses will be printed. (CR072)
- **Family History-related**: Family History Dx, Family Hx and Relation, Family History Relation, Family Hx Narrative and Family Hx Description (diagnosis, narrative, age at onset, relation) were all added as PGEN and VGEN Select and Print items. (CR Child315)
- **Present on Admission (POA)**: Added as a VGEN Select and Print item. (CR062)
- **CPT Modifier**: Added as a VGEN Select and Print item.

### 2.5 QMAN (AMQQ)

The following changes apply to the AMQQ application:

- Added DV as a synonym for IPV.
• Changed attribute text from PRIMARY PROVIDER to PRIMARY CARE PROVIDER
• Added upcoming appointments as a Print item when printing a list of patients in QMan.
• Corrected the diagnosis display for the IHS Prediabetes Register.
• Added Family History as a search option.
• Updated Health Factor selection to allow the user to enter a category to retrieve a list of its health factors.
• Added the ability to create a delimited output of the QMan results by having the output print to a screen, and then taking a screen capture of the delimited output.
• Added the ability to go directly to VGEN or PGEN’s print output from QMan by creating a search template in QMan. When template creation is complete, the user is transferred to PGEN or VGEN.

2.6 General Database (AUPN)
• V Asthma: Added field .14 – Asthma Control. (CR206)
• V Lab: Added field 1502 – FINDINGS to the V LAB file. This field will be populated by the Procedure Workflow Tracking System (BTPW) when the software is deployed. (CR239)
• V Patient Education: Added Readiness to Learn as field 1102. (CR242)
• V Radiology: Added field 1502 – FINDINGS to the V RADIOLOGY file. This field will be populated by the Procedure Workflow Tracking System (BTPW) when the software is deployed. (CR239)
• Personal History: Added field .06 – MULTIPLE BIRTH? to the Personal History File. Patient Multiple Birth?: Yes/No/Unknown. (CR244)
• Personal History: Added field .07 – MULTIPLE BIRTH TYPE to the Personal History file. Multiple Birth Type values: Twin, Unspecified (TU); Identical Twin (IT); Fraternal Twin (FT); Triplet (TR); Other Multiple (OTH). (CR244)
• Problem: Expanded Note narrative to 160 characters. (CR323)
• Provider Narrative: Expanded narrative to 160 characters. (CR258)
• FAMILY HISTORY FAMILY MEMBERS: Created new file with the following fields: (CR 199/CR 322)

| .01 | RELATIONSHIP |
| .02 | PATIENT |
| .03 | RELATION DESCRIPTION |
- FAMILY HISTORY: Modified the existing file (CR 199/CR 322):
  - Moved the Status field to the new FAMILY HISTORY FAMILY MEMBER file.
  - Added an asterisk (*) in front of the STATUS field to alert users that it will be going away.
  - Added field .09, which is a pointer to the Family History Family Member file.
  - Inactivated field .07 – Relationship.
  - Added new MULTIPLE BIRTH and MULTIPLE BIRTH TYPE fields. (CR199)
  - Added CAUSE OF DEATH field, which is displayed if the STATUS field is DECEASED. (CR199)
  - Added new AGE AT ONSET and AGE AT DEATH fields with the following choices:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>In Infancy</td>
<td>At age 40-49</td>
</tr>
<tr>
<td>Before age 20</td>
<td>At age 50-59</td>
</tr>
<tr>
<td>At age 20-29</td>
<td>60 and older</td>
</tr>
<tr>
<td>At age 30-39</td>
<td>Age Unknown</td>
</tr>
</tbody>
</table>

  - Inactivated the numeric Diagnosis Onset Age field.
  - Changed field .01 to allow only ICD Diagnosis codes V16*; V17*; V18*; and V19*. (CR245)

- REPRODUCTIVE FACTORS: Implemented requested changes to Reproductive Factors fields.
  - Added and/or activated the following new fields: Full Term (previous request); Premature Births (previous request for Preterm Births); Ectopic Pregnancies; Multiple Births.
  - Inactivated Parity and Abortions/Miscarriages/Ectopic Pregnancies fields.

- V Telehealth: Created new file with the following fields:

<table>
<thead>
<tr>
<th>.01</th>
<th>Primary Modality</th>
</tr>
</thead>
<tbody>
<tr>
<td>.02</td>
<td>Patient Name</td>
</tr>
</tbody>
</table>
2.6.1 Table Changes

- PCC RELATIONSHIPS: Created new table for Family History.
- TELEHEALTH: Created new tables for Modality and Service Category.
- EXAM: Inactivated the following exam codes: (CR241)
  2.7 23 - Audiometric Screening
  2.8 08 - Heart Exam
  2.9 05 - Neck Exam
- HEALTH FACTORS: Modified the Health Factors file to display the category when a lookup is performed on the file, and to allow the user to type the category name to retrieve a list of health factors to choose from. (CR255, CR256, CR217)

Changed the name of the following Health Factors: (CR234)

<table>
<thead>
<tr>
<th>Old Name</th>
<th>New Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASTHMA TRIGGER-AIR POLLUTANTS</td>
<td>AIR POLLUTANTS</td>
</tr>
<tr>
<td>ASTHMA TRIGGER-ANIMAL</td>
<td>ANIMAL</td>
</tr>
<tr>
<td>ASTHMA TRIGGER-COCKROACHES</td>
<td>COCKROACHES</td>
</tr>
<tr>
<td>ASTHMA TRIGGER-DUST MITES</td>
<td>DUST MITES</td>
</tr>
<tr>
<td>ASTHMA TRIGGER-EXERCISE</td>
<td>EXERCISE</td>
</tr>
<tr>
<td>ASTHMA TRIGGER-MOLD</td>
<td>MOLD</td>
</tr>
<tr>
<td>Old Name</td>
<td>New Name</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>---------------------------------------</td>
</tr>
<tr>
<td>ASTHMA TRIGGER-POLLEN</td>
<td>POLLEN</td>
</tr>
<tr>
<td>ASTHMA TRIGGER-TOBACCO SMOKE</td>
<td>TOBACCO SMOKE</td>
</tr>
<tr>
<td>BARRIERS TO LEARN-BLIND</td>
<td>BLIND</td>
</tr>
<tr>
<td>BARRIERS TO LEARN-DEAF</td>
<td>DEAF</td>
</tr>
<tr>
<td>BARRIERS TO LEARN-DOESN’T READ ENGLISH</td>
<td>DOESN’T READ ENGLISH</td>
</tr>
<tr>
<td>BARRIERS-FINE MOTOR SKILLS DEFICIT</td>
<td>FINE MOTOR SKILLS DEFICIT</td>
</tr>
<tr>
<td>BARRIERS TO LEARN-HARD OF HEARING</td>
<td>HARD OF HEARING</td>
</tr>
<tr>
<td>BARRIERS TO LEARNING-INTERPRETER NEEDED</td>
<td>INTERPRETER NEEDED</td>
</tr>
<tr>
<td>BARRIERS TO LEARNING-NO BARRIERS</td>
<td>NO BARRIERS</td>
</tr>
<tr>
<td>BARRIERS TO LEARNING-VALUES/BELIEFS</td>
<td>VALUES/BELIEFS</td>
</tr>
<tr>
<td>BARRIERS TO LEARN-VISUALLY IMPAIRED</td>
<td>VISUALLY IMPAIRED</td>
</tr>
<tr>
<td>SELF MONITORING BLOOD GLUCOSE-NO</td>
<td>NO</td>
</tr>
<tr>
<td>SELF MONITORING BLOOD GLUCOSE-REFUSED</td>
<td>REFUSED</td>
</tr>
<tr>
<td>SELF MONITORING BLOOD GLUCOSE-YES</td>
<td>YES</td>
</tr>
<tr>
<td>LEARNING PREFERENCE-DO/PRACTICE</td>
<td>DO/PRACTICE</td>
</tr>
<tr>
<td>LEARNING PREFERENCE-READ</td>
<td>READ</td>
</tr>
<tr>
<td>LEARNING PREFERENCE-SMALL GROUP</td>
<td>SMALL GROUP</td>
</tr>
<tr>
<td>LEARNING PREFERENCE-TALK</td>
<td>TALK</td>
</tr>
<tr>
<td>LEARNING PREFERENCE-VIDEO</td>
<td>MEDIA</td>
</tr>
<tr>
<td>RUBELLA IMMUNE</td>
<td>IMMUNE</td>
</tr>
<tr>
<td>RUBELLA NON-IMMUNE</td>
<td>NON-IMMUNE</td>
</tr>
<tr>
<td>RUBELLA STATUS INDETERMINATE</td>
<td>STATUS INDETERMINATE</td>
</tr>
<tr>
<td>TB-TX COMPLETE</td>
<td>TX COMPLETE</td>
</tr>
<tr>
<td>TB-TX INCOMPLETE</td>
<td>TX INCOMPLETE</td>
</tr>
<tr>
<td>TB-TX UNKNOWN</td>
<td>TX UNKNOWN</td>
</tr>
<tr>
<td>TB-TX UNTREATED</td>
<td>TX UNTREATED</td>
</tr>
</tbody>
</table>
Added the following Health Factors: (CR234)

<table>
<thead>
<tr>
<th>Factor</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHANGE IN WEATHER</td>
<td>ASTHMA TRIGGERS</td>
</tr>
<tr>
<td>MENSES</td>
<td>ASTHMA TRIGGERS</td>
</tr>
<tr>
<td>OTHER TRIGGER</td>
<td>ASTHMA TRIGGERS</td>
</tr>
<tr>
<td>STRONG EMOTIONAL EXPRESSION</td>
<td>ASTHMA TRIGGERS</td>
</tr>
<tr>
<td>VIRAL INFECTION</td>
<td>ASTHMA TRIGGERS</td>
</tr>
<tr>
<td>LESS THAN 6TH GRADE EDUCATION</td>
<td>ASTHMA TRIGGERS</td>
</tr>
<tr>
<td>RETIRED</td>
<td>OCCUPATION</td>
</tr>
<tr>
<td>TX IN PROGRESS</td>
<td>TB STATUS</td>
</tr>
</tbody>
</table>

Inactivated the following Health Factors: (CR234)

<table>
<thead>
<tr>
<th>Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>BARRIERS TO LEARN-COGNITIVE IMPAIRMENT</td>
</tr>
<tr>
<td>DOES NOT SPEAK ENGLISH</td>
</tr>
<tr>
<td>EMOTIONAL IMPAIRMENT</td>
</tr>
<tr>
<td>BARRIERS-SIGN INTERPRETER NEEDED</td>
</tr>
<tr>
<td>READINESS TO LEARN-NOT READY</td>
</tr>
<tr>
<td>READINESS TO LEARN-PAIN</td>
</tr>
<tr>
<td>READINESS TO LEARN-RECEPTIVE</td>
</tr>
<tr>
<td>READINESS TO LEARN-SEVERITY OF ILLNESS</td>
</tr>
<tr>
<td>READINESS TO LEARN-UNRECEPTIVE</td>
</tr>
<tr>
<td>7-FOOD AND EXERCISE (MAINTAIN)</td>
</tr>
</tbody>
</table>

2.10 Other Changes

2.10.1 Asthma Severity Conversion

Used a conversion to move asthma severity from the V POV file to the Problem List. (CR207)
2.10.2 Taxonomies

The following national taxonomies were added for use with the Asthma Supplement, Action Plan, and Best Practice Prompts:

- BAT ASTHMA SHRT ACT RELV NDC (reliever)
- BAT ASTHMA SHRT ACT RELV MEDS (reliever)
- BAT ASTHMA SHRT ACT INHLR NDC (reliever)
- BAT ASTHMA SHRT ACT INHLR MEDS (reliever)
- BAT ASTHMA LEUKOTRIENE NDC (controller)
- BAT ASTHMA LEUKOTRIENE MEDS (controller)
- BAT ASTHMA CONTROLLER NDC (controller)
- BAT ASTHMA INHLD STEROIDS NDC (controller)

2.10.3 New APIs for the VA Reminders

Added APIs for the VA Reminders package to retrieve the last of each item. (CR172)

Each call is in the following format:

S X=\$linelabel^APCLAPIR(dfn, beginning date, ending date)

where

dfn = Patient DFN

beginning date = internal fileman date to begin searching for the item; if blank, DOB will be used.

ending date = internal fileman date to end searching for the item; if blank, DT (today’s date) will be used.

The output of each call is in the following format:

1 or 0^date^item^value^visit ien^file^file ien

where

piece 1 = 1 if item found, 0 if no item found in the date range
piece 2 = date of last item found
piece 3 = text of item found
piece 4 = result
piece 5 = ien of visit on which item was found
piece 6 = file in which item was found (usually a V File )

piece 7 = ien of V File in which entry was found

The following APIs have been added:

<table>
<thead>
<tr>
<th>Category</th>
<th>API Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol Screening</td>
<td>$$REMALSC^APCLAPIR</td>
</tr>
<tr>
<td>Depression Screening</td>
<td>$$REMDEPS^APCLAPIR</td>
</tr>
<tr>
<td>Assessment of Function</td>
<td>$$REMAOF^APCLAPIR</td>
</tr>
<tr>
<td>Blood Pressure</td>
<td>$$REMBP^APCLAPIR</td>
</tr>
<tr>
<td>Breast Exam</td>
<td>$$REMBRST^APCLAPIR</td>
</tr>
<tr>
<td>Cholesterol</td>
<td>$$REMCHOL^APCLAPIR</td>
</tr>
<tr>
<td>Dental Exam</td>
<td>$$REMDE^APCLAPIR</td>
</tr>
<tr>
<td>Diabetes Screening</td>
<td>$$REMDT^APCLAPIR</td>
</tr>
<tr>
<td>Intimate Partner Violence Screening</td>
<td>$$REMIPVS^APCLAPIR</td>
</tr>
<tr>
<td>EPSDT Screening</td>
<td>$$REMEPSDT^APCLAPIR</td>
</tr>
<tr>
<td>Head Circumference</td>
<td>$$REMHC^APCLAPIR</td>
</tr>
<tr>
<td>Hearing Exam</td>
<td>$$REMHEAR^APCLAPIR</td>
</tr>
<tr>
<td>Height</td>
<td>$$REMHT^APCLAPIR</td>
</tr>
<tr>
<td>Influenza Immunization</td>
<td>$$REMFLU^APCLAPIR</td>
</tr>
<tr>
<td>Mammogram</td>
<td>$$REMMAMM^APCLAPIR</td>
</tr>
<tr>
<td>Osteoporosis Screening</td>
<td>$$REMMOSTEO^APCLAPIR</td>
</tr>
<tr>
<td>Pap Smear</td>
<td>$$REMPAP^APCLAPIR</td>
</tr>
<tr>
<td>Pelvic Exam</td>
<td>$$REMPV^APCLAPIR</td>
</tr>
<tr>
<td>Physical Exam</td>
<td>$$REMPHYS^APCLAPIR</td>
</tr>
<tr>
<td>Pneumovax</td>
<td>$$REMPNEU^APCLAPIR</td>
</tr>
<tr>
<td>Rectal Exam</td>
<td>$$REMRRECT^APCLAPIR</td>
</tr>
<tr>
<td>Rubella</td>
<td>$$REMRUBEL^APCLAPIR</td>
</tr>
<tr>
<td>TD</td>
<td>$$REMTD^APCLAPIR</td>
</tr>
<tr>
<td>Tobacco Screening</td>
<td>$$REMTOBS^APCLAPIR</td>
</tr>
<tr>
<td>Tonometry</td>
<td>$$REMTON^APCLAPIR</td>
</tr>
<tr>
<td>Visual Acuity Exam</td>
<td>$$REMVAE^APCLAPIR</td>
</tr>
<tr>
<td>Weight</td>
<td>$$REMWT^APCLAPIR</td>
</tr>
</tbody>
</table>

### 2.10.4 Family History Data Conversion

Added a post-init routine to perform the following tasks: (CR199 and CR321)

- Convert the relationship and status data from the Family History file and move it to the new Family History Family Member file.
- Stuff a family member of UNKNOWN into the Family member field for all entries that currently have no Relation/Family member entered.
• Convert the existing numeric diagnosis onset age (if any) to the corresponding new Age of Onset codes.

2.10.5 Reproductive History String Conversion

Converted the existing Reproductive History field to new fields. If the existing Reproductive History field is populated with a number, including the “0” option, any existing values in the string are copied to new fields as follows:

• G = Gravida
• P = Full Term
• LC = Living Children
• SA = Spontaneous Abortions
  TA = Therapeutic Abortions
3.0 Subquery Functions

Now, we’re going to talk about some of the more advanced QMan subquery functions: ordinal, computed, quantitative, relative, and generic. We’ve already discussed basic QMan functions that are related to value and time, such as greater than, less than, before, after.

3.1 Ordinal

Ordinal refers to the order or rank of something in a series of numbers, such as last, first, highest, or lowest. For each of these functions, when asking, for example, for the highest (or last, or first, or lowest) four weights, QMan will display up to and including the number of weights requested. QMan will show fewer weights if the patient has fewer than the number of weights requested. If you only want patients included who have four or more weights on record, you must use the function “at least” after the ordinal function. In the example just stated, we would subsequently enter “at least four” to ensure selecting only those patients with four or more weights on record. An example of this can be found in the “Quantitative” section of this chapter when we discuss the “at least” function.

3.1.1 Last

Let’s say that you want to see the last three weights of all patients with diabetes.

<table>
<thead>
<tr>
<th>What is the subject of your search?</th>
<th>LIVING PATIENTS // &lt;Enter&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject of search: PATIENTS</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ALIVE TODAY [SER = .01]</td>
</tr>
<tr>
<td>Attribute of LIVING PATIENTS: DX</td>
<td>&lt;Enter&gt;</td>
</tr>
</tbody>
</table>

Enter DX: DM <Enter>
250.00 (DIABETES UNCOMPL TYPE II/NIDDM)
DIABETES MELLITUS WITHOUT MENTION OF COMPLICATION/TYPE II/NONINSULIN DEPENDENT/ADULT-ONSET

OK? Y <Enter>
ICD Code Range(s) Selected So Far
1) 250.

Enter ANOTHER DX: <Enter>

SUBQUERY: Analysis of multiple

First condition/attribute of "DIAGNOSIS": <Enter>
Computing Search Efficiency Rating
SUBQUERY: Analysis of multiple WEIGHTS
First condition/attribute of "WEIGHT": LAST <Enter>
Enter the value which goes with LAST; e.g., LAST 3, LAST 10, etc.
Value: 3 <Enter>

Figure 3-1: Searching last 3 weights of all patients with diabetes

By last 3, QMan does not have to come up with three weights for every patient. For example, if a patient only has one weight on record, QMan will show that one weight. By last 3, QMan is limited to showing no more than three weights (the last three weights) for any patient; that is, QMan will show up to three weights.

Next condition/attribute of "WEIGHT": <Enter>

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]
DIAGNOSIS (250.00) [SER = 24.37]

Attribute of LIVING PATIENTS: WTLBS <Enter>

You have 2 options for listing WEIGHT(lbs) =>

1) For ea. patient, list all WEIGHT(lbs) which match your criteria
2) List all PATIENTS with WEIGHT(lbs) meeting your criteria, but do not list the individual values of ea. WEIGHT(lbs)

Your choice (1 or 2): 1//1 <Enter>

<table>
<thead>
<tr>
<th>PATIENTS (Alive)</th>
<th>CHART NUMBER #</th>
<th>DX/ICD9</th>
<th>WT</th>
<th>DATE OF WT</th>
</tr>
</thead>
<tbody>
<tr>
<td>GAMMAAAA, RAE*</td>
<td>100003 +</td>
<td></td>
<td>410.0</td>
<td>JUL 8, 1991</td>
</tr>
<tr>
<td>GAMMAAAA, RAE*</td>
<td>100003 +</td>
<td></td>
<td>300.0</td>
<td>NOV 28, 1990</td>
</tr>
<tr>
<td>GAMMAAAA, RAE*</td>
<td>100003 +</td>
<td></td>
<td>110.2</td>
<td>OCT 11, 1990</td>
</tr>
<tr>
<td>GAMMAAAABBB, MAND</td>
<td>100006 +</td>
<td></td>
<td>200.0</td>
<td>JUN 18, 1991</td>
</tr>
<tr>
<td>GAMMAAAABBB, MAND</td>
<td>100006 +</td>
<td></td>
<td>220.5</td>
<td>JAN 2, 1991</td>
</tr>
<tr>
<td>GAMMAAAABBB, MAND</td>
<td>100006 +</td>
<td></td>
<td>123.0</td>
<td>OCT 11, 1990</td>
</tr>
<tr>
<td>THETAA, SALLY*</td>
<td>100010 +</td>
<td></td>
<td>330.3</td>
<td>SEP 8, 1989</td>
</tr>
<tr>
<td>THETAA, SALLY*</td>
<td>100010 +</td>
<td></td>
<td>346.0</td>
<td>JUN 2, 1989</td>
</tr>
<tr>
<td>THETAA, SALLY*</td>
<td>100010 +</td>
<td></td>
<td>324.3</td>
<td>APR 7, 1989</td>
</tr>
<tr>
<td>. . .</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>THETBBB, HORTENC*</td>
<td>100113 +</td>
<td></td>
<td>210.0</td>
<td>DEC 17, 1990</td>
</tr>
</tbody>
</table>
Figure 3-2: Listing of patients who match search criteria

Notice that the third column contains a plus sign (+) to indicate that the patients do have diabetes (though the actual ICD code is not given). The fourth column gives the patients’ weights. Most of the patients have three weights listed - their last three. If they do not, they did not have three weights on record, as in the case of “THETBBB,Hortenc*” and “Chichi,Megan*.”

Let’s do the same thing again, take the last three weights, and then average them.

What is the subject of your search?  LIVING PATIENTS // <Enter>

Subject of search: PATIENTS
   ALIVE TODAY   [SER = .01]

Attribute of LIVING PATIENTS: WTLBS <Enter>

SUBQUERY: Analysis of multiple WEIGHTS

First condition/attribute of "WEIGHT": LAST 3 <Enter>

Next condition/attribute of "WEIGHT": AVE <Enter>

Subject of subquery: WEIGHT(lbs)
   LAST 3
   AVERAGE

Next condition/attribute of "WEIGHT": <Enter>

Subject of search: PATIENTS
   ALIVE TODAY   [SER = .01]
   Subject of subquery: WEIGHT(lbs)
   LAST 3
   AVERAGE

Attribute of LIVING PATIENTS: <Enter>

PATIENTS       CHART     AVE. WT
(Alive)          NUMBER   lbs
---------------------------------------------------------------
ALPHA,AMANDA    101500   83.1
ALPHA,ANDY      101926   17.3
The order in which the query is put together has a definite effect on the results obtained. What would happen if we reversed the order?

QMan beeps and refuses to continue. Once the patients’ weights are averaged they no longer have a time dimension, so QMan cannot continue.

This time we are going to ask QMan to find all the diabetic patients who had their weight taken during their visit. This query is entered differently. In this query we are asking QMan to find all patients who had a visit for diabetes who also had a weight taken that was over 200 lbs.
DEPENDENT/ADULT-ONSET

OK? Y// <Enter>

ICD Code Range(s) Selected So Far =>

1) 250.
Enter ANOTHER DX: <Enter>

SUBQUERY: Analysis of multiple DIAGNOSES
First condition/attribute of "DIAGNOSIS": WTLBS <Enter>

Do you want to screen each DIAGNOSIS according to the WEIGHT(lbs) values obtained on the SAME visit? YES// <Enter>

SUBQUERY: Analysis of multiple WEIGHTS
First condition/attribute of "WEIGHT": OVER <Enter>
Value: 200 <Enter>
Next condition/attribute of "WEIGHT": <Enter>
Next condition/attribute of "DIAGNOSIS":

Figure 3-5: Sample query asking for the weight of all diabetic patients over 200 lbs

This query asks QMan to go out and find every patient who had a diagnosis of diabetes, who was weighed on that visit, and whose weight on the visit was over 200 pounds. Each patient that meets all of the criteria will constitute a “hit.”

Computing Search Efficiency Rating.....

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]
DIAGNOSIS (250.00) [SER = 24.37]
Subject of subquery: DIAGNOSIS
WEIGHTS(lbs) ENTERED ON THE SAME VISIT AS EA. DIAGNOSIS
Subject of subquery: WEIGHT(lbs)
GREATER THAN 200

Attribute of LIVING PATIENTS: <Enter>

<table>
<thead>
<tr>
<th>PATIENTS</th>
<th>CHART NUMBER</th>
<th>DX/ICD9</th>
<th>DATE OF POV</th>
</tr>
</thead>
<tbody>
<tr>
<td>GammadAAA, RAE*</td>
<td>100003</td>
<td>250.00</td>
<td>NOV 28,1990</td>
</tr>
<tr>
<td>ThetathaTHETAA, MAND</td>
<td>100006</td>
<td>250.00</td>
<td>JAN 2,1991</td>
</tr>
<tr>
<td>GammadAA, SALLY*</td>
<td>100010</td>
<td>250.00</td>
<td>SEP 8,1989</td>
</tr>
<tr>
<td>GammadAA, SALLY*</td>
<td>100010</td>
<td>250.00</td>
<td>JUN 2,1989</td>
</tr>
<tr>
<td>GammadAA, SALLY*</td>
<td>100010</td>
<td>250.00</td>
<td>OCT 24,1986</td>
</tr>
<tr>
<td>GammadAA, SALLY*</td>
<td>100010</td>
<td>250.00</td>
<td>JUL 11,1986</td>
</tr>
</tbody>
</table>
In the listing above, note that no weights are given. The patients will not be listed if their weights had not been over 200 pounds on the dates listed. The rule here is there will never be any visual evidence that a sub-subquery has taken place. This is unlike the “rule of last,” in which a value is given for the last attribute requested and a plus sign (+) is shown for other attributes requested.

3.1.2 First

Another ordinal function is first. In this query we are going to ask QMan to find the first three weights recorded for each patient. Again, it is not mandatory to find three weights for each patient, only that the system displays no more than three weights (the first) for any patient.
### 3.1.3 Highest

This ordinal query will be based on value rather than time. We are going to ask for patients’ highest three weights. Once again, this means that QMan will display no more than three weights. If a patient only has one weight on record, QMan will only display one weight.

What is the subject of your search? LIVING PATIENTS // <Enter>

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]

Attribute of LIVING PATIENTS: WTLBS <Enter>

SUBQUERY: Analysis of multiple WEIGHTS

First condition/attribute of "WEIGHT": HIGHEST <Enter>
Enter the value which goes with LARGEST; e.g., LARGEST 3, LARGEST 10, etc.
Value: 3 <Enter>
Next condition/attribute of "WEIGHT": <Enter>

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]
Subject of subquery: WEIGHT(lbs)
LARGEST 3
3.1.4 Lowest

In this query we're going to ask for patients' lowest three weights after the beginning of 1989.

What is the subject of your search? LIVING PATIENTS //

  Subject of search: PATIENTS
  ALIVE TODAY [SER = .01]

Attribute of LIVING PATIENTS: WTLBS <Enter>

SUBQUERY: Analysis of multiple WEIGHTS

First condition/attribute of "WEIGHT": AFTER <Enter>
Exact date: 1/1/89 <Enter> (JAN 01, 1989)

Next condition/attribute of "WEIGHT": LOWEST <Enter>
Enter the value which goes with SMALLEST; e.g., SMALLEST 3, SMALLEST 10, etc.
Value: 3 <Enter>

  Subject of subquery: WEIGHT(lbs)
  AFTER JAN 1,1989
  SMALLEST 3
Next condition/attribute of "WEIGHT": <Enter>
Computing Search Efficiency Rating....

    Subject of search: PATIENTS
        ALIVE TODAY    [SER = .01]
        Subject of subquery: WEIGHT(lbs)
        AFTER JAN 1,1989
        SMALLEST 3

Attribute of LIVING PATIENTS: <Enter>

You have 2 options for listing WEIGHT(lbs) =>

1) For ea. patient, list all WEIGHT(lbs) which match your criteria
2) List all PATIENTS with WEIGHT(lbs) meeting your criteria, but do not list the individual values of ea. WEIGHT(lbs)

Your choice (1 or 2): 1// 1 <Enter>

<table>
<thead>
<tr>
<th>PATIENTS (Alive)</th>
<th>CHART WT</th>
<th>DATE OF WT</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALPHA, ANDY</td>
<td>101926</td>
<td>12.4</td>
</tr>
<tr>
<td>ALPHA, ANDY</td>
<td>101926</td>
<td>11.8</td>
</tr>
<tr>
<td>ALPHA, ANDY</td>
<td>101926</td>
<td>6.6</td>
</tr>
<tr>
<td>ALPHA, BARNEY</td>
<td>101988</td>
<td>12.8</td>
</tr>
<tr>
<td>ALPHA, BARNEY</td>
<td>101988</td>
<td>10.3</td>
</tr>
<tr>
<td>ALPHA, BARNEY</td>
<td>101988</td>
<td>8.3</td>
</tr>
<tr>
<td>ALPHA, BRIAN</td>
<td>101981</td>
<td>193.5</td>
</tr>
<tr>
<td>ALPHA, BRIAN</td>
<td>101981</td>
<td>186.1</td>
</tr>
<tr>
<td>ALPHA, BRIAN</td>
<td>101981</td>
<td>185.5</td>
</tr>
<tr>
<td>ALPHA, BRUCE</td>
<td>101765</td>
<td>29.0</td>
</tr>
<tr>
<td>ALPHA, BRUCE</td>
<td>101765</td>
<td>31.0</td>
</tr>
<tr>
<td>ALPHA, BRUCE</td>
<td>101765</td>
<td>31.0</td>
</tr>
<tr>
<td>ALPHA, CALVIN</td>
<td>101945</td>
<td>13.1</td>
</tr>
<tr>
<td>ALPHA, CALVIN</td>
<td>101945</td>
<td>10.5</td>
</tr>
<tr>
<td>ALPHA, CALVIN</td>
<td>101945</td>
<td>10.0</td>
</tr>
<tr>
<td>ALPHA, CANDY</td>
<td>100420</td>
<td>112.0</td>
</tr>
<tr>
<td>ALPHA, CARRIE</td>
<td>101955</td>
<td>12.4</td>
</tr>
<tr>
<td>ALPHA, CARRIE</td>
<td>101955</td>
<td>8.0</td>
</tr>
</tbody>
</table>

You notice that these weights still have a date given, unlike the average weights, which had no dates attached.

Figure 2-9: Sample query for patients' lowest three weights taken after the beginning of 1989
3.2 Computed

Computed functions only apply to number-valued attributes such as weights, glucose readings, etc. In general, computed values are pure values, with no time dimension, as we saw previously with “average.” Computed values are obtained by taking multiple entries and performing an arithmetic computation to arrive at the desired figure. The end product of a computed function is a one-dimensional, single-valued, pure number. One way of looking at a computed value is to think of an omelet. After you crack and scramble three eggs to make a three-egg omelet, you know the omelet contains three eggs but the eggs themselves are no longer individually identifiable units. So once you make the computation, you can no longer apply any other functions that have anything to do with time. You can only apply functions that deal with pure quantities, such as “greater than,” “less than,” etc. Examples of computed values are average, total, change, and span. The following table shows you how computed functions operate:

<table>
<thead>
<tr>
<th>Function</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average</td>
<td>The sum of all the attribute values divided by the number of values</td>
</tr>
<tr>
<td>Total</td>
<td>The number of attribute values selected</td>
</tr>
<tr>
<td>Change</td>
<td>Last value - First value</td>
</tr>
<tr>
<td>Span</td>
<td>Highest value - Lower value</td>
</tr>
</tbody>
</table>

3.2.1 Average

Let’s ask for a list of the patients whose average weight during the past year was over 200 pounds. Here is how we’d phrase our query.

```
What is the subject of your search? LIVING PATIENTS // <Enter>

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]

Attribute of LIVING PATIENTS: WTLBS <Enter>

SUBQUERY: Analysis of multiple WEIGHTS

First condition/attribute of "WEIGHT": AFTER <Enter>
Exact date: T-365 <Enter>

Next condition/attribute of "WEIGHT": AVERAGE <Enter>

Subject of subquery: WEIGHT(lbs)
AFTER JUL 17,1990
AVERAGE

Next condition/attribute of "WEIGHT": OVER <Enter>
Value: 200 <Enter>
```
Subject of subquery: WEIGHT(lbs)
AFTER JUL 17,1990
AVERAGE
GREATER THAN 200

Next condition/attribute of "WEIGHT": <Enter>
Computing Search Efficiency Rating....

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]
Subject of subquery: WEIGHT(lbs)
AFTER JUL 17,1990
AVERAGE
GREATER THAN 200

Attribute of LIVING PATIENTS:

Figure 3-9: Sample query for patients whose average weight during the past year was over 200 pounds

3.2.2 Total

Let’s find all the patients who have had more than 10 weights on record. In this case, we’re asking QMan to count the number of weights on record for each patient and give us a list of the patients that have over 10 weights. A synonym for “total” is “count” in this context.

What is the subject of your search? LIVING PATIENTS // <Enter>

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]

Attribute of LIVING PATIENTS: WTLBS <Enter>

SUBQUERY: Analysis of multiple WEIGHTS

First condition/attribute of "WEIGHT": COUNT <Enter>
Next condition/attribute of "WEIGHT": OVER <Enter>
Value: 10 <Enter>

Subject of subquery: WEIGHT(lbs)
TOTAL NUMBER
GREATER THAN 10

Next condition/attribute of "WEIGHT": <Enter>

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]
Subject of subquery: WEIGHT(lbs)
TOTAL NUMBER
GREATER THAN 10
Figure 3-10: Sample listing of patients who have over 10 weights on record

The display lists the patients who have over 10 weights recorded and gives the total number of weights on record. Again, because total is a computed value, there are no time dimensions attached.

Another example would be to ask QMan to find all patients who had over 10 prescriptions for hydrochlorothiazide. The structure of the query is similar to that above.
Enter ANOTHER RX: <Enter>

The following have been selected =>

- HYDROCHLOROTHIAZIDE 50MG
- HYDROCHLOROTHIAZIDE 50MG TAB 30S
- HYDROCHLOROTHIAZIDE 25MG TAB
- HYDROCHLOROTHIAZIDE 50MG TAB 60S
- HYDROCHLOROTHIAZIDE 50MG TAB UD

Want to save this RX group for future use? NO// <Enter>

SUBQUERY: Analysis of multiple RXS

First condition/attribute of "RX": COUNT <Enter>

Next condition/attribute of "RX": OVER <Enter>
Value: 10 <Enter>

Subject of subquery: RX
TOTAL NUMBER
GREATER THAN 10

Next condition/attribute of "RX": <Enter>
Computing Search Efficiency Rating........

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]
RX (HYDROCHLOROTHIAZIDE) [SER = 22.96]
Subject of subquery: RX
TOTAL NUMBER
GREATER THAN 10

Attribute of LIVING PATIENTS:

Figure 3-11: Sample query for all patients who had over 10 prescriptions for hydrochlorothiazide

Another example of “total” would be a query asking QMan to find all living patients who had over 10 visits for diabetes since the beginning of 1989.

What is the subject of your search? LIVING PATIENTS // <Enter>

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]

Attribute of LIVING PATIENTS: DX <Enter>

Enter DX: DM <Enter>
250.00 (DIABETES UNCOMPL TYPE II/NIDDM)
DIABETES MELLITUS WITHOUT MENTION OF COMPLICATION/TII/NONINSULIN DEPENDENT/ADULT-ONSET
OK? Y// <Enter>

ICD Code Range(s) Selected So Far =>
1) 250.00

Enter ANOTHER DX: <Enter>

SUBQUERY: Analysis of multiple DIAGNOSES

First condition/attribute of "DIAGNOSIS": AFTER <Enter>
Exact date: 1/1/89 <Enter> (JAN 01, 1989)

Next condition/attribute of "DIAGNOSIS": COUNT <Enter>

Subject of subquery: DIAGNOSIS
AFTER JAN 1,1989
TOTAL NUMBER

Next condition/attribute of "DIAGNOSIS": OVER <Enter>
Value: 10 <Enter>

Subject of subquery: DIAGNOSIS
AFTER JAN 1,1989
TOTAL NUMBER
GREATER THAN 10

Next condition/attribute of "DIAGNOSIS": <Enter>
Computing Search Efficiency Rating.....

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]
DIAGNOSIS (250.00) [SER = 24.37]
Subject of subquery: DIAGNOSIS
AFTER JAN 1,1989
TOTAL NUMBER
GREATER THAN 10

Attribute of LIVING PATIENTS: <Enter>

PATIENTS CHART TOT #
(Alive) NUMBER DX/ICD9S
---------------------------------------------------------------------------
BETAB, LESTER  100177  11
BETA, LRAINE*  100266  12
THETAAAA, CHERYL*  100268  12
CHICHICHI, WENDY*  100279  14
ALPHA, WALLY*  100391  15
CHII, BROOKE*  100424  12
KAPPABB, INGRID  100543  11
THETATHEAT, SAND*  100648  32
GAMMAAA, PEARL  100704  15
3.2.3 **Change**

Change is determined by comparing the last recorded value with the first recorded value within a given time frame (LAST - FIRST = Change). We are going to ask QMan to find those patients whose records indicate a weight gain of more than 5 pounds since the beginning of 1989.

What is the subject of your search?  LIVING PATIENTS // <Enter>

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]

Attribute of LIVING PATIENTS: WTLBS  <Enter>

SUBQUERY: Analysis of multiple WEIGHTS

First condition/attribute of "WEIGHT": AFTER <Enter>
Exact date: 1/1/89 <Enter> (JAN 01, 1989)

Next condition/attribute of "WEIGHT": CHANGE <Enter> (last-1ST)

Subject of subquery: WEIGHT(lbs)
AFTER JAN 1,1989
CHANGE

Next condition/attribute of "WEIGHT": OVER <Enter>
Value: 5 <Enter>

Subject of subquery: WEIGHT(lbs)
AFTER JAN 1,1989
CHANGE
GREATER THAN 5

Next condition/attribute of "WEIGHT": <Enter>
Computing Search Efficiency Rating....

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]
Subject of subquery: WEIGHT(lbs)
AFTER JAN 1,1989
CHANGE
GREATER THAN 5

Attribute of LIVING PATIENTS: <Enter>

PATIENTS CHART CHANGE WT
We can also use the same method to find patients who have lost weight in a certain time period. In this case, we’re asking QMan to find those patients who lost more than 5 pounds since the beginning of 1989.

What is the subject of your search? LIVING PATIENTS // <Enter>

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]

Attribute of LIVING PATIENTS: WTLBS <Enter>

SUBQUERY: Analysis of multiple WEIGHTS

First condition/attribute of "WEIGHT": AFTER <Enter>
Exact date: 1/1/89 <Enter>

Next condition/attribute of "WEIGHT": CHANGE <Enter> (LAST-1ST)

Subject of subquery: WEIGHT(lbs)
AFTER JAN 1,1989
CHANGE

Next condition/attribute of "WEIGHT": LESS THAN <Enter>

Value: -5 <Enter>
Why are we asking for a weight change that’s less than -5 pounds? Keep in mind that we’re treating weight change as though it’s a continuum. The zero point on the scale indicates no weight change. Positive numbers indicate a weight gain; negative numbers indicate a weight loss.

Subject of subquery: WEIGHT(lbs)
AFTER JAN 1,1989
CHANGE
LESS THAN -5

Next condition/attribute of "WEIGHT": <Enter>
Computing Search Efficiency Rating....

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]
Subject of subquery: WEIGHT(lbs)
AFTER JAN 1,1989
CHANGE
LESS THAN -5

Attribute of LIVING PATIENTS: <Enter>

<table>
<thead>
<tr>
<th>PATIENTS</th>
<th>CHART NUMBER</th>
<th>CHANGE WT lbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALPHA, ROSE*</td>
<td>103060</td>
<td>-14.4</td>
</tr>
<tr>
<td>ALPHA, YOLANDA</td>
<td>100867</td>
<td>-24.9</td>
</tr>
<tr>
<td>BETAA, CARY</td>
<td>102968</td>
<td>-7.0</td>
</tr>
<tr>
<td>BETAA, LANA</td>
<td>102303</td>
<td>-17.1</td>
</tr>
<tr>
<td>BETAA, LENORE</td>
<td>100182</td>
<td>-72.5</td>
</tr>
<tr>
<td>BETAA, LEROY</td>
<td>100449</td>
<td>-54.0</td>
</tr>
<tr>
<td>BETAA, LESTER</td>
<td>100177</td>
<td>-8.9</td>
</tr>
<tr>
<td>BETAA, MOLLY*</td>
<td>102743</td>
<td>-8.6</td>
</tr>
<tr>
<td>BETAA, NORMA*</td>
<td>100387</td>
<td>-6.1</td>
</tr>
<tr>
<td>BETAB, SHEILA</td>
<td>100741</td>
<td>-12.5</td>
</tr>
<tr>
<td>BETA, JOANNE*</td>
<td>100185</td>
<td>-15.0</td>
</tr>
<tr>
<td>BETA, LISA</td>
<td>102528</td>
<td>-15.0</td>
</tr>
<tr>
<td>CHIA, ANNETTE</td>
<td>100997</td>
<td>-7.0</td>
</tr>
<tr>
<td>CHIB, ANTHONY</td>
<td>100440</td>
<td>-11.5</td>
</tr>
</tbody>
</table>

Figure 3-15: Results of previous query

3.2.4 Span

Span is determined by comparing the highest recorded value with the lowest recorded value within a given time frame (Highest – LOWEST = Span). This is a means of checking patient attributes that may fluctuate wildly, but be approximately the same at the beginning and end of the time period being checked. An example might be binge eaters whose weight might fluctuate. Again, we are going to use weight as the attribute and are going to check the weight change spans over 30 pounds.
What is the subject of your search?  LIVING PATIENTS // <Enter>

Subject of search: PATIENTS
ALIVE TODAY  [SER = .01]

Attribute of LIVING PATIENTS: WTLBS <Enter>

SUBQUERY: Analysis of multiple WEIGHTS

First condition/attribute of "WEIGHT": SPAN <Enter> (HI-LO)

Next condition/attribute of "WEIGHT": OVER <Enter>
Value: 30 <Enter>

Subject of subquery: WEIGHT(lbs)
SPAN
GREATER THAN 30

Next condition/attribute of "WEIGHT": <Enter>

Subject of search: PATIENTS
ALIVE TODAY  [SER = .01]
Subject of subquery: WEIGHT(lbs)
SPAN
GREATER THAN 30

Attribute of LIVING PATIENTS: <Enter>

PATIENTS   CHART SPAN WT
(Alive)   NUMBER lbs

---------------------------------------------------------------------------
ALPHA,AMANDA     101500 43.8
ALPHA,BRIAN      101981 60.6
ALPHA,DEE        100572 60.3
ALPHA,EVE*       103074 52.6
ALPHA,FELIX      103126 48.0
ALPHA,FRANCIS    101798 210.6
ALPHA,IRMA*      102600 30.1
ALPHA,ISAAC      101515 86.3
<>

Figure 3-16: Sample query of patient weight change spans over 30 years

3.3 Quantitative

Quantitative values are useful as intermediate functions in a long subquery. “At least” and “at most” are examples of quantitative values.

At Least

Let’s find all patients who have at least three weights that are over 100 pounds out of their last five weights.
What is the subject of your search?  LIVING PATIENTS // <Enter>

Subject of search: PATIENTS
ALIVE TODAY  [SER = .01]

Attribute of LIVING PATIENTS: WTLBS <Enter>

SUBQUERY: Analysis of multiple WEIGHTS

First condition/attribute of "WEIGHT": LAST 5 <Enter>

Next condition/attribute of "WEIGHT": OVER <Enter>
Value: 100 <Enter>

Subject of subquery: WEIGHT(lbs)
LAST 5
GREATER THAN 100

Next condition/attribute of "WEIGHT": AT LEAST <Enter>
Enter the value which goes with AT LEAST _ EXIST; e.g., AT LEAST _ EXIST 3,
AT LEAST _ EXIST 10, etc.
Value: 3 <Enter>

Subject of subquery: WEIGHT(lbs)
LAST 5
GREATER THAN 100
AT LEAST 3 EXIST

Next condition/attribute of "WEIGHT": <Enter>

Subject of search: PATIENTS
ALIVE TODAY  [SER = .01]
Subject of subquery: WEIGHT(lbs)
LAST 5
GREATER THAN 100
AT LEAST 3 EXIST

Attribute of LIVING PATIENTS: <Enter>

<table>
<thead>
<tr>
<th>PATIENTS</th>
<th>CHART WT</th>
<th>DATE OF WT</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Alive)</td>
<td>NUMBER</td>
<td>lbs</td>
</tr>
<tr>
<td>-------------</td>
<td>----------</td>
<td>------------</td>
</tr>
<tr>
<td>ALPHA,BRIAN</td>
<td>101981</td>
<td>246.1</td>
</tr>
<tr>
<td>ALPHA,BRIAN</td>
<td>101981</td>
<td>215.3</td>
</tr>
<tr>
<td>ALPHA,BRIAN</td>
<td>101981</td>
<td>198.0</td>
</tr>
<tr>
<td>ALPHA,BRIAN</td>
<td>101981</td>
<td>193.5</td>
</tr>
<tr>
<td>ALPHA,BRIAN</td>
<td>101981</td>
<td>186.1</td>
</tr>
<tr>
<td>ALPHA,CANDY</td>
<td>100420</td>
<td>112.0</td>
</tr>
<tr>
<td>ALPHA,CANDY</td>
<td>100420</td>
<td>109.0</td>
</tr>
<tr>
<td>ALPHA,CANDY</td>
<td>100420</td>
<td>110.4</td>
</tr>
<tr>
<td>ALPHA,CANDY</td>
<td>100420</td>
<td>111.3</td>
</tr>
<tr>
<td>ALPHA,CANDY</td>
<td>100420</td>
<td>106.3</td>
</tr>
<tr>
<td>ALPHA,DEE</td>
<td>100572</td>
<td>261.0</td>
</tr>
<tr>
<td>ALPHA,DEE</td>
<td>100572</td>
<td>237.3</td>
</tr>
</tbody>
</table>
Figure 3-17: Sample query of patients who have at least 3 of their last 5 weights over 100 lbs

So each of the individuals above had at least three weights over 100 pounds, or they would not have been listed. “At least” and “at most” do not change anything; these functions are screening devices: an “all” or “none” approach. In this query, an individual’s weights are reviewed to find the last 5 weights over 100 pounds; if at least 3 weights meeting the query are found, the results are kept. If fewer than 3 weights over 100 pounds are found, the results are discarded.

Let’s say you are doing a scientific study and you want to find all patients whose average weight is over 200 pounds in the last year. You want it to be an average. You don’t want to find a single weight that is over 200 pounds; you want to have at least three weights included in the average.

What is the subject of your search? LIVING PATIENTS // <Enter>

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]

Attribute of LIVING PATIENTS: WTLBS <Enter>

SUBQUERY: Analysis of multiple WEIGHTS

First condition/attribute of "WEIGHT": AFTER <Enter>
Exact date: T-365 <Enter> (JUL 17, 1990)

Next condition/attribute of "WEIGHT": AT LEAST <Enter>
Enter the value which goes with AT LEAST _ EXIST; e.g., AT LEAST _ EXIST 3, AT LEAST _ EXIST 10, etc.
Value: 3 <Enter>

Subject of subquery: WEIGHT(lbs)
AFTER JUL 17,1990
AT LEAST 3 EXIST

Next condition/attribute of "WEIGHT": AVE <Enter>

Subject of subquery: WEIGHT(lbs)
AFTER JUL 17,1990
AT LEAST 3 EXIST
AVERAGE

Next condition/attribute of "WEIGHT": OVER <Enter>
Value: 200 <Enter>

Subject of subquery: WEIGHT(lbs)
AFTER JUL 17,1990
AT LEAST 3 EXIST
AVERAGE
GREATER THAN 200

Next condition/attribute of "WEIGHT": <Enter>
Computing Search Efficiency Rating....

Subject of search: PATIENTS
ALIVE TODAY  [SER = .01]
Subject of subquery: WEIGHT(lbs)
AFTER JUL 17,1990
AT LEAST 3 EXIST
AVERAGE
GREATER THAN 200

Attribute of LIVING PATIENTS:

Figure 3-18: Sample query of patients whose average weight is over 200 lbs for the last year

So in your query, you ask for all of the patients’ weights in the past year. If there aren’t at least three weights on record for a patient, that patient is not investigated further. Then, of the patients who have three weights or more on record, we ask QMan to average their weights and list those who have an average weight over 200.

3.4 Relative

Sometimes you want to find attributes that were done during a certain time period, but not an absolute time period, one that is relative to a patient’s age or date of birth. For example, you might want to find DPT shots that were given within a few months of patients’ first birthdays rather than the DPT shots that were given during 1989.

3.4.1 Relative Age

Let’s say we want to find all patients who had a pneumococcal vaccination within 12 months after their 65th birthday.

What is the subject of your search? LIVING PATIENTS // <Enter>

Subject of search: PATIENTS
ALIVE TODAY  [SER = .01]

Attribute of LIVING PATIENTS: PNEUMOCOCCAL VACCINE <Enter>

First condition/attribute of "PNEUMOVAX": REL <Enter>
1  RELATIVE AGE
2   RELATIVE DATE
CHOOSE 1-2: 1 <Enter>

"Relative age" is useful in finding information about adults; "relative date" is more useful in seeking information about infants.

Condition: BETWEEN,NUMERIC <Enter> (inclusive)
Enter the lower limiting value: 65 <Enter>
Enter the upper limiting value: 66 <Enter>

Next condition/attribute of "PNEUMOVAX": <Enter>
Computing Search Efficiency Rating..........................

Subject of search: PATIENTS
ALIVE TODAY   [SER = .01]
Subject of subquery: PNEUMOVAX
RELATIVE AGE BETWEEN 65 AND 66

Attribute of LIVING PATIENTS:

Figure 3-19: Sample query of patients who had pneumococcal vaccination w/in 12 mos after their 65th birthday

Let's say I want to find all children who didn’t have their visual acuity checked during their school age. This will tell us how well the system is screening for vision problems in school age children.

What is the subject of your search? LIVING PATIENTS // <Enter>

Subject of search: PATIENTS
ALIVE TODAY   [SER = .01]

Attribute of LIVING PATIENTS: VIS <Enter>
1   VISION EXAM
2   VISION(corr.)
3   VISION(uncorr.)
4   VISIT
CHOOSE 1-4: 1 <Enter>

SUBQUERY: Analysis of multiple VISION EXAMS

First condition/attribute of "VISION EXAM": REL <Enter>
1   RELATIVE AGE
2   RELATIVE DATE
CHOOSE 1-2: 1 <Enter>
Condition: BETWEEN,NUMERIC (inclusive)
Enter the lower limiting value: 5 <Enter>
Enter the upper limiting value: 18 <Enter>

Next condition/attribute of "VISION EXAM": NULL <Enter>

Subject of search: PATIENTS
3.4.2 Relative Date

Now we’re going to do a search based on relative age. We’re going to check for patients who have received their DPT3 shots within two months of their first birthday. We can do this in one of two ways. We can ask QMan to make the search relative to their date of birth or to a particular age.

The following is the query relative to the date of birth.

```
What is the subject of your search?  LIVING PATIENTS // <Enter>

Subject of search: PATIENTS
ALIVE TODAY   [SER = .01]

Attribute of LIVING PATIENTS: DPT3 <Enter>
  1 DPT
  2 DPT/DT/TT [ALL PED. TYPES]
  3 DPT/DT/Td/TT [ALL TYPES]
CHOOSE 1-3: 1 <Enter>

First condition/attribute of "DPT": REL <Enter>
  1 RELATIVE AGE
  2 RELATIVE DATE
CHOOSE 1-2: 2 <Enter>
Relative to what date =>
  1) DATE OF BIRTH
  2) DATE OF DEATH
  3) A PARTICULAR AGE
Your choice (1-3): 1// <Enter>

Time window begins how long after patient's birth: 10M <Enter>
The window ends how long after birth: 14M <Enter>

Next condition/attribute of "DPT": <Enter>
Computing Search Efficiency Rating.....................
```

Subject of search: PATIENTS
ALIVE TODAY   [SER = .01]
Subject of subquery: DPT DURING THE SPECIFIED AGE WINDOW

Attribute of LIVING PATIENTS: <Enter>
PATIENTS         CHART  IMMUNIZATION  IMMUN. DATE  
(Alive)          NUMBER (SERIES)
---------------------------------------------------------------------------
BETAA,PATRICIA  101886 DPT(3)        JUN 8,1989 
BETAB,WILMA      101895 DPT(3)        AUG 10,1989 
THETATHETAA,JENN 101900 DPT(3)        NOV 9,1989 
THETABB,ROBERT  101928 DPT(3)        DEC 11,1987 
Total: 4

Figure 3-21: Sample query relative to the patient’s date of birth

Now the same query based on the patients’ ages, using one as the baseline age.

What is the subject of your search?  LIVING PATIENTS // <Enter>

    Subject of search: PATIENTS
    ALIVE TODAY   [SER = .01]

Attribute of LIVING PATIENTS: DPT3 <Enter>
  1  
  2  DPT/DT/TT [ALL PED. TYPES]  
  3  DPT/DT/Td/TT [ALL TYPES]
CHOOSE 1-3: 1 <Enter>

First condition/attribute of "DPT": REL <Enter>
  1  RELATIVE AGE
  2  RELATIVE DATE
CHOOSE 1-2: 2 <Enter>
Relative to what date =>
    1) DATE OF BIRTH
    2) DATE OF DEATH
    3) A PARTICULAR AGE

Your choice (1-3): 1// 3 <Enter>

Enter the baseline age: 1 <Enter> (years)
Enter beginning of time window relative to each patients age: -2M <Enter>
Enter the end of the time window relative to the baseline age: +2M <Enter>

Next condition/attribute of "DPT": <Enter>
Computing Search Efficiency Rating..................

Subject of search: PATIENTS
    ALIVE TODAY   [SER = .01]
Subject of subquery: DPT
    DURING THE SPECIFIED AGE WINDOW

Attribute of LIVING PATIENTS: <Enter>

PATIENTS         CHART  IMMUNIZATION  IMMUN. DATE
### 3.5 Global

This is a quick review of generic or “global” functions. The following table shows how “all,” “any,” and “null” operate.

<table>
<thead>
<tr>
<th>Function</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>All attribute values on record</td>
</tr>
<tr>
<td>Any</td>
<td>Patients who do not have an attribute value recorded + patients</td>
</tr>
<tr>
<td></td>
<td>who do have attribute values recorded</td>
</tr>
<tr>
<td>Null</td>
<td>Patient who do not have an attribute value recorded</td>
</tr>
</tbody>
</table>

These functions were covered previously in Volume I. Note that when “all,” “any,” or “null” is used as part of a subquery, the subquery ends as soon as they are added to the query; you are not given another chance to add another function to the subquery.

#### 3.5.1 All

We can use “all” to find all the values for a particular attribute that are on record. You can also use the term “exists.” In this case, we’re asking for all the weights on record for all of the living patients.

```
What is the subject of your search? LIVING PATIENTS // <Enter>

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]

Attribute of LIVING PATIENTS: WTLBS <Enter>

SUBQUERY: Analysis of multiple WEIGHTS

First condition/attribute of "WEIGHT": ALL <Enter> (or EXISTS)
Computing Search Efficiency Rating.........................

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]
WEIGHT(lbs) ALL VALUES [SER = .01]
```
Attribute of LIVING PATIENTS: <Enter>

<table>
<thead>
<tr>
<th>PATIENTS</th>
<th>CHART</th>
<th>WT</th>
<th>DATE OF WT</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Alive)</td>
<td>NUMBER</td>
<td>lbs</td>
<td></td>
</tr>
<tr>
<td>-----------------</td>
<td>-------</td>
<td>------</td>
<td>--------------</td>
</tr>
<tr>
<td>ALPHA, AMANDA</td>
<td>101500</td>
<td>100.3</td>
<td>DEC 10, 1987</td>
</tr>
<tr>
<td>ALPHA, AMANDA</td>
<td>101500</td>
<td>82.0</td>
<td>DEC 30, 1986</td>
</tr>
<tr>
<td>ALPHA, AMANDA</td>
<td>101500</td>
<td>67.0</td>
<td>JAN 15, 1986</td>
</tr>
<tr>
<td>ALPHA, AMANDA</td>
<td>101500</td>
<td>68.0</td>
<td>DEC 20, 1985</td>
</tr>
<tr>
<td>ALPHA, AMANDA</td>
<td>101500</td>
<td>56.5</td>
<td>FEB 25, 1985</td>
</tr>
<tr>
<td>ALPHA, ANDY</td>
<td>101926</td>
<td>18.3</td>
<td>NOV 22, 1989</td>
</tr>
<tr>
<td>ALPHA, ANDY</td>
<td>101926</td>
<td>17.4</td>
<td>AUG 24, 1989</td>
</tr>
<tr>
<td>ALPHA, ANDY</td>
<td>101926</td>
<td>16.1</td>
<td>AUG 3, 1989</td>
</tr>
<tr>
<td>ALPHA, ANDY</td>
<td>101926</td>
<td>13.5</td>
<td>MAY 22, 1989</td>
</tr>
<tr>
<td>ALPHA, ANDY</td>
<td>101926</td>
<td>14.5</td>
<td>MAY 18, 1989</td>
</tr>
<tr>
<td>ALPHA, ANDY</td>
<td>101926</td>
<td>13.4</td>
<td>MAY 4, 1989</td>
</tr>
<tr>
<td>ALPHA, ANDY</td>
<td>101926</td>
<td>13.4</td>
<td>APR 28, 1989</td>
</tr>
<tr>
<td>ALPHA, ANDY</td>
<td>101926</td>
<td>13.0</td>
<td>APR 25, 1989</td>
</tr>
<tr>
<td>ALPHA, ANDY</td>
<td>101926</td>
<td>12.8</td>
<td>MAR 31, 1989</td>
</tr>
<tr>
<td>ALPHA, ANDY</td>
<td>101926</td>
<td>12.4</td>
<td>MAR 30, 1989</td>
</tr>
<tr>
<td>ALPHA, ANDY</td>
<td>101926</td>
<td>11.8</td>
<td>MAR 16, 1989</td>
</tr>
<tr>
<td>ALPHA, BARNEY</td>
<td>101988</td>
<td>18.1</td>
<td>JAN 3, 1990</td>
</tr>
</tbody>
</table>

<>

Figure 3-23: Sample query for all weights on record for all living patients

3.5.2 Any

This will give us every patients’ weights, and the display will show a minus sign (-) if there are no weights on record for a particular patient.
### Null

Let’s find the patients who do not have any weights on record.

**Figure 2-25: Sample query for any weights on record for all living patients**

```
What is the subject of your search?  LIVING PATIENTS // <Enter>

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]

Attribute of LIVING PATIENTS: WTLBS <Enter>

SUBQUERY: Analysis of multiple WEIGHTS

First condition/attribute of "WEIGHT": NULL <Enter>

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]
WEIGHT(lbs): NONE EXIST [SER = -.1]

Attribute of LIVING PATIENTS: <Enter>

PATIENTS CHART WT (Alive) NUMBER lbs

---------------------------------------------------------------------------
ALPHA,CELESTE 60165  -
ALPHA,MOLLY* 100110 -
```
The following subquery uses “null” to find all living patients who do not have a weight greater than 200 on record.
All of the patients listed above have weights on record, but none has had a weight recorded that is over 200 pounds.

### 3.6 Visit-Related

When you do a subquery, you can enter any attribute that applies to a visit. For example, if you select weight as an attribute, the subquery might contain value, date, and all the attributes of the visit during which the weight was obtained. After all, the context here is that a weight is connected to a visit; therefore, all the characteristics connected to a visit also go with “weight.” So if we ask for a weight after 1989, we are actually talking about a weight recorded on a visit after 1989.

You can pick any of the following visit conditions or attributes that we discussed before:

- After
- Before
- Between
- Clinic (pediatrics, dental, ER, etc)
- Date
- Date visit created
- Location (Gallup, Tucson, etc.)
- Modified date
- On
- Purpose of visit (diagnosis)
- Patient
- Provider (name or discipline, primary or secondary)
- Relative age
- Service category (ambulatory, hospitalization, etc.)
- Visit type (IHS, VA, 638, etc.)

### What is the subject of your search? LIVING PATIENTS // <Enter>

**Subject of search:** PATIENTS
**ALIVE TODAY**  [SER = .01]

**Attribute of LIVING PATIENTS:** WTlbs <Enter>

**SUBQUERY:** Analysis of multiple WEIGHTS

**First condition/attribute of "WEIGHT":** CLIN <Enter>
1  CLINIC
2  CLINICAL IMPRESSIONS
**CHOOSE 1-2:** 1 <Enter>

Enter CLINIC: EMERGENCY MEDICINE <Enter>  30
Enter ANOTHER CLINIC: <Enter>

The following have been selected =>

EMERGENCY MEDICINE

**Next condition/attribute of "WEIGHT":** <Enter>

**Subject of search:** PATIENTS
**ALIVE TODAY**  [SER = .01]
**Subject of subquery:** WEIGHT(lbs)
CLINIC (EMERGENCY ME)

**Attribute of LIVING PATIENTS:**

---

**Figure 3-26: Sample subquery searching by clinic**
4.0 Subqueries for Specific Data Categories

There are attribute functions that can apply to many different categories of data that can apply to weights, laboratory tests, and so on. But there are certain attributes that apply only to certain data categories. Each data category such as lab tests, measurements, diagnoses, and prescriptions has specific attributes that only apply to that category. For example, for the data category “prescriptions,” there is the “quantity dispensed” attribute.

4.1 Dental Procedures

An attribute specific to dental procedures is “ADA Code” (American Dental Association Code). ADA codes cannot be entered directly by just typing in a code number; you have to first type in “ADA Code.” Other attributes specific to dental procedures are “dental operative site” and “units, dental operative.”

Below is a query for patients who had a certain tooth extracted because of caries, and the extraction required more than two dental procedure units.

What is the subject of your search?  LIVING PATIENTS // <Enter>

Subject of search: PATIENTS
ALIVE TODAY   [SER = .01]

Attribute of LIVING PATIENTS: ADA CODE <Enter>

Enter ADA CODE: EXTRACTION <Enter>

1  EXTRACTION FOR CARIES  7111  EXTRACTION FOR CARIES
2  EXTRACTION FOR ORTHO  7113  EXTRACTION FOR ORTHO
3  EXTRACTION FOR PERIO  7112  EXTRACTION FOR PERIO
4  EXTRACTION SINGLE TOOTH (ANY R 7110  EXTRACTION SINGLE TOOTH
   ANY REASON)
   5  EXTRAORAL EACH ADDITIONAL FILM  0260  EXTRAORAL EACH

ADDITIONAL FILM
TYPE `^' TO STOP, OR
CHOOSE 1-5:  1 <Enter>  7111
Enter ANOTHER ADA CODE:

The following have been selected =>

7111

SUBQUERY: Analysis of multiple ADA CODES

First condition/attribute of "ADA CODE": DENT <Enter>

1  DENTAL OPERATIVE SITE
2  DENTAL PROCEDURE
CHOOSE 1-2:  1 <Enter>
Enter OP SITE: CAN <Enter>
1 CANINE,MAND LEFT 22
2 CANINE,MAND RIGHT 27
3 CANINE,MAX LEFT 11
4 CANINE,MAX RIGHT 6
CHOOSE 1-4: 1 <Enter>
Enter ANOTHER OP SITE: <Enter>

The following have been selected =>

PERMANENT CANINE,MAND LEFT

Next condition/attribute of "ADA CODE": UNITS, <Enter> DENTAL PROCEDURE
Condition: OVER <Enter>
Value: 2 <Enter>

Subject of subquery: ADA CODE
DENTAL OP. SITE (PERMANENT CA)
UNITS, DENTAL PROCEDURE > 2

Next condition/attribute of "ADA CODE": <Enter>
Computing Search Efficiency Rating.................

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]
ADA CODE (7111) [SER = 12.38]
Subject of subquery: ADA CODE
DENTAL OP. SITE (PERMANENT CA)
UNITS, DENTAL PROCEDURE > 2

Attribute of LIVING PATIENTS: <Enter>

You have 3 options for listing ADA CODES =>

1) For ea. patient, list all ADA CODES
2) For ea. patient, list all ADA CODES and SERVICE DESCRIPTIONS
3) List all PATIENTS with ADA CODES you specified, but DO NOT list
   individual ADA CODES or SERVICE DESCRIPTIONS (FASTEST OPTION!!)

Your choice (1-3): 1//

Figure 4-1: Sample subquery for a dental procedure

4.2 Diagnoses

Specific conditions/attributes of diagnoses can be any of the following:

- CAUSE OF INJURY
- DATE OF INJURY
- FIRST VISIT OR REVISIT
In the event of an injury caused by an accident, you will also be asked to “Enter place of Accident.” Possible choices are:

- HOME-INSIDE
- HOME-OUTSIDE
- FARM
- SCHOOL
- INDUSTRIAL PREMISES
- RECREATIONAL AREA
- STREET/HIGHWAY
- PUBLIC BUILDING
- RESIDENT INSTITUTION
- HUNTING/FISHING
- OTHER
- UNKNOWN

QMan can find diabetic patients whose records include provider narratives containing “F/U.”

What is the subject of your search? LIVING PATIENTS // <Enter>

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]

Attribute of LIVING PATIENTS: DX <Enter>

Enter DX: DM <Enter>
250.00 (DIABETES UNCOMPL TYPE II/NIDDM)
DIABETES MELLITUS WITHOUT MENTION OF COMPLICATION/TYP II/NONINSULIN
DEPENDENT/ADULT-ONSET

OK? Y// <Enter>
ICD Code Range(s) Selected So Far =>

1) 250.00

Enter ANOTHER DX: <Enter>

SUBQUERY: Analysis of multiple DIAGNOSES

First condition/attribute of "DIAGNOSIS": PROVIDER NAR <Enter>
**Condition: ??**

Possible choices:
- BETWEEN, ALPHABETIC (inclusive)
- CONTAINS
- ENDS WITH
- Follows
- Is
- Pattern Match
- Starts With

Condition: CONTAINS <Enter>

What: F/U <Enter>

Next condition/attribute of "DIAGNOSIS": <Enter>

Computing Search Efficiency Rating.....

Subject of search: PATIENTS  
ALIVE TODAY  [SER = .01]  
DIAGNOSIS (250.00)  [SER = 24.37]  
Subject of subquery: DIAGNOSIS  
CONTAINS F/U

Attribute of LIVING PATIENTS: <Enter>

You have 3 options for listing DIAGNOSES =>

1) For ea. patient, list all IC9 CODES  
2) For ea. patient, list all IC9 CODES and PROVIDER NARRATIVES  
3) List all PATIENTS with IC9 CODES you specified, but DO NOT list individual IC9 CODES or PROVIDER NARRATIVES (FASTEST OPTION!!)

Your choice (1-3): 1// 2 <Enter>

<table>
<thead>
<tr>
<th>PATIENTS</th>
<th>CHART</th>
<th>ICD9</th>
<th>DATE OF POV</th>
<th>PROVIDER NARRATIVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Alive)</td>
<td>NUMBER</td>
<td>CODE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------</td>
<td>-------</td>
<td>-------</td>
<td>---------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>RHORHORHORR,MAND</td>
<td>100006</td>
<td>250.00</td>
<td>SEP 22,1989</td>
<td>F/U DM, ANGINA</td>
</tr>
<tr>
<td>RHORHORHORR,MAND</td>
<td>100006</td>
<td>250.00</td>
<td>MAY 5,1989</td>
<td>F/U DM, ASHD</td>
</tr>
<tr>
<td>RHORHORHORR,MAND</td>
<td>100006</td>
<td>250.00</td>
<td>NOV 25,1988</td>
<td>F/U DM, ASHD</td>
</tr>
<tr>
<td>RHORHORHORR,MAND</td>
<td>100006</td>
<td>250.00</td>
<td>MAY 20,1988</td>
<td>F/U DM, ASHD</td>
</tr>
<tr>
<td>RHORHORHORR,MAND</td>
<td>100006</td>
<td>250.00</td>
<td>MAR 18,1988</td>
<td>F/U DM, ASHD</td>
</tr>
<tr>
<td>RHORHORHORR,MAND</td>
<td>100006</td>
<td>250.00</td>
<td>FEB 12,1988</td>
<td>F/U DM, ASHD</td>
</tr>
<tr>
<td>RHORHORHORR,MAND</td>
<td>100006</td>
<td>250.00</td>
<td>JAN 22,1988</td>
<td>F/U DM</td>
</tr>
<tr>
<td>RHORHORHORR,MAND</td>
<td>100006</td>
<td>250.00</td>
<td>JUL 2,1987</td>
<td>F/U ANGINA, HTN, DM</td>
</tr>
<tr>
<td>METAAA,SALLY*</td>
<td>100010</td>
<td>250.00</td>
<td>JUN 2,1989</td>
<td>F/U DM</td>
</tr>
<tr>
<td>THETAAAAA,KATE*</td>
<td>100028</td>
<td>250.00</td>
<td>NOV 12,1986</td>
<td>F/U DM, II, ORAL AGENT</td>
</tr>
<tr>
<td>CHIIII,JULIE*</td>
<td>100061</td>
<td>250.00</td>
<td>JUL 10,1985</td>
<td>F/U DM, II, ORAL AGENT</td>
</tr>
<tr>
<td>GAMMAABBABB,MARY*</td>
<td>100101</td>
<td>250.00</td>
<td>MAR 4,1985</td>
<td>F/U DIABETES</td>
</tr>
<tr>
<td>KAPPAAAA,HORTENC*</td>
<td>100113</td>
<td>250.00</td>
<td>FEB 24,1986</td>
<td>F/U DIABETIC CLINIC APPT, NOT F</td>
</tr>
<tr>
<td>KAPPAAAA,HORTENC*</td>
<td>100113</td>
<td>250.00</td>
<td>FEB 10,1986</td>
<td>F/U DIABETES, NOT FOUND</td>
</tr>
</tbody>
</table>
Figure 4-2: Sample subquery of diabetic patients whose records include provider narratives containing "F/U"

Note that in doing provider narrative lookups, QMan looks for **exact** matches for and does not recognize synonyms. In this case, QMan looks for the letter F/U not for the words “follow-up.” This is a weakness of the provider narrative lookup.

QMan can be queried to search for a special cause of diagnosis:

```
First condition/attribute of "DIAGNOSIS": SPECIAL CAUSE OF DIAGNOSIS <Enter>
CHOOSE FROM:
1       HOSPITAL ACQUIRED
2       ALCOHOL
3       BATTERED CHILD
4       EMPLOYMENT RELATED
Value: 2 <Enter>
```

Figure 4-3: Searching by special cause of diagnosis

This could be helpful for a hospital quality assurance check, for example, and want to see if any patient has an infection that was acquired while the patient was hospitalized.

In the following query, search QMan to find diabetic patients whose disease is alcohol-related.

```
What is the subject of your search?  LIVING PATIENTS // <Enter>

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]

Attribute of LIVING PATIENTS: DX <Enter>

Enter DX: DM <Enter>

Enter ANOTHER DX: <Enter>
First condition/attribute of "DIAGNOSIS": SPECIAL CAUSE OF DIAGNOSIS <Enter>
CHOOSE FROM:
1       HOSPITAL ACQUIRED
2       ALCOHOL RELATED
3       BATTERED CHILD
4       EMPLOYMENT RELATED
Value: 2 <Enter>

Next condition/attribute of "DIAGNOSIS": STAGE <Enter>
```
Condition: >
Value: 2 <Enter>

Subject of subquery: DIAGNOSIS
SPECIAL CAUSE OF DX = ALCOHOL RELATED
STAGE > 2

Next condition/attribute of "DIAGNOSIS": <Enter>
Computing Search Efficiency Rating........

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]
DIAGNOSIS (250.00) [SER = 24.37]
Subject of subquery: DIAGNOSIS
SPECIAL CAUSE OF DX = ALCOHOL RELATED
STAGE > 2

Attribute of LIVING PATIENTS: <Enter>
You have 3 options for listing DIAGNOSES =>

1) For ea. patient, list all IC9 CODES
2) For ea. patient, list all IC9 CODES and PROVIDER NARRATIVES
3) List all PATIENTS with IC9 CODES you specified, but DO NOT list individual IC9 CODES or PROVIDER NARRATIVES (FASTEST OPTION!!)

Your choice (1-3): 1/ 2 <Enter>

Figure 4-4: Sample subquery of diabetic patients whose disease is alcohol-related

4.3 Exams

There are only two special conditions/attributes for examinations: positive and negative.

What is the subject of your search? LIVING PATIENTS // <Enter>

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]

Attribute of LIVING PATIENTS: BREAST EXAM <Enter>

SUBQUERY: Analysis of multiple BREAST EXAMS

First condition/attribute of "BREAST EXAM": ?? <Enter>

Possible choices:

POSITIVE
NEGATIVE
ALL
ANY
EXISTS
NULL

IS
AT LEAST _ EXIST
AT MOST _ EXIST
FIRST
LAST
RELATIVE AGE
RELATIVE DATE
TOTAL NUMBER
AFTER
BEFORE
BETWEEN DATES (inclusive)

First condition/attribute of "BREAST EXAM": POS <Enter>

There are no special output options for exams.

Figure 4-5: Sample subquery by exam

4.4 Hospitalizations

Hospitalizations are a special kind of visit or patient encounter.

What is the subject of your search? LIVING PATIENTS // <Enter>

Subject of search: PATIENTS
ALIVE TODAY  [SER = .01]

Attribute of LIVING PATIENTS: HOSPITAL ADMISSION <Enter>

SUBQUERY: Analysis of multiple HOSPITAL ADMISSIONS

First condition/attribute of "HOSPITAL ADMISSION": ?? <Enter>

ADMISSION TYPE
ADMITTING DIAGNOSIS
ADMITTING SERVICE
DISCHARGE DATE
DISCHARGE SERVICE
DISCHARGE TYPE
NUMBER OF CONSULTS

First condition/attribute of "HOSPITAL ADMISSION": ADMISSION TYPE <Enter>

Enter ADMISSION TYPE: ??? <Enter>

CHOOSE FROM:
DIRECT
OTHER
REFERRED FROM IHS CLINIC
TRANS-IHS HOSPITAL
TRANS-NON IHS HOSPITAL
Enter ADMISSION TYPE: <Enter>

Next condition/attribute of "HOSPITAL ADMISSION": DISCHARGE TYPE <Enter>

Enter DISCHARGE TYPE: ??? <Enter>

CHOOSE FROM:
- DEATH AFTER 48 HRS W AUTOPSY 6
- DEATH AFTER 48 HRS W/O AUTOPSY 7
- DEATH W/I 48 HRS W AUTOPSY 4
- DEATH W/I 48 HRS W/O AUTOPSY 5
- IRREGULAR (AMA) 3
- IRREGULAR DISCHARGE 3
- REGULAR DISCHARGE 1
- TRANSFERRED 2
- TRANSFERRED IHS HOSPITAL 2
- TRANSFERRED NON-IHS HOSPITAL 2

Enter DISCHARGE TYPE: <Enter>
What is the subject of your search? LIVING PATIENTS // <Enter>

Subject of search: PATIENTS
   ALIVE TODAY [SER = .01]

Attribute of LIVING PATIENTS: HOSPITAL ADMISSION <Enter>

SUBQUERY: Analysis of multiple HOSPITAL ADMISSIONS
First condition/attribute of "HOSPITAL ADMISSION":

Select one of the following:

PATIENTS who have a HOSPITAL ADMISSION
   1  recorded
   2  CANCEL this attribute

What do you want to do: FIND// <Enter>
Computing Search Efficiency Rating....

Subject of search: PATIENTS
   ALIVE TODAY [SER = .01]
   HOSPITAL ADMISSION EXISTS [SER = -.1]

Attribute of LIVING PATIENTS: <Enter>

You have 2 options for listing ADMISSIONS =>
   1) For ea. patient, list all ADMITTING DATES
   2) For ea. patient, list all ADMITTING DATES and DISCHARGE INFO

Your choice (1-2): 1// 2 <Enter>

PATIENTS         CHART  DISCHARGE SUMMARY
(Alive)          NUMBER
The second option gives the patient’s name, date of admission, date of discharge, number of days hospitalized, and the service to which they were admitted.

### 4.5 Immunizations

Immunizations also have a few conditions/attributes that are specific, as shown below. You can enter the immunization directly, and there are no special output options for this data category. “Immunization lot number” is a free-text entry. If you indicate that the patient has had an immunization reaction, you will be asked to identify the primary reaction.

```
What is the subject of your search?  LIVING PATIENTS // <Enter>

Subject of search: PATIENTS
   ALIVE TODAY  [SER = .01]

Attribute of LIVING PATIENTS: DPT3
   1  DPT
   2  DPT/DT/TT [ALL PED. TYPES]
   3  DPT/DT/Td/TT [ALL TYPES]
CHOOSE 1-3: 1 <Enter>

First condition/attribute of "DPT": ?? <Enter>

IMMUNIZATION CONTRAINDIANTED
IMMUNIZATION LOT NUMBER
```
IMMUNIZATION REACTION

First condition/attribute of "DPT": IMM <Enter>
  1 IMMUNIZATION

  2 IMMUNIZATION CONTRAINDICATED
  3 IMMUNIZATION LOT NUMBER
  4 IMMUNIZATION REACTION

CHOOSE 1-4: 2 <Enter>

CHOOSE FROM:
  1 YES (DO NOT REPEAT THIS VACCINE).
  0 NO (OK TO USE IN THE FUTURE)
Value: 0 <Enter>

Next condition/attribute of "DPT": IMMUNIZATION REACTION <Enter>

CHOOSE FROM:
  1 FEVER
  2 IRRITABILITY
  3 LOCAL REACTION OR SWELLING
  4 VOMITING
  5 RASH OR ITCHING
  6 LETHARGY
  7 CONVULSIONS
  8 ARTHRITIS OR ARTHRALGIAS
  9 ANAPHYLAXIS OR COLLAPSE
  10 RESPIRATORY DISTRESS
  11 OTHER
Value:

Figure 4-7: Sample subquery by immunization

4.6 Lab Tests

When you type in a lab test, there are several ways these tests can be grouped. Lab tests can be grouped by anatomical site or by laboratory test method.

Note: You can only use a particular lab test as an attribute when passing data from the VA Lab System to the PCC.

Possible choices:

BLOOD TYPE                   SERUM HCG
GLUCOSE                      SERUM POTASSIUM
HCT                          URINE GLUCOSE,DIPSTICK
PAP SMEAR                    URINE HCG
PERITONEAL FLUID POTASSIUM   URINE POTASSIUM
RHEUMATOID FACTOR

What is the subject of your search? LIVING PATIENTS // <Enter>
Subject of search: PATIENTS
   ALIVE TODAY [SER = .01]

Attribute of LIVING PATIENTS: GLUC <Enter>
   1   GLUCOSE
   2   GLUCOSE, DIPSTICK URINE

CHOOSE 1-2: 1 <Enter>
The following tests will included in the query =>
   SERUM GLUCOSE 60 - 123 mg/dL  [critical: <40 and >300]
   PLASMA GLUCOSE 60 - 123 mg/dL  [critical: <40 and >300]

SUBQUERY: Analysis of multiple GLUCOSES

Figure 4-8: Sample subquery by lab tests

If the methods by which the glucose readings were obtained were different or the
clinical settings in which the glucose readings were obtained were different, and those
differences were entered into your database, you could obtain them separately by
entering “\GLUC” (a back slash followed by GLUC).

Attribute of LIVING PATIENTS: \GLUC <Enter>
   1   GLUCOSE
   2   GLUCOSE, DIPSTICK URINE

CHOOSE 1-2: 1 <Enter>
First condition/attribute of "GLUCOSE": ALL <Enter>

Computing Search Efficiency Rating..........................

Subject of search: PATIENTS
   ALIVE TODAY [SER = .01]
   GLUCOSE ALL VALUES [SER = .11]

Attribute of LIVING PATIENTS: <Enter>

You have 3 options for listing GLUCOSE RESULTS =>
   1) For ea. patient, list all RESULTS
   2) For ea. patient, list all RESULTS and EXPANDED LAB REPORT
   3) List all PATIENTS with RESULTS you specified, but DO NOT list
      individual RESULTS or EXPANDED LAB REPORT (FASTEST OPTION!!)

Choosing option 1 will give you the following format:

PATIENTS (Alive)   CHART   GLUCOSE   GLUCOSE DATE
                NUMBER    mg/dL

METAAAA, POLLY 101256 86  APR 25, 1989
METAAAA, POLLY 101256 87  FEB 17, 1989
METAAAA, POLLY 101256 84  JAN 17, 1989
METAAAA, POLLY 101256 51 L  DEC 27, 1988
Figure 4-9: Results of previous query

In this listing, in addition to the glucose reading, an “L” will appear if the reading is low or an “H” will appear if the reading is high. Asterisks (*) highlight values that are critical.

Choosing option 2 will give you the following format:

<table>
<thead>
<tr>
<th>PATIENTS</th>
<th>CHART</th>
<th>GLUCOSE</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Alive)</td>
<td>NUMBER</td>
<td>mg/dL</td>
<td></td>
</tr>
</tbody>
</table>
---------------------------------------------------------------------------
| METAAAA, POLLY   | 101256 | 87 60-123        | FEB 17,1989 |
| METAAAA, POLLY   | 101256 | 84 60-123        | JAN 17,1989 |
| METAAAA, POLLY   | 101256 | 51 L 60-123      | DEC 27,1988 |
| RHORHOO, EVAN    | 101873 | 106 60-123       | FEB 6,1989  |
| RHORHOO, EVAN    | 101873 | 93 60-123        | JUN 13,1988 |
| RHORHOO, ARTHUR  | 101923 | 52 L 60-123      | SEP 14,1989 |
| RHORHOO, ARTHUR  | 101923 | 94 60-123        | SEP 14,1989 |
| BETAA, CURT     | 101932 | 53 L 60-123      | APR 13,1989 |
| KAPPAAA, AARON*  | 102884 | 156 H 60-123     | DEC 19,1989 |
| KAPPAAA, AARON*  | 102884 | 229 H 60-123     | OCT 28,1989 |
| KAPPAAA, AARON*  | 102884 | 340 H* 60-123    | JUN 20,1989 |
| KAPPAAA, AARON*  | 102884 | 170 H 60-123     | APR 26,1989 |
| KAPPAAA, AARON*  | 102884 | 234 H 60-123     | DEC 25,1988 |
| KAPPAAA, AARON*  | 102884 | 164 H 60-123     | JAN 28,1988 |
<>

Figure 4-10: Format given by selecting option 2

In addition to the information that is provided by output option 1, option 2 gives you the normal range for glucose readings. Option 2 will also give the specific site and method that was used, if that information is available.

4.7 Measurements

There are no special conditions/attributes for measurements, nor are there any special output options. Measurements are entered directly. The possible measurements are:
• ABDOMINAL GIRTH (cms.)
• BP
• DIASTOLIC BP
• FHT
• FUNDAL HEIGHT (cms.)
• HEAD CIRC.(cms)
• HEAD CIRC.(ins)
• HEIGHT(cms)
• PERCENTILE(HT)
• PULSE
• SYSTOLIC BP
• TEMPERATURE (F.)
• VISION(corr.)
• VISION(uncorr.)
• WEIGHT(kgs)
• WEIGHT(lbs)

4.8 Medications

“Quantity dispensed” is the only special condition/attribute for prescriptions. Because of the sheer numbers of medications, formulations, and names, medications are entered indirectly by first entering “RX.” There is a special output option for medications that gives the date of the prescription, the quantity, and label instructions.

What is the subject of your search? LIVING PATIENTS // <Enter>

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]

Attribute of LIVING PATIENTS: RX <Enter>

Enter RX: TYLENOL <Enter>

1  TYLENOL ACETAMINOPHEN 325MG 24S TAB
2  TYLENOL ACETAMINOPHEN 160MG/5ML
3  TYLENOL ACETAMINOPHEN/CODEINE ELX
4  TYLENOL ACETAMINOPHEN 80MG/0.8ML
5  TYLENOL #3 APAP WITH CODEINE 30 MG N/F

TYPE '^' TO STOP, OR

CHOOSE 1-5: <Enter>

6  TYLENOL 325MG 50S ACETAMINOPHEN 325MG 50S TAB
7  TYLENOL SUPP 120MG ACETAMINOPHEN 120MG SUPP.
8  TYLENOL#3 ACETAMINOPHEN WITH CODEINE 30MG TAB U/D

CHOOSE 1-8: <Enter>

Enter RX: ACETAMINOPHEN <Enter>

1  ACETAMINOPHEN 120MG SUPP.
2  ACETAMINOPHEN 160MG/5ML
3  ACETAMINOPHEN 325MG 24S TAB
4  ACETAMINOPHEN 325MG 50S TAB
5  ACETAMINOPHEN 325MG SUPPOS
TYPE '^' TO STOP, OR

CHOOSE 1-5: <Enter>
   6   ACETAMINOPHEN 325MG TAB U/D
   7   ACETAMINOPHEN 650MG SUPP      N/F
   8   ACETAMINOPHEN 80MG/0.8ML
   9   ACETAMINOPHEN WITH CODEINE 30MG TAB U/D

   10  ACETAMINOPHEN/COD 30MG

TYPE '^' TO STOP, OR

CHOOSE 1-10: <Enter>
   11  ACETAMINOPHEN/CODEINE ELX

CHOOSE 1-11: <Enter>

Enter RX:  MOTRIN  <Enter>
1   MOTRIN  IBUPROFEN 400MG TAB
2   MOTRIN 40S  IBUPROFEN 400MG TAB 40S
3   MOTRIN800  IBUPROFEN 800MG TAB
4   MOTRINUD  IBUPROFEN 400MG TAB U/D

CHOOSE 1-4: <Enter>

Enter RX:  IBUPROFEN  <Enter>
1   IBUPROFEN 400MG TAB
2   IBUPROFEN 400MG TAB U/D
3   IBUPROFEN 800MG TAB

CHOOSE 1-3: <Enter>

Enter RX:  IBU  <Enter>
1   IBUPROFEN 400MG TAB
2   IBUPROFEN 400MG TAB U/D
3   IBUPROFEN 800MG TAB
4   IBUPROFEN 400MG TAB 40S

CHOOSE 1-4: <Enter>

What is the subject of your search?  LIVING PATIENTS // <Enter>

Subject of search: PATIENTS
   ALIVE TODAY  [SER = .01]

Attribute of LIVING PATIENTS: RX  <Enter>

Enter RX:  [HCTZ  <Enter>   TEST]

Members of HCTZ Taxonomy =>

HYDROCHLOROTHIAZIDE 50MG
HYDROCHLOROTHIAZIDE 50MG TAB 30S
HYDROCHLORTHIAZIDE 25MG TAB
HYDROCHLOROTHIAZIDE 50MG TAB 60S
HYDROCHLORTHIAZIDE 50MG TAB UD

Enter ANOTHER RX: <Enter>

The following have been selected =>

   HYDROCHLOROTHIAZIDE 50MG
   HYDROCHLOROTHIAZIDE 50MG TAB 30S
   HYDROCHLORTHIAZIDE 25MG TAB
SUBQUERY: Analysis of multiple RXS

First condition/attribute of "RX": QUANTITY DISPENSED <Enter>

Condition: OVER <Enter>
Value: 5 <Enter>

Next condition/attribute of "RX": <Enter>
Computing Search Efficiency Rating..........

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]
RX (HYDROCHLOROTHIAZIDE) [SER = 22.96]
Subject of subquery: RX
QUANTITY DISPENSED > 5

Attribute of LIVING PATIENTS: <Enter>

You have 3 options for listing RxS =>

1) For ea. patient, list all RxS
2) For ea. patient, list all RxS and Quant/SIGs
3) List all PATIENTS with RxS you specified, but DO NOT list
   individual RxS or Quant/SIGs (FASTEST OPTION!!)

Your choice (1-3): 1// <Enter>

What is the subject of your search? LIVING PATIENTS // <Enter>

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]

Attribute of LIVING PATIENTS: RX <Enter>

Enter RX: MOTRIN <Enter>
  1 MOTRIN IBUPROFEN 400MG TAB
  2 MOTRIN 40S IBUPROFEN 400MG TAB 40S
  3 MOTRIN800 IBUPROFEN 800MG TAB
  4 MOTRINUD IBUPROFEN 400MG TAB U/D
CHOOSE 1-4: 1 <Enter> IBUPROFEN 400MG TAB
Enter ANOTHER RX: MOTRIN <Enter>
  1 MOTRIN IBUPROFEN 400MG TAB
  2 MOTRIN 40S IBUPROFEN 400MG TAB 40S
  3 MOTRIN800 IBUPROFEN 800MG TAB
  4 MOTRINUD IBUPROFEN 400MG TAB U/D
CHOOSE 1-4: 2 <Enter> IBUPROFEN 400MG TAB 40S
Enter ANOTHER RX: MOTRIN <Enter>
  1 MOTRIN IBUPROFEN 400MG TAB
  2 MOTRIN 40S IBUPROFEN 400MG TAB 40S
  3 MOTRIN800 IBUPROFEN 800MG TAB

Want to save this RX group for future use? NO// <Enter>
4 MOTRIN UD IBUPROFEN 400MG TAB U/D
CHOOSE 1-4: 3 <Enter> IBUPROFEN 800MG TAB
Enter ANOTHER RX: MOTRIN <Enter>
   1 MOTRIN IBUPROFEN 400MG TAB
   2 MOTRIN 40S IBUPROFEN 400MG TAB 40S
   3 MOTRIN800 IBUPROFEN 800MG TAB
   4 MOTRINUD IBUPROFEN 400MG TAB U/D
CHOOSE 1-4: 4 <Enter> MOTRIN UD IBUPROFEN 400MG TAB U/D

Enter ANOTHER RX: <Enter>
The following have been selected =>
   IBUPROFEN 400MG TAB
   IBUPROFEN 400MG TAB U/D
   IBUPRPOFEN 400MG TAB 40S
   IBUPROFEN 800MG TAB

Want to save this RX group for future use? NO// Y <Enter>
Group name: MOTRIN <Enter>
SUBQUERY: Analysis of multiple RXS

First condition/attribute of "RX": <Enter>
Computing Search Efficiency Rating........

Subject of search: PATIENTS
   ALIVE TODAY [SER = .01]
   RX (IBUPROFEN 40/IBUPROFEN 40...) [SER = 23.29]

Attribute of LIVING PATIENTS: <Enter>
You have 3 options for listing RxS =>
   1) For ea. patient, list all RxS
   2) For ea. patient, list all RxS and Quant/SIGs
   3) List all PATIENTS with RxS you specified, but DO NOT list
      individual RxS or Quant/SIGs (FASTEST OPTION!!)

Your choice (1-3): 1// 2 <Enter>

PATIENTS         CHART RX                     DATE OF RX    QUANTITY & SIG
(Alive)          NUMBER
---------------------------------------------------------------------------
RHORHOO,DIANE*   100018 IBUPROFEN 400MG TAB    MAR 19,1991   #40  T1T QID
Total: 1
Press RETURN to continue or '^' to exit:

Figure 4-11: Sample subquery by medication

This expanded listing gives the patient’s name, chart number, prescription, date of
prescription, quantity dispensed, and label instructions.
### 4.9 Patient Education

Patient education is another data category that is accessed indirectly. The patient education topics are grouped with a prefix indicating a subject area, such as DM for diabetes, HTN for hypertension, and so on. There are two special conditions/attributes for patient education: “provider of education” and “level of understanding.”

<table>
<thead>
<tr>
<th>CD-COMPLICATIONS</th>
<th>DM-LIFESTYLE ADAPTATIONS</th>
<th>PL-LIFESTYLE ADAPTATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>CD-DIET</td>
<td>DM-MEDICATIONS</td>
<td>PL-MEDICATIONS</td>
</tr>
<tr>
<td>CD-DISEASE PROCESS</td>
<td>P-ANATOMY AND PHYSIOLOGY</td>
<td>PN-FIRST TRIMESTER</td>
</tr>
<tr>
<td>CD-EXERCISE</td>
<td>FP-DIAPHRAGM</td>
<td>PN-POSTPARTUM</td>
</tr>
<tr>
<td>CD-FOLLOW-UP</td>
<td>FP-FOAM/CONDOMS</td>
<td>PN-SECOND TRIMESTER</td>
</tr>
<tr>
<td>CD-LIFESTYLE ADAPTATION</td>
<td>FP-IUD</td>
<td>PN-THIRD TRIMESTER</td>
</tr>
<tr>
<td>CD-MEDICATIONS</td>
<td>FP-METHODS</td>
<td>RD-COMPLICATIONS</td>
</tr>
<tr>
<td>CHA-SEXUALITY</td>
<td>FP-ORAL CONTRACEPTIVES</td>
<td>RD-DIET</td>
</tr>
<tr>
<td>CHA-WELLNESS</td>
<td>FP-STERILIZATION</td>
<td>RD-DISEASE PROCESS</td>
</tr>
<tr>
<td>CHI-DIET</td>
<td>HTN-COMPLICATIONS</td>
<td>RD-EXERCISE</td>
</tr>
<tr>
<td>CHI-GROWTH/DEVELOPMENT</td>
<td>HTN-DIET</td>
<td>RD-FOLLOW-UP</td>
</tr>
<tr>
<td>CHI-PARENTING</td>
<td>HTN-DISEASE PROCESS</td>
<td>RD-LIFESTYLE ADAPTATIONS</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHI-SAFETY</td>
<td>HTN-EXERCISE</td>
<td>RD-MEDICATION</td>
</tr>
<tr>
<td>CHNB-DIET</td>
<td>HTN-FOLLOW-UP</td>
<td>RD-PAIN MANAGEMENT</td>
</tr>
<tr>
<td>CHNB-GROWTH/DEVELOPMENT</td>
<td>HTN-LIFESTYLE ADAPTIONS</td>
<td>TOB-CESSATION</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHNB-PARENTING</td>
<td>HTN-MEDICATIONS</td>
<td>TOB-CONTRACT SIGNED</td>
</tr>
<tr>
<td>CHNB-SAFETY</td>
<td>ND-DIET</td>
<td>TOB-NICORETTE GUM/RX</td>
</tr>
<tr>
<td>CHS-DIET</td>
<td>ND-DISEASE PROCESS</td>
<td>TOB-QUIT DATE</td>
</tr>
<tr>
<td>CHS-GROWTH/DEVELOPMENT</td>
<td>ND-EXERCISE</td>
<td>ESTABLISHED</td>
</tr>
<tr>
<td>CHS-PARENTING</td>
<td>ND-FOLLOW-UP</td>
<td>TOB-REFER TO CESSATION</td>
</tr>
<tr>
<td>CHS-SAFETY</td>
<td>ND-LIFESTYLE ADAPTATION</td>
<td>PROGRAM</td>
</tr>
<tr>
<td>CHT-DIET</td>
<td>ND-MEDICATIONS</td>
<td>WH-BREAST EXAM</td>
</tr>
<tr>
<td>CHT-GROWTH/DEVELOPMENT</td>
<td>OBS-COMPLICATIONS</td>
<td>WH-HYGIENE</td>
</tr>
<tr>
<td>CHT-PARENTING</td>
<td>OBS-DIET</td>
<td>WH-KAEGEL EXERCISE</td>
</tr>
<tr>
<td>CHT-SAFETY</td>
<td>OBS-DISEASE PROCESS</td>
<td>WH-MENOPAUSE</td>
</tr>
<tr>
<td>CHT-DIET</td>
<td>OBS-EXERCISE</td>
<td>WH-MENSES</td>
</tr>
<tr>
<td>CHT-GROWTH/DEVELOPMENT</td>
<td>OBS-FOLLOW UP</td>
<td>WH-PAP</td>
</tr>
<tr>
<td>CHT-PARENTING</td>
<td>OBS-LIFESTYLE ADAPTIONS</td>
<td>WH-PREMENSTRUAL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHS-COMPLICATIONS</td>
<td>PL-COMPLICATIONS</td>
<td>WH-STD</td>
</tr>
<tr>
<td>DM-COMPLICATIONS</td>
<td>PL-DIET</td>
<td>WL-DIET</td>
</tr>
<tr>
<td>DM-DIET</td>
<td>PL-DISEASE PROCESS</td>
<td>WL-EXERCISE</td>
</tr>
<tr>
<td>DM-DISEASE PROCESS</td>
<td>PL-EXERCISE</td>
<td>WL-LIFESTYLE ADAPTATION</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHS-SAFETY</td>
<td>PL-EXERCISE</td>
<td>WL-SAFETY</td>
</tr>
</tbody>
</table>
DM-FOLLOW UP
DM-FOOT CARE

Enter TOPIC: DM-DIET <Enter>
Enter ANOTHER TOPIC: DM-EXERCISE  <Enter>
Enter ANOTHER TOPIC: <Enter>

The following have been selected =>

DM-DIET
DM-EXERCISE

Want to save this TOPIC group for future use? NO// <Enter> (NO)

SUBQUERY: Analysis of multiple PATIENT ED TOPICS

First condition/attribute of "PATIENT ED TOPIC":

The attributes that are specific to "patient education topic" are —

LEVEL OF UNDERSTANDING
PROVIDER OF PT ED

First condition/attribute of "PATIENT ED TOPIC": LEVEL OF UNDERSTANDING <Enter>

CHOOSE FROM:
1       POOR
2       FAIR
3       GOOD

Value: ALL <Enter>

Next condition/attribute of "PATIENT ED TOPIC":

Computing Search Efficiency Rating........................................

Subject of search: PATIENTS
ALIVE TODAY   [SER = .01]
PATIENT ED TOPIC (DM-DIET/DM-EXERCISE)  [SER = 26.76]
Subject of subquery: PATIENT ED TOPIC
LEVEL OF UNDERSTANDING IS NOT 'NULL'

Figure 4-12: Sample subquery by patient education

There are no special output options for patient education.

4.10 Medical Procedures

Medical procedures are entered indirectly using ICD codes or using synonyms.

What is the subject of your search? LIVING PATIENTS // <Enter>

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]

Attribute of LIVING PATIENTS: PROC <Enter>
1  PROCEDURE (DENTAL)
2  PROCEDURE (MEDICAL)
CHOOSE 1-2: 2 <Enter>

Enter PROCEDURE: ORIF <Enter>
79.30 (OPN FX RED W INT FIX NOS)
OPEN REDUCTION OF FRACTURE WITH INTERNAL FIXATION, UNSPECIFIED SITE

OK? Y// <Enter>

ICD Code Range(s) Selected So Far =>
1) 79.30

Enter ANOTHER PROCEDURE: <Enter>

SUBQUERY: Analysis of multiple PROCEDURES

First condition/attribute of "PROCEDURE": ?? <Enter>

The conditions/attributes specific to medical procedures are:
DATE OF PROCEDURE
INFECTION
OPERATING PROVIDER
PRINCIPAL PROCEDURE
REASON FOR PROCEDURE (DX)

First condition/attribute of "PROCEDURE": INFECTION <Enter>

CHOOSE FROM:
Y  YES
N  NO

Value: Y <Enter>

Next condition/attribute of "PROCEDURE": PRINCIPAL PROCEDURE <Enter>

CHOOSE FROM:
Y  YES
N  NO

Value: Y <Enter>

Subject of subquery: PROCEDURE (MEDICAL)

Enter DIAGNOSIS: FX HIP <Enter> (FRACTURE/FRACTURES HIP/HIPPEL/HIPPOCAMPUS/HIPPU)
820.8 (FX NECK OF FEMUR NOS-CL)
FRACTURE OF UNSPECIFIED PART OF NECK OF FEMUR, CLOSED

OK? Y// <Enter>

ICD Code Range(s) Selected So Far =>
1) 820.8

Enter ANOTHER DIAGNOSIS: <Enter>

Subject of subquery: PROCEDURE (MEDICAL)

REASON FOR PROCEDURE (DX) (820.8)

Next condition/attribute of "PROCEDURE": <Enter>

Computing Search Efficiency Rating.........................

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]

PROCEDURE (MEDICAL) (79.30) [SER = 26.76]
Subject of subquery: PROCEDURE (MEDICAL)

REASON FOR PROCEDURE (DX) (820.8)

Attribute of LIVING PATIENTS: <Enter>

You have 3 options for listing PROCEDURES =>

1) For ea. patient, list all ICD CODES
2) For ea. patient, list all ICD CODES and PROVIDER NARRATIVES
3) List all PATIENTS with ICD CODES you specified, but DO NOT list
   individual ICD CODES or PROVIDER NARRATIVES (FASTEST OPTION!!)

Your choice (1-3): 1//

Figure 4-13: Sample subquery by medical procedure

4.11 Skin Tests

Skin tests are entered directly. The readings are given in millimeters diameter. The
two specific conditions/attributes of skin tests are “date read” and “result.”

Possible skin test choices--
COCCI READING
PPD READING

What is the subject of your search? LIVING PATIENTS // <Enter>

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]
Attribute of LIVING PATIENTS: PPD <Enter> READING

SUBQUERY: Analysis of multiple PPD READINGS

First condition/attribute of "PPD READING": OVER <Enter>
Value: 9 <Enter>
Next condition/attribute of "PPD READING": DATE READ <Enter>
Condition: RELATIVE TO VISIT DATE <Enter>

You can specify a time window relative to the visit date.

Enter the start of the time window relative to the visit: +2D <Enter>
Enter the end of the time window relative to the visit: +2W <Enter>

Subject of subquery: PPD READING
GREATER THAN 9
RELATIVE TO VISIT DATE

Next condition/attribute of "PPD READING": RESULT <Enter> (POS/NEG)
CHOOSE FROM:

P       POSITIVE
N       NEGATIVE
D       DOUBTFUL
O       NO TAKE

Value: P <Enter>

Subject of subquery: PPD READING
GREATER THAN 9
RELATIVE TO VISIT DATE

Next condition/attribute of "PPD READING": <Enter>
Computing Search Efficiency Rating..................................

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]
Subject of subquery: PPD READING
GREATER THAN 9
RELATIVE TO VISIT DATE

Attribute of LIVING PATIENTS:

Figure 4-14: Sample subquery by skin tests

There are no special output options for skin tests.

4.12 Nursing Treatments

Nursing treatments are entered indirectly.

What is the subject of your search? LIVING PATIENTS // <Enter>

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]

Attribute of LIVING PATIENTS: NURSING TREATMENT <Enter>
Enter TREATMENT: **BATH** <Enter>  000133  1
Enter ANOTHER TREATMENT: <Enter>

The following have been selected =>

**BATH**

**SUBQUERY: Analysis of multiple TREATMENTS**

First condition/attribute of "TREATMENT": ?? <Enter>

The specific attribute choices for treatment are —
NUMBER OF TREATMENTS
TREATMENT PROVIDER

First condition/attribute of "TREATMENT":
Computing Search Efficiency Rating............................

Subject of search: PATIENTS
   ALIVE TODAY [SER = .01]
   TREATMENT (BATH) [SER = 26.76]

Attribute of LIVING PATIENTS:

Figure 4-15: Sample subquery by nursing treatments

There are no special output options for treatments.

**4.13 Providers**

“Provider” is an attribute of visit, as you will see in the example below.

What is the subject of your search? LIVING PATIENTS // <Enter>

   Subject of search: PATIENTS
      ALIVE TODAY [SER = .01]

Attribute of LIVING PATIENTS: PROVIDER <Enter> ??

Note that if you try to enter "provider" as an attribute of LIVING PATIENT, QMan will beep you and show you two question marks. Why? Because "provider" is a condition/attribute of a visit, not of a patient.

Attribute of LIVING PATIENTS: VISIT <Enter>

First condition/attribute of "VISIT": PROVIDER <Enter>

      ***** PROVIDER-RELATED CRITERIA *****

You can either specify one or more providers by NAME, or..... You can specify one or more PROVIDER ATTRIBUTES (affiliation, specialty etc) to be used as selection criteria.
Select one of the following:

1. NAME(S) of providers
2. ATTRIBUTE(S) of providers

Your choice: NAME(S) /

Figure 4-16: Sample subquery by provider

Once you have entered “visit” and given “provider” as the first condition/attribute of visit, you can specify provider(s) by name or by attribute. Possible choices for provider attributes are:

- AFFILIATION
- DEA NUMBER
- DISCIPLINE
- FULL/PART TIME
- HOME PHONE NUMBER
- INITIALS
- LICENSE NUMBER
- MAILING ADDRESS-CITY
- MAILING ADDRESS-STATE
- MAILING ADDRESS-STREET
- MAILING ADDRESS-ZIP
- NAME (PROVIDER)
- OFFICE PHONE NUMBER
- SSN

The following are possible choices of provider discipline:

- ADMINISTRATION
- ANESTHESIOLOGIST
- AUDIOLOGIST
- AUDIOMETRIC TECHNICIAN
- CARDIOLOGIST
- CHN (CONTRACT)
- CHN/AIDES
- CODING/DATA ENTRY
- COMMUNITY HEALTH REP.
- DELETE-ENOS
- DENTIST
- DERMATOLOGIST
- DIETICIAN
- DISEASE CONTROL PROGRAM
- EMT/PARAMEDIC
- ENVIRONMENTAL HEALTH
- EYE CARE SPECIALIST
- FAMILY PLANNING COUNSELOR
- FAMILY PRACTICE
- HEALTH AIDE
- HEALTH EDUCATOR
- HEALTH RECORDS
- INHALATION THERAPIST
- INTERNAL MEDICINE
- LABORATORY TECHNICIAN
- LICENSED PRACTICAL NURSE
- MEDICAL SOCIAL WORKER
- MEDICAL STUDENT
- MENTAL HEALTH
- NEUROLOGIST
- NURSE MIDWIFE
- NURSE PRACTITIONER
- NURSING STUDENT
- NUTRITION PROGRAM (PAPAGO)
- NUTRITIONIST
- NUTRITIONIST (CONTRACT/TRIBAL)
- OB/GYN
- OB/GYN (CONTRACT)
- OPHTHALMOLOGIST
- OPTOMETRIC ASSISTANT
- OPTOMETRIST
- OPTOMETRIST (CONTRACT)
- ORTHOPEDIST
- OSTEOPATH
- OTHER
- OTOLARYNGOLOGIST
- OUTREACH WORKER
- PATHOLOGIST
- PEDIATRIC NURSE PRACT.
- PEDIATRICIAN
- PHARMACIST
- PHARMACY PRACTITIONER
- PHYSICAL THERAPIST
- PHYSICIAN
- PHYSICIAN (CONTRACT)
- PHYSICIAN (TRIBAL)
- PHYSICIAN ASSISTANT
- PODIATRIST
- PODIATRIST (CONTRACT)
- PSYCHIATRIST
- PSYCHOLOGIST
- RADIOLOGIST
- REGISTERED NURSE
- SCHOOL NURSE
- SPEECH THERAPIST
- SPEECH/LANGUAGE PATHOLOGIST
- SURGEON
- UROLOGIST
- X-RAY TECHNICIAN
5.0 Advanced Query Features

5.1 Saving and Reusing Patient Cohorts (Search Templates)

The output of QMan is typically a list of patients. Like taxonomies, these lists can be saved and reused in both QMan and FileMan applications. FileMan calls these lists search templates. In fact, the list of patients is a cohort, not a template. The use of “template” in this context is a serious misnomer, but because the PCC is based on FileMan, we are stuck with it.

5.1.1 Saving Groups of Patients

Using output option 4 creates (saves) a cohort of patients that you can use again in FileMan or in QMan. A cohort is any group of patients you create that have the specific attributes you define. In this example, we are defining males with diabetes as our cohort.

Once created, you can search a cohort for more specific information. It can be a tremendous timesaving and information-refining tool.

Option 4 is selected in the following example:

```
***** QMAN OUTPUT OPTIONS *****

Select one of the following:

1  DISPLAY results on the screen
2  PRINT results on paper
3  COUNT 'hits'
4  KEEP 'hits' in a FM search template
5  STORE search logic for future use
6  R-MAN special report generator
9  HELP
0  EXIT

Your choice: DISPLAY// 4 <Enter> KEEP 'hits' in a FM search template
```

Figure 5-1: Selecting option 4 from the QMan output options menu

After selecting option 4, QMan asks you to note that the template will be attached to the IHS PATIENT file (#9000001). You cannot save a cohort without “attaching” it to a file. Almost always you will want your cohorts to be attached to your “PATIENT” files. You are then prompted to verify that you are creating a new cohort (SORT TEMPLATE) and provided with an opportunity to enter a brief description of it. Follow the steps as indicated.
Fileman users please note =>
This template will be attached to IHS' PATIENT file (#9000001)

Enter the name of the SEARCH TEMPLATE: DIABETIC MALES <Enter>
ARE YOU ADDING 'DIABETIC MALES' AS A NEW SORT TEMPLATE? Y <Enter> (YES)

DESCRIPTION:
1> LIST OF MALES WITH DX OF DIABETES MELLITUS ICD 250.00
2>
EDIT Option: <Enter>
Want to run this task in background? NO// Y <Enter>

If you were to answer “N” to the prompt “Want to run this task in background?” you would see the following list appear on your screen. Otherwise, your cohort would be created quietly in QMan’s memory until you are ready to retrieve it at another time or send it to a printer.

Notice the cohort below indicates a “hit” for the designated ICD code, in this case, diabetes, and displays the sex of the patients, male.

<table>
<thead>
<tr>
<th>PATIENT</th>
<th>CHART</th>
<th>DIAGNOSIS</th>
<th>SEX</th>
</tr>
</thead>
<tbody>
<tr>
<td>JONES, JIM</td>
<td>6764</td>
<td>+</td>
<td>MALE</td>
</tr>
<tr>
<td>JOHNSON, BILL</td>
<td>11234</td>
<td>+</td>
<td>MALE</td>
</tr>
<tr>
<td>BLACK, SAM</td>
<td>3731</td>
<td>+</td>
<td>MALE</td>
</tr>
<tr>
<td>BLACK, BOB</td>
<td>2543</td>
<td>+</td>
<td>MALE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BLACK, BOB</td>
<td>5921</td>
<td>+</td>
<td>MALE</td>
</tr>
<tr>
<td>BLACK, JOHN</td>
<td>128</td>
<td>+</td>
<td>MALE</td>
</tr>
<tr>
<td>MILLER, LARRY</td>
<td>804</td>
<td>+</td>
<td>MALE</td>
</tr>
<tr>
<td>MILLER, BILL</td>
<td>4641</td>
<td>+</td>
<td>MALE</td>
</tr>
</tbody>
</table>

Search template completed...

This query generates 26 "hits"
Time required to create search template: 1 MINUTE, 41 SECONDS

Once you have created a cohort, such as the diabetic males list, you can use it to simplify further searches and thereby fine-tune your reports. In the example below we will use the diabetic males cohort and discover which patients in that group also have diagnoses of hypertension.

---

Figure 5-2: Saving and verifying the creation of a new template

Figure 5-3: Creation of search template
We select the default for our subject and enter “[DIABETIC MALES” (an open bracket, no space, then the name we assigned to the cohort in the previous example) to tell QMan to go and find our cohort by that name.

What is the subject of your search?  LIVING PATIENTS //
Attribute of LIVING PATIENTS: [DIABETIC MALES <Enter> (DEC 20, 1989) USER
#3 FILE #9000001

Figure 5-4: Searching for your cohort

If you forgot the exact name you assigned the cohort, or want to simply view which cohorts are on your system, enter “[?” (open bracket, no space, question mark) to display a list of cohorts.

Once you designate a cohort as the attribute, the following four options display:

Select one of the following =>

1) LIVING PATIENTS must be a member of the DIABETIC MALES cohort
2) LIVING PATIENTS must NOT be a member of the DIABETIC MALES cohort
3) Select a random sample of the DIABETIC MALES cohort
4) Count the number of entries in the DIABETIC MALES cohort

Select option "1" for this search.

Your choice (1-4): 1//
Computing Search Efficiency Rating.........................

Subject of search: PATIENTS
ALIVE TODAY   [SER = .01]
MEMBER OF 'DIABETIC MALES' COHORT   [SER = 99.00]

Figure 5-5: Options seen after designating a cohort as the attribute

We now can select the second attribute, keeping in mind our goal is to discover patients in the diabetic males cohort that also have been diagnosed with hypertension. Thus:

Attribute of LIVING PATIENTS: DX <Enter> DIAGNOSIS

Enter DX: HTN <Enter>
401.9 (HYPERTENSION NOS)
UNSPECIFIED ESSENTIAL HYPERTENSION

OK? Y// <Enter>

Enter another DX: <Enter>

SUBQUERY: Analysis of multiple DIAGNOSES

First condition/attribute of "DIAGNOSIS": <Enter>
Computing Search Efficiency Rating.....

Subject of search: PATIENTS
ALIVE TODAY     [SER = .01]
MEMBER OF 'DIABETIC MALES' COHORT    [SER = 99.00]
DIAGNOSIS (401.9)    [SER = 24.37]

Attribute of LIVING PATIENTS:

Figure 5-6: Searching for males within the cohort who have also been diagnosed with hypertension

We now have the option to create an all new cohort that will be a combination of our diabetic males cohort and hypertensive males.

*****  QMAN OUTPUT OPTIONS  *****

Select one of the following:

1         DISPLAY results on the screen
2         PRINT results on paper
3         COUNT 'hits'
4         KEEP 'hits' in a FM search template
5         STORE search logic for future use
6         R-MAN special report generator
9         HELP
0         EXIT

Your choice: DISPLAY// 4 <Enter>

Fileman users please note =>
This template will be attached to IHS' PATIENT file (#9000001)
Enter the name of the SEARCH TEMPLATE: HYPERTENSIVE DIABETIC MALES <Enter>
ARE YOU ADDING 'HTN DIAB MALES' AS A NEW SORT TEMPLATE? Y <Enter> (YES)
DESCRIPTION:
1> MEMBERS OF THE DIABETIC MALES COHORT WITH HTN DXS
2> DIAGNOSIS AS SPECIFIED     [SER = 24.37]

There, you've done it! Now the only task is to choose how you want to receive the report. Normally you will "Write the report to a printer" and queue it, but for now, we'll display the report on our screen.

OUTPUT OPTIONS =>

1) Display the report on the screen
2) Write the report on a printer
3) Count the "hits" but DO NOT generate a full report

YOUR CHOICE (1-4): 1// 1 <Enter>

Want to run this report in the background? N <Enter>
**5.1.2 Cohort Use Examples and Sample Sessions**

In the next few examples, we will create three separate cohorts and use them in various ways to demonstrate how QMan can be used to perform complex searches (step searches) easily.

Follow the creation of cohorts carefully, and then study how cohorts are used in various combinations.

First, create a cohort of males with a diagnosis of hypertension.

**What is the subject of your search?** LIVING PATIENTS // <Enter>

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]

Attribute of LIVING PATIENTS: SEX <Enter>

CHOOSE FROM:
- M  MALE
- F  FEMALE

Value: M <Enter>  MALE

Computing Search Efficiency Rating.........................

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]
SEX IS MALE [SER = .85]

Attribute of LIVING PATIENTS: DX <Enter>

Enter DX: HTN <Enter>
401.9 (HYPERTENSION NOS)
UNSPECIFIED ESSENTIAL HYPERTENSION

OK? Y// <Enter>

ICD Code Range(s) Selected So Far =>

1) 401.9

Enter ANOTHER DX: <Enter>
SUBQUERY: Analysis of multiple DIAGNOSES

First condition/attribute of "DIAGNOSIS": Computing Search Efficiency Rating.....

Subject of search: PATIENTS
   ALIVE TODAY  [SER = .01]
   SEX IS MALE  [SER = .85]
   DIAGNOSIS (401.9)  [SER = 24.37]

Attribute of LIVING PATIENTS: <Enter>

    ***** QMAN OUTPUT OPTIONS *****

Select one of the following:
    1  DISPLAY results on the screen
    2  PRINT results on paper
    3  COUNT 'hits'
    4  KEEP 'hits' in a FM search template
    5  STORE search logic for future use
    6  R-MAN special report generator
    9  HELP
    0  EXIT

Your choice: DISPLAY// 4 <Enter>  KEEP 'hits' in a FM search template

Fileman users please note =>
This template will be attached to IHS' PATIENT file (#9000001)

Enter the name of the SEARCH TEMPLATE: LEN'S HTN MALES <Enter>
    ARE YOU ADDING 'LEN'S HTN MALES' AS A NEW SORT TEMPLATE? Y <Enter> (YES)
DESCRIPTION:
    1>LEN'S MALES WITH HTN DX
    2>
EDIT Option:

Want to run this task in background? NO//

Figure 5-8: Creating a cohort of males diagnosed with hypertension

Second, create a cohort of males with a diagnosis of diabetes mellitus.

What is the subject of your search? LIVING PATIENTS // <Enter>

Subject of search: PATIENTS
   ALIVE TODAY  [SER = .01]

Attribute of LIVING PATIENTS: SEX <Enter>

CHOOSE FROM:
M MALE
F FEMALE

Value: M <Enter> MALE

Computing Search Efficiency Rating.................................

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]
SEX IS MALE [SER = .85]
Attribute of LIVING PATIENTS: DX <Enter>

Enter DX: DM <Enter>
250.00 (DIABETES UNCOMPL ADULT/NIDDM)
ADULT-ONSET TYPE DIABETES MELLITUS WITHOUT MENTION OF
COMPLICATION/NONINSULIN DEPENDENT

OK? Y// <Enter>

ICD Code Range(s) Selected So Far =>
1) 250.00

Enter ANOTHER DX: <Enter>

SUBQUERY: Analysis of multiple DIAGNOSES

First condition/attribute of "DIAGNOSIS":
Computing Search Efficiency Rating.....

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]
SEX IS MALE [SER = .85]
DIAGNOSIS (250.00) [SER = 24.37]

Attribute of LIVING PATIENTS: <Enter>

***** QMAN OUTPUT OPTIONS *****

Select one of the following:
1  DISPLAY results on the screen
2  PRINT results on paper
3  COUNT 'hits'
4  KEEP 'hits' in a FM search template
5  STORE search logic for future use
6  R-MAN special report generator
9  HELP
0  EXIT

Your choice: DISPLAY// 4 <Enter> KEEP 'hits' in a FM search
template

Fileman users please note =>
This template will be attached to IHS' PATIENT file (#9000001)
Enter the name of the SEARCH TEMPLATE: LEN'S DIABETIC MALES <Enter>
ARE YOU ADDING 'LEN'S DIABETIC MALES' AS A NEW SORT TEMPLATE? Y <Enter> (YES)

DESCRIPTION:
1> LEN'S MALES WITH DIABETES
2>
EDIT Option:

Want to run this task in background? NO/

Figure 5-9: Creating a cohort of males with a diagnosis of diabetes mellitus

Below is the list that displays:

<table>
<thead>
<tr>
<th>PATIENT</th>
<th>CHART</th>
<th>DIAGNOSIS</th>
<th>SEX</th>
</tr>
</thead>
<tbody>
<tr>
<td>RHOOOO,THERESA</td>
<td>51</td>
<td>+</td>
<td>MALE</td>
</tr>
<tr>
<td>METAAA,JIM</td>
<td>2403</td>
<td>+</td>
<td>MALE</td>
</tr>
<tr>
<td>METABB,BILL</td>
<td>5660</td>
<td>+</td>
<td>MALE</td>
</tr>
<tr>
<td>GAMMAAA,DAVID</td>
<td>10154</td>
<td>+</td>
<td>MALE</td>
</tr>
<tr>
<td>BETAA,LARRY</td>
<td>18294</td>
<td>+</td>
<td>MALE</td>
</tr>
<tr>
<td>GAMMA,BILL</td>
<td>21437</td>
<td>+</td>
<td>MALE</td>
</tr>
<tr>
<td>KAPPAAA,CHARLES</td>
<td>+</td>
<td>MALE</td>
<td></td>
</tr>
<tr>
<td>KAPPA,JOHN</td>
<td>20773</td>
<td>+</td>
<td>MALE</td>
</tr>
<tr>
<td>BETBB,DENNIS</td>
<td></td>
<td></td>
<td>MALE</td>
</tr>
<tr>
<td>GAMAA,DENNIS</td>
<td>20569</td>
<td>+</td>
<td>MALE</td>
</tr>
<tr>
<td>KAPPABB,DAVID</td>
<td>18236</td>
<td>+</td>
<td>MALE</td>
</tr>
</tbody>
</table>

Figure 5-10: Results from above cohort creation

Third, create a cohort of males with weights over 250 pounds.

What is the subject of your search? LIVING PATIENTS // <Enter>

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]

Attribute of LIVING PATIENTS: SEX <Enter>

CHOOSE FROM:
M       MALE
F       FEMALE

Value: M <Enter> MALE

Computing Search Efficiency Rating.................................

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]
SEX IS MALE [SER = .85]

Attribute of LIVING PATIENTS: WTLBS <Enter> WEIGHT(lbs)

SUBQUERY: Analysis of multiple WEIGHTS
First condition/attribute of "WEIGHT": OVER <Enter>
Value: 250 <Enter>
Next condition/attribute of "WEIGHT": <Enter>
Computing Search Efficiency Rating....................................

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]
SEX IS MALE [SER = .85]
Subject of subquery: WEIGHT(lbs)
GREATER THAN 250

Attribute of LIVING PATIENTS: <Enter>

*****  QMAN OUTPUT OPTIONS  *****

Select one of the following:
1         DISPLAY results on the screen
2         PRINT results on paper
3         COUNT 'hits'
4         KEEP 'hits' in a FM search template
5         STORE search logic for future use
6         R-MAN special report generator
9         HELP
0         EXIT

Your choice: DISPLAY// 4 <Enter>  KEEP 'hits' in a FM search template

Fileman users please note =>
This template will be attached to IHS' PATIENT file (#9000001)

Enter the name of the SEARCH TEMPLATE: LEN'S OBESE MALES <Enter>
ARE YOU ADDING 'LEN'S OBESE MALES' AS A NEW SORT TEMPLATE? Y <Enter>
(YES)
DESCRIPTION:
1>LEN'S OBESE MALES FILE
2>
EDIT Option: <Enter>

Want to run this task in background? NO// <Enter>

<table>
<thead>
<tr>
<th>PATIENT</th>
<th>CHART NUMBER</th>
<th>SEX</th>
<th>WT lbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>PIPIPI,JOHN</td>
<td>723</td>
<td>MALE</td>
<td>+</td>
</tr>
<tr>
<td>METAA,BILL</td>
<td>5660</td>
<td>MALE</td>
<td>+</td>
</tr>
<tr>
<td>GAMMA,BOB</td>
<td>8504</td>
<td>MALE</td>
<td>+</td>
</tr>
<tr>
<td>GAMMB,LARRY</td>
<td>10010</td>
<td>MALE</td>
<td>+</td>
</tr>
<tr>
<td>IOTAA,DON</td>
<td>18734</td>
<td>MALE</td>
<td>+</td>
</tr>
<tr>
<td>IOTABB,BILL</td>
<td>20862</td>
<td>MALE</td>
<td>+</td>
</tr>
<tr>
<td>BETA,BILL</td>
<td>MALE</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>PIPIPI,SAM</td>
<td>MALE</td>
<td>+</td>
<td></td>
</tr>
</tbody>
</table>
Using a Cohort with another Attribute

In our first example of using cohorts with other attributes, we created a report listing diabetic males that also had a diagnosis of hypertension. A cohort can be used with \textit{any} other attribute in an “and’ed” situation. We will discover which members of our diabetic males cohort live in Achi.

First, select membership in our diabetic males cohort for the first attribute.

\begin{verbatim}
What is the subject of your search? LIVING PATIENTS // <Enter>

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]

Attribute of LIVING PATIENTS: [LEN'S DIABETIC MALES <Enter> (DEC 21, 1989)
USER #27 FILE #9000001

Select one of the following =>

1) LIVING PATIENTS must be a member of the LEN'S DIABETIC MALES cohort
2) LIVING PATIENTS must NOT be a member of the LEN'S DIABETIC MALES cohort
3) Select a random sample of the LEN'S DIABETIC MALES cohort
4) Count the number of entries in the LEN'S DIABETIC MALES cohort

Your choice (1-4): 1//1 <Enter>
Computing Search Efficiency Rating..............................

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]
MEMBER OF 'LEN'S DIABETIC MALES' COHORT [SER = 99.00]
Attribute of LIVING PATIENTS:
\end{verbatim}

Second, designate the “current community” as Achi for the second attribute.
Attribute of LIVING PATIENTS: COMMUNITY <Enter>

Enter COMMUNITY: ACHI <Enter>

1   ACHI          PIMA      ARIZONA      005      0410005
2   ACHILLE        BRYAN     OKLAHOMA    117      4007117

CHOOSE 1-2: 1 <Enter>

Enter ANOTHER COMMUNITY: <Enter>

The following have been selected =>

ACHI

Computing Search Efficiency Rating........................................

Subject of search: PATIENTS
ALIVE TODAY   [SER = .01]
MEMBER OF 'LEN'S DIABETIC MALES' COHORT   [SER = 99.00]
CURRENT COMMUNITY (ACHI)   [SER = 99]

Attribute of LIVING PATIENTS:

Figure 5-13: Example of designating the "current community" as Achi for the second attribute

We want no further attributes so we press Enter.

***** QMAN OUTPUT OPTIONS *****

Select one of the following:

1   DISPLAY results on the screen
2   PRINT results on paper
3   COUNT 'hits'
4   KEEP 'hits' in a FM search template
5   STORE search logic for future use
6   R-MAN special report generator
9   HELP
0   EXIT

Your choice: DISPLAY// <Enter>

...HMMM, I'M WORKING AS FAST AS I CAN...

PATIENT         CHART   COMMUNITY
NUMBER
---------------------------------------------------------------------------
PHIPHI,TOM       51     ACHI
METAAA,BILL      5660   ACHI
BETAA,LARRY      18294  ACHI
GAMMAAA,CHARLES         ACHI
GAMMA,SAM        9284   ACHI
Total: 5
<>

Figure 5-14: Results of search
Using Multiple Cohorts

In this example, we will run a search to determine which patients in our database are members of all three cohorts we created in this chapter. We will create a list of males with weights over 250 pounds that have diabetes and hypertension.

Follow the example.

What is the subject of your search? LIVING PATIENTS // <Enter>

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]

Attribute of LIVING PATIENTS: [LEN'S DIABETIC MALES <Enter> (DEC 21, 1989)
USER #27 FILE #9000001

Select one of the following =>

1) LIVING PATIENTS must be a member of the LEN'S DIABETIC MALES cohort
2) LIVING PATIENTS must NOT be a member of the LEN'S DIABETIC MALES cohort
3) Select a random sample of the LEN'S DIABETIC MALES cohort
4) Count the number of entries in the LEN'S DIABETIC MALES cohort

Your choice (1-4): 1// 1 <Enter>

Computing Search Efficiency Rating.............................................

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]
MEMBER OF 'LEN'S DIABETIC MALES' COHORT [SER = 99.00]

Attribute of LIVING PATIENTS: [LEN'S HTN MALES <Enter> (DEC 21, 1989) USER
#27 FILE #9000001

Select one of the following =>

1) LIVING PATIENTS must be a member of the LEN'S HTN MALES cohort
2) LIVING PATIENTS must NOT be a member of the LEN'S HTN MALES cohort
3) Select a random sample of the LEN'S HTN MALES cohort
4) Count the number of entries in the LEN'S HTN MALES cohort

Your choice (1-4): 1// 1 <Enter>

Computing Search Efficiency Rating.............................................

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]
MEMBER OF 'LEN'S DIABETIC MALES' COHORT [SER = 99.00]
MEMBER OF 'LEN'S HTN MALES' COHORT [SER = 49.00]

Attribute of LIVING PATIENTS: [LEN'S OBESE MALES <Enter> (DEC 21, 1989) USER
#27 FILE #9000001

Select one of the following =>
1) LIVING PATIENTS must be a member of the LEN'S OBESE MALES cohort
2) LIVING PATIENTS must NOT be a member of the LEN'S OBESE MALES cohort
3) Select a random sample of the LEN'S OBESE MALES cohort
4) Count the number of entries in the LEN'S OBESE MALES cohort

Your choice (1-4): 1// 1 <Enter>

Computing Search Efficiency Rating.................................

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]
MEMBER OF 'LEN'S DIABETIC MALES' COHORT [SER = 99.00]
MEMBER OF 'LEN'S HTN MALES' COHORT [SER = 49.00]
MEMBER OF 'LEN'S OBESE MALES' COHORT [SER = 24.00]

Attribute of LIVING PATIENTS: <Enter>

***** QMAN OUTPUT OPTIONS *****

Select one of the following:
1         DISPLAY results on the screen
2         PRINT results on paper
3         COUNT 'hits'
4         KEEP 'hits' in a FM search template
5         STORE search logic for future use
6         R-MAN special report generator
9         HELP
0         EXIT

Your choice: DISPLAY// <Enter>

...SORRY, I'M WORKING AS FAST AS I CAN...

PATIENT          CHART   COMMUNITY NUMBER
---------------------------------------------------------------------------
PHIPHI,TOM       89766  TUCSON
METAAA,BILL      5660   SELLS
BETAA,LARRY      18294  ACHI
GAMMAAA,CHARLES         WILLIAMS
GAMMA,SAM        9284   SANTA ROSA
Total: 5
<>

Figure 5-15: Creating list of males with weights over 250 pounds that have diabetes and hypertension

We now have a list of patients that are members of all three cohorts.

So far we’ve learned about displaying the results on the screen or sending them to a printer.
A third option is that we can save the results on the disk and reuse the results at a later time. Now, what you are actually saving is a list of patients or of visits; you are not saving the attributes of those patients or visits.

Figure 5-16: Sample search

Now, rather than displaying or printing out our results, we’re going to save them in a FileMan search template for future use.
template

Fileman users please note =>
This template will be attached to IHS' PATIENT file (#9000001)

Enter the name of the SEARCH TEMPLATE: OLD GALS <Enter>
ARE YOU ADDING 'OLD GALS' AS A NEW SORT TEMPLATE? Y <Enter>
DESCRIPTION:
1>TEST
2>
EDIT Option:

Want to run this task in background? NO// <Enter>

PATIENTS CHART AGE SEX
(Alive) NUMBER
---------------------------------------------------------------------------
GAMMA,TESS 103101 90 FEMALE
RHORHOO,FLORENC* 102494 89 FEMALE
LAMBDAA,LORI* 102224 85 FEMALE
RHO000,VALERIE* 100240 85 FEMALE
GAMMAAA, MARTHA* 100085 85 FEMALE
THETAAAAAA, SHAWN 102524 85 FEMALE
MUMUMUM,LENORE 100775 85 FEMALE
MUMUMUM,PATRICIA 100988 85 FEMALE
GAMMAGAMMA, ERIC* 100126 82 FEMALE
BETA,ASHLEY* 102147 80 FEMALE
THETAAAA,JUNE 60108 78 FEMALE
. . .
GAMMA,JAMIE* 100501 78 FEMALE
NUNUNUN,FRANCES* 102757 78 FEMALE
THETAAAAAA, LESLI 100621 77 FEMALE
THETAAAAAA, ERMAN 102609 77 FEMALE
ALPHA,JOAN* 102375 76 FEMALE
BETA,LRAINE* 100266 76 FEMALE
THETAAAAAA, CONST 101247 76 FEMALE
BETA,DEE 102576 76 FEMALE
THETAAAAAA, ALEX* 100146 76 FEMALE
Search template completed...

This query generates 24 "hits"
Time required to create search template: 10 SECONDS

You can view a listing of the templates that have been created in the past by choosing option 4 on the QMan Options menu –

***** QMAN OPTIONS *****

Select one of the following:
1 SEARCH PCC Database (dialogue interface)
2 FAST Facts (natural language interface)
3 SCRIPT Utilities (programmers interface)
Your choice: SEARCH\// 4 <Enter>  VIEW Taxonomies and Search Templates

and then choosing option 1 on the subsequent menu—

Select one of the following:

1 LIST Fileman/QMan search templates
2 VIEW taxonomies
3 SHOW taxonomy members
4 ERASE a search template
5 REMOVE a taxonomy
9 HELP
0 EXIT

Your choice: 1 <Enter> LIST Fileman/QMan search templates

You can view templates which store either PATIENTS or VISITS =>

Select one of the following:

1 PATIENTS
2 VISITS
3 BOTH patients and visits

Your choice: 1 <Enter> PATIENTS

DEVICE: HOME\// <Enter>

<table>
<thead>
<tr>
<th>TEMPLATE</th>
<th>DATE</th>
<th>CREATOR</th>
<th>FILEMAN FILE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Narrative description of template</td>
<td>-----------</td>
<td>----------</td>
<td>--------------</td>
</tr>
<tr>
<td>AFTER 11/5 BUBONIC PTS POV AFTER 11/5/89</td>
<td>NOV 6,1989</td>
<td>GRAU</td>
<td>PATIENT</td>
</tr>
<tr>
<td>. . .</td>
<td>----------</td>
<td>----------</td>
<td>--------------</td>
</tr>
<tr>
<td>OLD GALS TEST</td>
<td>JUL 22,1991</td>
<td>THURMAN</td>
<td>PATIENT</td>
</tr>
<tr>
<td>OLD MEN MEN OVER 70</td>
<td>FEB 26,1991</td>
<td>SHORR</td>
<td>PATIENT</td>
</tr>
<tr>
<td>POSS SPA SEARCH SPECIFICATION NOT ENTERED</td>
<td>JAN 18,1990</td>
<td>BOYER</td>
<td>PATIENT</td>
</tr>
<tr>
<td>PTS OVER 300 SEARCH SPECIFICATION NOT ENTERED</td>
<td>DEC 20,1989</td>
<td>ADAM</td>
<td>PATIENT</td>
</tr>
<tr>
<td>RA PTS PTS WITH DX RA</td>
<td>JAN 11,1990</td>
<td>BOYER</td>
<td>PATIENT</td>
</tr>
</tbody>
</table>
What is the subject of your search?  LIVING PATIENTS // <Enter>

Subject of search: PATIENTS
   ALIVE TODAY    [SER = .01]

Attribute of LIVING PATIENTS: [OLD GALS <Enter> ] (JUL 22, 1991) USER #27
FILE #9000001

Select one of the following =>

   1) LIVING PATIENTS must be a member of the OLD GALS cohort
   2) LIVING PATIENTS must NOT be a member of the OLD GALS cohort
   3) Select a random sample of the OLD GALS cohort
   4) Count the number of entries in the OLD GALS cohort

Your choice (1-4): 1// 4 <Enter>

Counting ...

There are 24 entries in this cohort

Select one of the following =>

   1) LIVING PATIENTS must be a member of the cohort
   2) LIVING PATIENTS must NOT be a member of the cohort
   3) Select a random sample of the cohort
   4) Count the number of entries in the cohort

Your choice (1-4): 1// 1 <Enter>
Computing Search Efficiency Rating........................................

Subject of search: PATIENTS
   ALIVE TODAY    [SER = .01]
   MEMBER OF 'OLD GALS' COHORT     [SER = 99.00]

Attribute of LIVING PATIENTS: CURRENT COMMUNITY <Enter>

Enter COMMUNITY: SELLS <Enter> PIMA ARIZONA 067 0410067
Enter ANOTHER COMMUNITY: SAN XAVIER <Enter> PIMA ARIZONA 065 0410065

Enter ANOTHER COMMUNITY: <Enter>

The following have been selected =>

   SAN XAVIER
   SELLS

Want to save this COMMUNITY group for future use? NO// <Enter>
Computing Search Efficiency Rating........................................

Subject of search: PATIENTS
   ALIVE TODAY    [SER = .01]
   MEMBER OF 'OLD GALS' COHORT     [SER = 99.00]
CURRENT COMMUNITY (SAN XAVIER/SELLS)  [SER = 3.55]

Attribute of LIVING PATIENTS: <Enter>

Your choice: DISPLAY// <Enter>  DISPLAY results on the screen

...SORRY, I'M WORKING AS FAST AS I CAN...

Please note: Patients whose names are marked with an "**" may have aliases.

PATIENTS         CHART  COMMUNITY
(Alive)          NUMBER
---------------------------------------------------------------------------
FLINTSTONE,CONST 101247 SELLS
BURR,ASHLEY*     102147 SELLS
ADAMS,JOAN*      102375 SELLS
Total: 3

Press RETURN to continue or '^' to exit: <Enter>

What is the subject of your search?  LIVING PATIENTS // <Enter>

Subject of search: PATIENTS
ALIVE TODAY   [SER = .01]

Attribute of LIVING PATIENTS: [OLD GALS <Enter>  (JUL 22, 1991) USER #27
FILE #9000001

Select one of the following =>

1) LIVING PATIENTS must be a member of the OLD GALS cohort
2) LIVING PATIENTS must NOT be a member of the OLD GALS cohort
3) Select a random sample of the OLD GALS cohort
4) Count the number of entries in the OLD GALS cohort

Your choice (1-4): 1// <Enter>

Computing Search Efficiency Rating.................................................

Subject of search: PATIENTS
ALIVE TODAY   [SER = .01]
MEMBER OF 'OLD GALS' COHORT   [SER = 99.00]

Attribute of LIVING PATIENTS: CURRENT COMMUNITY <Enter>

Enter COMMUNITY: SELLS <Enter>  PIMA  ARIZONA  067  0410067
Enter ANOTHER COMMUNITY: SAN XAVIER <Enter>  PIMA  ARIZONA  065
  0410065
Enter ANOTHER COMMUNITY: <Enter>

The following have been selected =>

SAN XAVIER
SELLS
Want to save this COMMUNITY group for future use? NO// <Enter>
Computing Search Efficiency Rating.................................

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]
MEMBER OF 'OLD GALS' COHORT [SER = 99.00]
CURRENT COMMUNITY (SAN XAVIER/SELLS) [SER = 3.55]

Attribute of LIVING PATIENTS: <Enter>

***** QMAN OUTPUT OPTIONS *****

Select one of the following:

1  DISPLAY results on the screen
2  PRINT results on paper
3  COUNT 'hits'
4  KEEP 'hits' in a FM search template
5  STORE search logic for future use
6  R-MAN special report generator
9  HELP
0  EXIT

Your choice: DISPLAY// 4 <Enter> KEEP 'hits' in a FM search template

Fileman users please note =>
This template will be attached to IHS' PATIENT file (#9000001)

Enter the name of the SEARCH TEMPLATE: OLD GALS <Enter> (JUL 22, 1991) USER
#27 FILE #9000001

The OLD GALS cohort already exists. Want to overwrite? NO//

Figure 5-17: Saving search results

5.2 “Or’ing” Queries Together with “KonglomeratOR”

5.2.1 Demographic Attributes

Until now, the example queries have been “and’ed” together. Values can be “or’ed”
together to form a taxonomy. Attributes can be “or’ed” together as well. The need to
“or” attributes together is rare, but it does come up once in a while. The classic
example is to find patients who need Pneumovax immunization. These are people
who are either over the age of 65 or who have certain chronic diseases (heart failure,
diabetes etc).

To “or” attributes together in a search, use a special QMan tool called the
KonglomeratOR. This word is derived from three sources:

- KONG as in King Kong because of its crude power
• CONGLOMERATE to signify bringing unrelated attributes together into a single group
• OR which signifies the relationship between the items in the group

To activate the Konglomerator, enter the word KONG at the attribute prompt.

***** SEARCH CRITERIA *****

What is the subject of your search? LIVING PATIENTS // <Enter>

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]
Attribute of LIVING PATIENTS: PNEUMOVAX <Enter>

First condition/attribute of "PNEUMOVAX": NULL <Enter>

Attribute of LIVING PATIENTS: KONGLOMERATOR <Enter>

OK, I'll collect queries for OR GROUP #1

[OR#1] Attribute of LIVING PATIENTS: AGE <Enter>
Condition: OVER <Enter>
Age: 65 <Enter>
Computing Search Efficiency Rating......

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]
PNEUMOVAX: NONE EXIST [SER = -.1]
[OR #1] AGE GREATER THAN 65 [SER = .96]

Note that whenever an attribute is a member of the first or group, it is marked with "[OR#1]". If you were to create another or group in the search, it would be marked "[OR#2]" and so on.

[OR#1] Attribute of LIVING PATIENTS: [CHRONIC DISEASES <Enter>

Select one of the following =>

1) LIVING PATIENTS must be a member of the CHRONIC DISEASES cohort
2) LIVING PATIENTS must NOT be a member of the CHRONIC DISEASES cohort
3) Select a random sample of the CHRONIC DISEASES cohort
4) Count the number of entries in the CHRONIC DISEASES cohort

Your choice (1-4): 1// 1 <Enter>
Computing Search Efficiency Rating.................................
Subject of search: PATIENTS
ALIVE TODAY   [SER = .01]
PNEUMOVAX: NONE EXIST   [SER = -.1]
[OR #1] AGE GREATER THAN 65     [SER = .96]
[OR #1] MEMBER OF 'CHRONIC DISEASES' COHORT   [SER = 0.99]

Figure 5-18: Sample of “or’ing” queries together

You conclude the “or” group by pressing Enter.

[OR#1] Attribute of LIVING PATIENTS: <Enter>

OK, I'll collect queries for OR GROUP #1
You conclude the query, by entering RETURN.

Attribute of LIVING PATIENTS: <Enter>

***** QMAN OUTPUT OPTIONS *****

Select one of the following:

1  DISPLAY results on the screen
2  PRINT results on paper
3  COUNT 'hits'
4  KEEP 'hits' in a FM search template
5  STORE search logic for future use
6  R-MAN special report generator
9  HELP
0  EXIT

Your choice: DISPLAY// 1 <Enter>

***** QMAN OUTPUT OPTIONS ****

<table>
<thead>
<tr>
<th>PATIENTS</th>
<th>CHART OR</th>
<th>IMMUNIZATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alive</td>
<td>NUMBER #1</td>
<td>(SERIES)</td>
</tr>
<tr>
<td>----------------</td>
<td>----------</td>
<td>--------------</td>
</tr>
<tr>
<td>KAPAAA,ANITA</td>
<td>100078 +</td>
<td>-</td>
</tr>
<tr>
<td>GAMMAAA,MARTHA*</td>
<td>100085 +</td>
<td>-</td>
</tr>
<tr>
<td>ALPHA,MOLLY*</td>
<td>100110 +</td>
<td>-</td>
</tr>
<tr>
<td>RHORHOOOO,ERIC*</td>
<td>100126 +</td>
<td>-</td>
</tr>
<tr>
<td>RHORHOOOO,ALEX*</td>
<td>100146 +</td>
<td>-</td>
</tr>
<tr>
<td>RHORHOOOOA,HANNAH</td>
<td>100150 +</td>
<td>-</td>
</tr>
</tbody>
</table>

Figure 5-19: Concluding the query

Each time you add an attribute while using the KonglomeratOR, it is added to an “or” group. When you have finished selecting all entries into the group, press Enter, and the KonglomeratOR will be turned off. All subsequent attributes will be “and’ed” together. Within the search, the “or” group behaves as if it is a single query. If any of the individual attributes of the “or” group is a “hit” then the entire query is a hit. Note
that QMan does not tell you exactly which criteria of the “or” group were met, but you can see that the “or” group, taken as a whole, was a “hit.”

5.2.2 Joining Search Templates

The KonglomeratOR has another useful function. Suppose you have two or more search templates, and you want to find if someone is a member of any of them. As long as the templates share the same subject (e.g., patients, visits, etc.), the KonglomeratOR will do this for you. Thus, the KonglomeratOR shares (and expands upon) the functionality of the search template comparison utility.

The KonglomeratOR has one significant limitation. Only demographic attributes can be entered into an “or” group! QMan does not allow clinical attributes in KonglomeratOR or groups because potentially ambiguous or conflicting criteria may result. If you attempt to enter a clinical attribute while the KonglomeratOR is turned on, you will get warned. All is not lost however. If you must include a clinical attribute in an “or” group, there is a way: make a search template! You have already seen a perfect example of this in the Pneumovax session shown above. The “chronic disease” cohort was, in fact, derived from a search that included the clinical attribute DIAGNOSIS.

5.3 Linking QMan to Non-PCC Files

One of the most useful features of the FileMan environment is that you have the ability to make your own files and link them to the PCC. For example, users commonly create patient registers that “point” to the PCC patient file. In this way, information can be shared between the PCC and the register, and a great deal of redundant data entry is avoided.

Can QMan access the information in these non-PCC files? The answer is “sort of.” If one of the fields in the non-PCC file points to either the VA PATIENT FILE or the PATIENT FILE and that field is indexed, QMan can find it. However, QMan cannot find any of the other fields in the non-PCC file because they have not been entered into the Metadictionary. If the conditions listed above are in effect, QMan can view a non-PCC file the same way he views a search template. In other words, the QMan treats “entry into a non-PCC file” as an attribute.

To use entry into a non-PCC file as an attribute, use the word FILE when prompted for an attribute.
Attribute of LIVING PATIENTS: FILE ENTRY <Enter>
Which Fileman file: ER VISIT <Enter>

OK, I'll check the PATIENT field of this file.

Select one of the following:

1. Look for patients entered in the file
2. Look for patients not entered in the file
3. Take a random sample of patients entered in the file
4. Count the number of patients in the file

Your choice: 1// 1 <Enter>  Look for patients entered in the file

Computing Search Efficiency
Rating...........................................

Subject of search: PATIENTS
ALIVE TODAY   [SER = .01]
ENTERED IN THE 'ER VISIT' FILE   [SER = 4.56]

Attribute of LIVING PATIENTS: <Enter>

***** QMAN OUTPUT OPTIONS *****

Select one of the following:

1. DISPLAY results on the screen
2. PRINT results on paper
3. COUNT 'hits'
4. KEEP 'hits' in a FM search template
5. STORE search logic for future use
6. R-MAN special report generator
9. HELP
0. EXIT

Your choice: DISPLAY// <Enter>

PATIENTS          CHART
(Alive)          NUMBER

---------------------------------------------------
ZENITHHH,RAE*    100003
METAAA, SALLY*   100010
KAPPAAA, LOIS    100022
GAMMAGAMMAA, WALL 100026
CHICHI, MALCOLM  100075
GAMMABB, MARTHA* 100085
GAMMAGAMMAA, BARN 100092
ALPHA, MOLLY*    100110

Figure 5-20: Using entry into a non-PCC file as an attribute
Of course, any other QMan attributes could be included in this search; for example, “Find all ER VISIT FILE patients who live in Tucson and who did not receive a Tetanus shot.”

5.4 Random Samples

In most instances, QMan eliminates the need to perform random samples of the PCC database. There will still be times when it is useful to take a random sample, and QMan fully supports this functionality. Typically, random samples are needed for quality assurance and research queries; for example, the Joint Commission visits your facility and wants 10 charts selected at random from ER visits during the past 6 months, the Morbidity and Mortality committee may want to review a random sample of infant deaths, etc.

Obtaining a random sample is a two-step process.

- First, conduct a search and save the results in a search template.
- Second, recall the search template using the “left bracket syntax” and take a random sample. You have the option of either selecting an absolute number of cases or a certain percentage of the cases in the template.

What is the subject of your search?  LIVING PATIENTS // <Enter>

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]

Attribute of LIVING PATIENTS: [DIABETIC MALES <Enter> (DEC 08, 1989) USER #20 FILE #9000001

Select one of the following =>

1) LIVING PATIENTS must be a member of the DIABETIC MALES cohort
2) LIVING PATIENTS must NOT be a member of the DIABETIC MALES cohort
3) Select a random sample of the DIABETIC MALES cohort
4) Count the number of entries in the DIABETIC MALES cohort

Your choice (1-4): 1//3 <Enter>

Counting cohort before sampling...

There are 3640 entries in this cohort
Maximum sample size allowed is 50% of this total (15)

There are 2 ways to determine sample size =>

1) Sample a certain NUMBER of cohort members
2) Sample a certain PERCENT of cohort members

YOUR CHOICE (1-2): 1//1 <Enter>
How many LIVING PATIENTS do you want in the sample: 10 <Enter>
Collecting a random sample

10

Computing Search Efficiency Rating...........................................

Subject of search: PATIENTS
   ALIVE TODAY [SER = .01]
   RANDOM SAMPLE OF 'DIABETIC MALES' COHORT [SER = 0.99]

Attribute of LIVING PATIENTS:

Figure 5-21: Taking a random sample of 10 members of the diabetic males cohort

The QMan search will produce a list of 10 patients and their chart numbers.

Rarely, you may want to begin your search with a random sample of all patients or visits. This is done to produce a set of quick estimates or to predict the size and duration of a full-blown search. Suppose you want to estimate the percent of patients in your database who made ER visits in the last 12 months.

What is the subject of your search?  LIVING PATIENTS // RAND <Enter>
   1  RANDOM SAMPLE OF PATIENTS  RANDOM SAMPLE OF PATIENTS
   2  RANDOM SAMPLE OF VISITS  RANDOM SAMPLE OF VISITS

CHOOSE 1-2: 1 <Enter> RANDOM SAMPLE OF PATIENTS

There are 13380 PATIENTS in the database

   1) Select a certain number of RANDOM SAMPLE OF PATIENTS for the sample
   2) Select a certain percentage of RANDOM SAMPLE OF PATIENTS for the sample

YOUR CHOICE (1-2): 1 // 1 <Enter>

How many RANDOM SAMPLE OF PATIENTS do you want in the sample: 100 <Enter>

   Subject of search: PATIENTS
   A RANDOM SAMPLE OF RANDOM SAMPLE OF PATIENTS WILL BE USED

Attribute of RANDOM SAMPLE OF PATIENTS: VISIT <Enter>

SUBQUERY: Analysis of multiple VISITS

First condition/attribute of "VISIT": AFTER <Enter>
   Exact date: T-365 <Enter> (JUL 05, 1990)

Next condition/attribute of "VISIT": CLINIC <Enter>
   Enter CLINIC: EMERGENCY MEDICINE <Enter> 30
   Enter ANOTHER CLINIC: <Enter>

   The following have been selected =>

       EMERGENCY MEDICINE
Subject of subquery: VISIT
AFTER JUL 5,1990
CLINIC (EMERGENCY ME)

Next condition/attribute of "VISIT": <Enter>
Computing Search Efficiency Rating....

Subject of search: PATIENTS
A RANDOM SAMPLE OF RANDOM SAMPLE OF PATIENTS WILL BE USED
Subject of subquery: VISIT
AFTER JUL 5,1990
CLINIC (EMERGENCY ME)
Attribute of RANDOM SAMPLE OF PATIENTS: <Enter>

***** QMAN OUTPUT OPTIONS *****

Select one of the following:
1         DISPLAY results on the screen
2         PRINT results on paper
3         COUNT 'hits'
4         KEEP 'hits' in a FM search template
5         STORE search logic for future use
6         R-MAN special report generator
9         HELP
0         EXIT

Your choice: DISPLAY// 3 <Enter>  COUNT 'hits'

You have 2 options for counting VISITS =>

1) For ea. patient, count all VISITS which match your criteria
2) Count all PATIENTS with VISITS meeting your criteria, but do not count the individual values of ea. VISIT

Your choice (1 or 2): 1// 2 <Enter>

DEVICE:     RIGHT MARGIN: 80/

COUNTING....
Total: 39
Search time: 16 SECONDS

Press RETURN to continue or '^' to exit:

Figure 5-22: Taking a random sample of 100 patients visits at the ER

Remember, this method samples all patients including those who died on or after their visit. The data provide a quick estimate of the percent of ER users and the results suggest that a complete count would take about 1/2 hour to complete [(13380/100)*16 seconds].
### 5.5 Saving and Reusing Search Criteria

There are times when you may want to repeat the same search at regular intervals. To save time and avoid criteria entry errors, we suggest that you use QMan’s “script utilities.” One of the output options is “STORE search logic for future use.” If you select this option, QMan will write a script before displaying the results. Like the script of a play, all the instructions covering exactly what is supposed to happen are stored for future use. Whenever you reenter QMan, you have the option to replay the script. In the example below, we create a search, save the search criteria in a script, and then replay the script in another session.

```
***** SEARCH CRITERIA *****

What is the subject of your search? LIVING PATIENTS // <Enter>

    Subject of search: PATIENTS
    ALIVE TODAY [SER = .01]

Attribute of LIVING PATIENTS: AGE <Enter>
Condition: OVER <Enter>
Age: 75 <Enter>
Computing Search Efficiency Rating.................................

    Subject of search: PATIENTS
    ALIVE TODAY [SER = .01]
    AGE GREATER THAN 75 [SER = 99]

Attribute of LIVING PATIENTS: SEX <Enter>
CHOOSE FROM:
    M       MALE
    F       FEMALE
Value: F <Enter> FEMALE
Computing Search Efficiency Rating.........................

    Subject of search: PATIENTS
    ALIVE TODAY [SER = .01]
    AGE GREATER THAN 75 [SER = 99]
    SEX IS FEMALE [SER = 1.17]

Attribute of LIVING PATIENTS: <Enter>

Select one of the following:

1  DISPLAY results on the screen
2  PRINT results on paper
3  COUNT 'hits'
4  KEEP 'hits' in a FM search template
5  STORE search logic for future use
6  R-MAN special report generator
9  HELP
0  EXIT

Your choice: DISPLAY// 5 <Enter> STORE search logic for future use
```
Store logic under what name: OLD WOMEN <Enter>

Figure 5-23: Storing search logic for future use

What we are saving here is not a list of patients, as we did under search templates; we are actually saving the logic of the search. You are now free to select any of QMan’s display options. Later, you reenter QMan and replay the script.

***** QMAN OPTIONS *****

Select one of the following:

1  SEARCH PCC Database (dialogue interface)
2  FAST Facts (natural language interface)
3  SCRIPT Utilities (programmers interface)
4  VIEW Taxonomies and Search Templates
9  HELP
0  EXIT

Your choice: SEARCH// 3 <Enter> SCRIPT Utilities (programmers interface)

***** QMAN SCRIPT UTILITIES *****

Select one of the following:

1  COPY a Script
2  EDIT a Script
3  IMPORT a Script
4  PURGE a Script
5  RUN a Script
6  VIEW a Script
7  WRITE a Script
9  HELP
0  EXIT

Your choice: EXIT// 5 <Enter> RUN a Script

You will only be able to select option 5 from this menu. Other options are for programmers and developers only.

Run what script: OLD WOMEN <Enter>

***** QMAN OUTPUT OPTIONS *****

Select one of the following:

1  DISPLAY results on the screen
2  PRINT results on paper
3  COUNT 'hits'
4  KEEP 'hits' in a FM search template
5  STORE search logic for future use
6 R-MAN special report generator
9 HELP
0 EXIT

Your choice: DISPLAY// 1 <Enter>

<table>
<thead>
<tr>
<th>PATIENTS</th>
<th>CHART</th>
<th>AGE</th>
<th>SEX</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Alive) NUMBER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GAMMA,TESS</td>
<td>103101</td>
<td>90</td>
<td>FEMALE</td>
</tr>
<tr>
<td>RHORHOO,FLORENC*</td>
<td>102494</td>
<td>89</td>
<td>FEMALE</td>
</tr>
<tr>
<td>LAMBDAA,LORI*</td>
<td>102224</td>
<td>85</td>
<td>FEMALE</td>
</tr>
<tr>
<td>RHORHO,VALERIE*</td>
<td>100240</td>
<td>85</td>
<td>FEMALE</td>
</tr>
<tr>
<td>GAMMAAA,MARTHA*</td>
<td>100085</td>
<td>85</td>
<td>FEMALE</td>
</tr>
<tr>
<td>PIPIPIPIPShawn</td>
<td>102524</td>
<td>85</td>
<td>FEMALE</td>
</tr>
<tr>
<td>METAAA,LENORE</td>
<td>100775</td>
<td>85</td>
<td>FEMALE</td>
</tr>
<tr>
<td>METAAA,PATRICIA</td>
<td>100988</td>
<td>85</td>
<td>FEMALE</td>
</tr>
<tr>
<td>PIPIPIPIP,ERIC*</td>
<td>100126</td>
<td>82</td>
<td>FEMALE</td>
</tr>
<tr>
<td>BETA,ASHLEY*</td>
<td>102147</td>
<td>80</td>
<td>FEMALE</td>
</tr>
</tbody>
</table>

Figure 5-24: Running your stored script
6.0 Special Reports

So far we’ve talked about the standard generic report, which is columnar, but QMan has a companion program called R-Man, which is a report generator. Pieces of R-Man are available to the users of QMan.

6.1 Age Buckets

Age buckets gives us a series of age groups or “buckets.” In the following examples, we will be using a cohort consisting of the patients seen during the first week in January of 1987 (“JAN87”). We will ask that the listing be grouped by current community.

What is the subject of your search? LIVING PATIENTS // <Enter>

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]

Attribute of LIVING PATIENTS: [JAN87 <Enter> (JUL 03, 1991) USER #20 FILE 
#9000001

Select one of the following =>

1) LIVING PATIENTS must be a member of the JAN87 cohort
2) LIVING PATIENTS must NOT be a member of the JAN87 cohort
3) Select a random sample of the JAN87 cohort
4) Count the number of entries in the JAN87 cohort

Your choice (1-4): 1// <Enter>
Computing Search Efficiency Rating............................................

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]
MEMBER OF 'JAN87' COHORT [SER = 6.14]

Attribute of LIVING PATIENTS: SEX <Enter>

CHOOSE FROM:
M   MALE
F   FEMALE

Value: ALL <Enter>
Computing Search Efficiency Rating............................................

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]
MEMBER OF 'JAN87' COHORT [SER = 6.14]
SEX EXISTS [SER = 0]

Attribute of LIVING PATIENTS: CURRENT COMMUNITY <Enter>

Enter COMMUNITY: ALL <Enter>
Computing Search Efficiency Rating.........................................................

Subject of search: PATIENTS
   ALIVE TODAY [SER = .01]
   MEMBER OF 'JAN87' COHORT [SER = 6.14]
   SEX EXISTS [SER = 0]
   CURRENT COMMUNITY EXISTS [SER = 0]

Attribute of LIVING PATIENTS:

Figure 6-1: Grouping patients by current community

Choose options, in the following order:

- 6 (R-Man special report generator) from the QMan Output Options menu, then
- 5 (SPECIAL reports) from the R-Man Custom Report Generator menu, and then
- 1 (AGE buckets) from the R-Man Special Reports menu.

CURRENT SET UP

AGE GROUPS =>
   0 - 4
   5 - 9
   10 - 19
   20 - 39
   40 - 59
   60 - 79
   80+

Want to define a new set of age buckets? NO// N <Enter>

Do you want to have ages calculated as of a date other than today's date? NO//? <Enter>

QMAN will determine the ages of patients based on the date you enter subsequent to answering yes to this question.

NOTE: Only answer yes to the question about having ages calculated as of a date other than today's date if you entered a clinical attribute within the search AND you selected that you want to search for all visits that meet your search criteria.

Do you want to have ages calculated as of a date other than today's date? NO/<Enter> (NO)

Select one of the following:
   1   CURRENT COMMUNITY
   2   SEX
   8   NONE
   9   HELP
   0   EXIT

Your choice: NONE// 1 <Enter>  CURRENT COMMUNITY
<table>
<thead>
<tr>
<th>CURRENT COMM</th>
<th>0-4</th>
<th>5-9</th>
<th>10-19</th>
<th>20-39</th>
<th>40-59</th>
<th>60-79</th>
<th>80+</th>
<th>TOT</th>
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<tbody>
<tr>
<td>AJO</td>
<td>.</td>
<td>1</td>
<td>1</td>
<td>3</td>
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<tr>
<td>SELLS</td>
<td>2</td>
<td>5</td>
<td>9</td>
<td>10</td>
<td>14</td>
<td>6</td>
<td>46</td>
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</tr>
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<td>SIL NAKYA</td>
<td>.</td>
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<td>1</td>
<td>.</td>
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<td>3</td>
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<tr>
<td>SOUTH KOMELI</td>
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<td>2</td>
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<td>1</td>
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</tr>
<tr>
<td>TOTAL</td>
<td>6</td>
<td>21</td>
<td>20</td>
<td>68</td>
<td>46</td>
<td>28</td>
<td>6</td>
<td>195</td>
</tr>
</tbody>
</table>

Figure 6-2: Sample output of age bucket search

We can run the same age bucket search, but this time we will ask for the display showing us the number of males and females in each age bucket.
What is the subject of your search? LIVING PATIENTS // <Enter>

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]

Attribute of LIVING PATIENTS: [JAN87 <Enter>  (JUL 03, 1991) USER #20 FILE #9000001

Select one of the following =>

1) LIVING PATIENTS must be a member of the JAN87 cohort
2) LIVING PATIENTS must NOT be a member of the JAN87 cohort
3) Select a random sample of the JAN87 cohort
4) Count the number of entries in the JAN87 cohort

Your choice (1-4): 1// <Enter>
Computing Search Efficiency Rating........................................

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]
MEMBER OF 'JAN87' COHORT [SER = 6.14]

Attribute of LIVING PATIENTS: SEX <Enter>
CHOOSE FROM:
M  MALE
F  FEMALE
Value: ALL <Enter>
Computing Search Efficiency Rating........................................

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]
MEMBER OF 'JAN87' COHORT [SER = 6.14]
SEX EXISTS [SER = 0]

Attribute of LIVING PATIENTS:

Figure 6-3: Grouping patients by current community

Choose options, in the following order:
• 6 (R-Man special report generator) from the QMan Output Options menu, then
• 5 (SPECIAL reports) from the R-Man Custom Report Generator menu, and then
• 1 (AGE buckets) from the R-Man Special Reports menu.

CURRENT SET UP
AGE GROUPS =>
0  -  4
5  -  9
10 - 19
20 - 39
40 - 59
60 - 79
80+

Want to define a new set of age buckets? NO// <Enter>  (NO)

Select one of the following:
1   SEX
8   NONE
9   HELP
0   EXIT

Your choice: NONE// 1 <Enter> SEX

DEVICE: <Enter>

<table>
<thead>
<tr>
<th></th>
<th>0-4</th>
<th>5-9</th>
<th>10-19</th>
<th>20-39</th>
<th>40-59</th>
<th>60-79</th>
<th>80+</th>
<th>TOT</th>
</tr>
</thead>
<tbody>
<tr>
<td>FEMALE</td>
<td>3</td>
<td>10</td>
<td>11</td>
<td>55</td>
<td>32</td>
<td>23</td>
<td>3</td>
<td>137</td>
</tr>
<tr>
<td>MALE</td>
<td>3</td>
<td>11</td>
<td>9</td>
<td>13</td>
<td>14</td>
<td>5</td>
<td>3</td>
<td>58</td>
</tr>
<tr>
<td>TOTAL</td>
<td>6</td>
<td>21</td>
<td>20</td>
<td>68</td>
<td>46</td>
<td>28</td>
<td>6</td>
<td>195</td>
</tr>
</tbody>
</table>

Figure 6-4: Sample output displaying the number of males and females in each age bucket

As you can see, the total number of patients is still the same. We are just asking that the data be displayed differently.

What is the subject of your search? LIVING PATIENTS //

Subject of search: PATIENTS
ALIVE TODAY  [SER = .01]

Attribute of LIVING PATIENTS: CURRENT COMMUNITY <Enter> v

Enter COMMUNITY: SELLS <Enter> PIMA ARIZONA 067 0410067
Enter ANOTHER COMMUNITY: AJO <Enter> PIMA ARIZONA 006 0410006
Enter ANOTHER COMMUNITY: HICK <Enter>
  1  HICKIWN  PIMA  ARIZONA  038  0410038
  2  HICKORY  NEWTON  MISSISSIPPI  225  2851225
  3  HICKORY  MURRAY  OKLAHOMA  667  4050667
CHOOSE 1-3: 1 <Enter>
Enter ANOTHER COMMUNITY: <Enter>
The following have been selected =>
AJO
HICKIWN
SELLS

Want to save this COMMUNITY group for future use? NO// <Enter>  (NO)
Computing Search Efficiency Rating...........................................
ALIVE TODAY [SER = .01]
CURRENT COMMUNITY (AJO/HICKIWAN...) [SER = 3.17]

Attribute of LIVING PATIENTS:

Choose options, in the following order:

- 6 (R-Man special report generator) from the QMan Output Options menu, then
- 5 (SPECIAL reports) from the R-Man Custom Report Generator menu, and then
- 1 (AGE buckets) from the R-Man Special Reports menu.

CURRENT SET UP

AGE GROUPS =>
0 - 1
2 - 4
5 - 10
11 - 19
20 - 39
40 - 59
60 - 79
80+

Want to define a new set of age buckets? NO/\ Y <Enter> (YES)
Max. of 8 buckets allowed...

Enter the starting age of the first age group: 0 <Enter>
Enter the starting age of the next age group: 9 <Enter>
Enter the starting age of the next age group: 19 <Enter>
Enter the starting age of the next age group: 29 <Enter>
Enter the starting age of the next age group: 39 <Enter>
Enter the starting age of the next age group: 49 <Enter>
Enter the starting age of the next age group: 59 <Enter>
Enter the starting age of the next age group: 69 <Enter>
Enter the highest age for the last group: 79 <Enter>

AGE GROUPS =>
0 - 8
9 - 18
19 - 28
29 - 38
39 - 48
49 - 58
59 - 68
69 - 79

Select one of the following:

1 CURRENT COMMUNITY
8 NONE
9         HELP
0         EXIT

Your choice: NONE// 8 <Enter> NONE

DEVICE:  <Enter>

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<th>ATTRIBUTE</th>
<th>0-1</th>
<th>2-4</th>
<th>5-10</th>
<th>11-19</th>
<th>20-39</th>
<th>40-59</th>
<th>60-79</th>
<th>80+</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOT</td>
<td>22</td>
<td>92</td>
<td>62</td>
<td>67</td>
<td>69</td>
<td>64</td>
<td>26</td>
<td>1</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
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<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Select one of the following:

1         CURRENT COMMUNITY
8         NONE
9         HELP
0         EXIT

Your choice: NONE// 1 <Enter> CURRENT COMMUNITY

DEVICE:  <Enter>

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<td>3</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>42</td>
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<tr>
<td>HICKIWAN</td>
<td>12</td>
<td>6</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>1</td>
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<td>335</td>
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<tr>
<td>TOTAL</td>
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<td>81</td>
<td>44</td>
<td>26</td>
<td>41</td>
<td>24</td>
<td>17</td>
<td>11</td>
<td>402</td>
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</tbody>
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*****  SEARCH CRITERIA  *****

What is the subject of your search?  LIVING PATIENTS // PATIENT <Enter>
Attribute of PATIENT: DX <Enter>

Enter DX:  DM <Enter>
250.00 (DIABETES UNCOMPL TYPE II/NIDDM)
DIABETES MELLITUS WITHOUT MENTION OF COMPLICATION/TYPE II/NONINSULIN DEPENDENT/ADULT-ONSET

OK? Y// <Enter>

ICD Code Range(s) Selected So Far =>

1)  250.00

Enter ANOTHER DX: <Enter>

SUBQUERY: Analysis of multiple DIAGNOSES
First condition/attribute of "DIAGNOSIS": DURING THE TIME PERIOD <Enter>
Exact starting date: 1/1/88 <Enter> (JAN 01, 1988)
Exact ending date: 1/31/88 <Enter> (JAN 31, 1988)

Next condition/attribute of "DIAGNOSIS": <Enter>
Computing Search Efficiency Rating.....

Subject of search: PATIENTS
DIAGNOSIS (250.00) [SER = 24.37]
Subject of subquery: DIAGNOSIS
BETWEEN JAN 1,1988 and JAN 31,1988@23:59

Attribute of PATIENT:

Figure 6-6: Defining a new set of age buckets

Choose options, in the following order:

- 6 (R-Man special report generator) from the QMan Output Options menu, then
- 5 (SPECIAL reports) from the R-Man Custom Report Generator menu, and then
- 1 (AGE buckets) from the R-Man Special Reports menu.

CURRENT SET UP

AGE GROUPS =>
0 - 9
10 - 24
25 - 39
40 - 49
50 - 59
60 - 74
75 - 90

Do you want to define a new set of age buckets? NO// <Enter> (NO)
Do you want to have ages calculated as of a date other than today's date? NO// Y <Enter> (YES)
Enter date relative to which age will be calculated: JAN 1 1988 <Enter> (JAN 01, 1988)

You have 3 options for listing DIAGNOSES =>

1) For ea. patient, list all ICD9 CODES
2) For ea. patient, list all ICD9 CODES and PROVIDER NARRATIVES
3) List all PATIENTS with ICD9 CODES you specified, but DO NOT list individual ICD9 CODES or PROVIDER NARRATIVES (FASTEST OPTION!!)

Your choice (1-3): 1// <Enter> (1)

Select one of the following:

1     DIAGNOSIS
8     NONE
The following interaction is based on the previous search with the only difference being the answer to the question “Do you want to have ages calculated as of a date other than today’s date?” Notice the change in results. Now the age bucket 75–90 has more visits incurred by patients in that age group because we did not have ages calculated as of a date prior to today’s date. This means that the ages of the patients are older than in the previous example since we are using today’s date for age rather than a date of 1/1/88.

**Note:** By selecting number options 1 or 2, you will have a count of visits within each age bucket, not number of patients that had a visit within each age group, i.e., if you selected option 3. If you picked option 3, then you would have a count of patients that had a visit that met the search criteria. Each patient when option 3 is selected is counted only once regardless of the number of visits they may have had that met the search criteria.
120

1 DIAGNOSIS (If more than one DX was entered, 
8 NONE # of visits per DX will be displayed 
9 HELP DIAGNOSIS is if selected.) 
0 EXIT

Your choice: NONE// 8 <Enter> NONE

DEVICE: <Enter>

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<th>10-24</th>
<th>25-39</th>
<th>40-49</th>
<th>50-59</th>
<th>60-74</th>
<th>75-90</th>
<th>TOT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td></td>
<td>16</td>
<td>19</td>
<td>43</td>
<td>34</td>
<td>14</td>
<td>127</td>
</tr>
</tbody>
</table>

Figure 6-9: Sample count of visits within each age bucket

6.2 Health Summaries

Let’s say you want to generate a list of health summaries on a certain group of patients, which is useful if you want to do a clinical review of cases. We’re going to take a random sample of three health summaries from the January 1987 cohort.

What is the subject of your search? LIVING PATIENTS //

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]

Attribute of LIVING PATIENTS: [JAN87 <Enter> (JUL 03, 1991) USER #20 FILE #9000001

Select one of the following =>

1) LIVING PATIENTS must be a member of the JAN87 cohort
2) LIVING PATIENTS must NOT be a member of the JAN87 cohort
3) Select a random sample of the JAN87 cohort
4) Count the number of entries in the JAN87 cohort

Your choice (1-4): 1// 3 <Enter>

Counting cohort before sampling...

There are 195 entries in this cohort
Maximum sample size allowed is 50% of this total (97)

There are 2 ways to determine sample size =>

1) Sample a certain NUMBER of cohort members
2) Sample a certain PERCENT of cohort members

YOUR CHOICE (1-2): 1// <Enter>
How many PATIENTS do you want in the sample: 3 <Enter>

Collecting a random sample
3
Computing Search Efficiency Rating...........................................

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]
RANDOM SAMPLE OF 'JAN87' COHORT [SER = 0.99]

Attribute of LIVING PATIENTS:

Figure 6-10: Taking a random sample of three health summaries from the January 1987 cohort

At this point, we will choose options, in the following order:
6. (R-Man special report generator) from the QMan Output Options menu, then
5. (SPECIAL reports) from the R-Man Custom Report Generator menu.

***** R-MAN SPECIAL REPORTS *****

Select one of the following:
1. AGE buckets
2. HEALTH summaries
3. MAILING labels
4. MONTH buckets
5. TIME series
6. WORKLOAD distribution
9. HELP
0. EXIT

Your choice: 2 <Enter> HEALTH summaries

Figure 6-11 Selecting option 2 on R-Man special reports menu

You will then see displayed on your screen the health summaries of three patients selected at random from the cohort you had named. The summaries will be similar to the following in format. (Usually, such health summaries are directed to the printer.)

*************** CONFIDENTIAL PATIENT INFORMATION -- JAN 27,1990 10:29 AM
***************
*************** THETA,BETTY ANN (ADULT REGULAR SUMMARY) PG 1
***************
------------------------------------- DEMOGRAPHIC DATA -------------------------------------
THETA,BETTY ANN DOB:JUN 21,1959 FEMALE A+
NAVAJO
TUCSON(7777E. 77TH ST.,TUCSON,ARIZONA,87666) SSN: 181-00-9999
ELIGIBILITY:DIRECT
HEALTH RECORD NUMBERS: 088888 SELLS HOSPITAL/CLINIC
054666 SAN XAVIER HEALTH CLINIC
PRIMARY PROVIDER: (NONE IDENTIFIED)

---------------------------------- ALLERGIES ---------------------------------

***** PENICILLIN ALLERGY, ANAPHYLAXIS *****

---------------------------------- INSURANCE INFORMATION ---------------------------------

<table>
<thead>
<tr>
<th>INSURANCE</th>
<th>NUMBER</th>
<th>SUFF</th>
<th>COV</th>
<th>EL DATE</th>
<th>SIG DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEDICAID</td>
<td>123456789</td>
<td>0</td>
<td>II</td>
<td>10/14/89</td>
<td></td>
</tr>
<tr>
<td>BLUE CROSS/BLUE SHIELD</td>
<td>444-55-5555</td>
<td></td>
<td>01/18/87</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

------------------------------- MEASUREMENT PANELS (MAX 5 VISITS OR 2 YEARS) -------------------

<table>
<thead>
<tr>
<th>Date</th>
<th>HT</th>
<th>WT</th>
<th>BP</th>
<th>VU</th>
<th>VC</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/10/89</td>
<td>66</td>
<td>200</td>
<td>160/92</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10/27/89</td>
<td>186</td>
<td>140/90</td>
<td>40/50</td>
<td>20/20</td>
<td></td>
</tr>
</tbody>
</table>

------------------------------- REPRODUCTIVE HISTORY -------------------------------

G3P3LC3SA0TA0 (OBTAINED 12/10/89) LMP 11/23/89 (OBTAINED 12/10/89)
CONTRACEPTIVE METHOD: NATURAL TECHNIQUES (OBTAINED 12/10/89)

--------------------------------- ACTIVE PROBLEMS ---------------------------------

| SX1  | 07/06/89 | DIABETES MELLITIS |
| SX1SX1|         | DIABINASE 250 MG  |
| SX1.1| 08/30/89 | NEUROPATHY       |
| SX1.2| 08/30/89 | PERIODONTAL DISEASE |

--------------------------------- INACTIVE PROBLEMS ---------------------------------

| SX6 | 12/10/89 | PYELONEPHRITIS |
| SX7 | 12/10/89 |HX LEFT HIP FRACTURE |

--------------------------------- HISTORY OF SURGERY ---------------------------------

10/27/89 (01/02/87) OPEN REDUCTION/FIXATION L HIP AT AHSC

--------------------------------- MEDICATIONS ---------------------------------

<table>
<thead>
<tr>
<th>Date</th>
<th>MEDICATION</th>
<th>DOSAGE</th>
<th>EXPIRATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/10/89</td>
<td>DIABINESE 250 MG DAILY</td>
<td>EXP 3/90 100</td>
<td></td>
</tr>
<tr>
<td>12/10/89</td>
<td>ERYTHROMYCIN 250 MG QID</td>
<td>EXP 1/90 40</td>
<td></td>
</tr>
</tbody>
</table>

------------------- INPATIENT STAYS (MAX 5 VISITS OR 5 YEARS) -------------------

09-08-89--09-15-89 SELLS HOSPITAL ACUTE PYELONEPHRITIS PNEUMONIA

------------------- OUTPATIENT/FIELD VISITS (MAX 10 VISITS OR 2 YEARS) -------------------

01/23/90 SAN XAVIER DIABETES
12/10/89 SELLS HOSP ELEVATED BLOOD PRESSURE LEFT OTITIS MEDIA
10/27/89 SAN XAVIER DYSFUNCTIONAL UTERINE BLEEDING
09/17/89 SAN XAVIER PENICILLIN ALLERGY, ANAPHYLAXIS VIRAL INFECTION
08/30/89 SAN XAVIER MULTIPLE EXTRACTIONS/ALVEOPLASTY PERIODONTAL DISEASE

------------------ MOST RECENT PATIENT EDUCATION (MAX 5 VISITS OR 2 YEARS) ------------------

01/23/90 SAN XAVIER DM-DISEASE PROCESS-BAD UNDERSTANDING
12/10/89 SELLS HOSP DM-DISEASE PROCESS-FAIR UNDERSTANDING

------------------ MOST RECENT LABORATORY DATA (MAX 2 YEARS) ------------------


-------
BLOOD SUGAR  (12/10/89)  450
STREP CUL     (09/17/89)  N
HEMEATOCRIT   (10/27/89)  45
------------------------------------------------- IMMUNIZATIONS -----------------------------
-------
TD-ADULT      12/10/89     SAN XAVIER
PNEUMOVAX     09/17/89     SAN XAVIER
------------------------------------------------- SKIN TESTS -----------------------------
-------
PPD           08/01/89 UNREP   SAN XAVIER
------------------------------------------------- HEALTH CARE MAINTENANCE REMINDERS ---------------
-------
************ END*CONFIDENTIAL PATIENT INFORMATION -- JAN 27,1990 10:29 AM
***********

Figure 6-12: Sample display of the health summaries of three patients selected at random from the cohort named

6.3 Mailing Labels

Suppose you identify a group of older, diabetic patients to be contacted to come in to receive a flu shot. You can generate mailing labels to be used to send out notices to the patients.

What is the subject of your search? LIVING PATIENTS // <Enter>

   Subject of search: PATIENTS
   ALIVE TODAY   [SER = .01]

Attribute of LIVING PATIENTS: AGE <Enter>
Condition: OVER 70 <Enter>
Computing Search Efficiency Rating...........................................

   Subject of search: PATIENTS
   ALIVE TODAY   [SER = .01]
   AGE GREATER THAN 70     [SER = 99]

Attribute of LIVING PATIENTS: DX <Enter>

Enter DX: DM <Enter>
250.00 (DIABETES UNCOMPL TYPE II/NIDDM)
DIABETES MELLITUS WITHOUT MENTION OF COMPLICATION/TYEP II/NONINSULIN DEPENDENT/ADULT-ONSET

   OK? Y// <Enter>

ICD Code Range(s) Selected So Far =>

1) 250.00
Enter ANOTHER DX: <Enter>
SUBQUERY: Analysis of multiple DIAGNOSES
First condition/attribute of "DIAGNOSIS": <Enter>
Computing Search Efficiency Rating.....

Subject of search: PATIENTS
   ALIVE TODAY   [SER = .01]  
   AGE GREATER THAN 70     [SER = 99]  
   DIAGNOSIS (250.00)  [SER = 24.37]  

Attribute of LIVING PATIENTS:

Figure 6-13: Sample search for diabetic patients over 70

At this point, we will choose options, in the following order:

6. (R-Man special report generator) from the QMan Output Options menu, then
5. (SPECIAL reports) from the R-Man Custom Report Generator menu.

***** R-MAN SPECIAL REPORTS *****
Select one of the following:
1. AGE buckets
2. HEALTH summaries
3. MAILING labels
4. MONTH buckets
5. TIME series
6. WORKLOAD distribution
9. HELP
0. EXIT

Your choice: 3 <Enter> MAILING labels

***** ADDRESS LABEL UTILITY *****
Select LABEL PRINTING DEVICE: P-WYSE-SLAVE// <Enter>
HORIZONTAL OFFSET: 6// <Enter>
COLUMN WIDTH: 50// 38 <Enter>
ROW HEIGHT: 9// 7 <Enter>
NUMBER OF LABELS PER ROW: 2// <Enter>

Figure 6-14: Selecting option 3 on R-Man special reports menu

At this point, QMan is prompting you for information on setting up the printing parameters for your test print of mailing labels. You might have to experiment to find the optimal settings to align the addresses on the labels you will be using.

Want to do a test print? YES// <Enter> (YES)

JOHN SMITH
1234 S. MAIN ST.      JOHN SMITH
TUCSON,AZ

QMan User Manual, Volume III
Special Reports
March 2010
124
6.4 Month Buckets

“Month buckets” is a way of determining seasonal illnesses without breaking down the data by year.

What is the subject of your search?  LIVING PATIENTS // VISITS <Enter>
Attribute of VISIT: DURING THE PERIOD <Enter>
Exact starting date: 1/1/87 <Enter>  (JAN 01, 1987)
Exact ending date: 12/31/90 <Enter>  (DEC 31, 1990)
Computing Search Efficiency Rating

Subject of search: VISIT
   BETWEEN DATES (inclusive) JAN 1, 1987 and DEC 31, 1990  [SER = .47]

Attribute of VISIT: DX <Enter>
Enter DX: CHICKENPOX <Enter>
052.9 (VARICELLA UNCOMPPLICATED)
VARICELLA WITHOUT MENTION OF COMPLICATION

OK? Y// <Enter>
Enter ANOTHER DX: <Enter>
Computing Search Efficiency Rating

Subject of search: VISIT
   BETWEEN DATES (inclusive) JAN 1, 1987 and DEC 31, 1990  [SER = .47]
POV (052.9)  [SER = 1.35]

Attribute of VISIT:

Figure 5-16: Sample search of patients who had chicken pox between 1987 and 1990

At this point, we will choose options, in the following order:

6. (R-Man special report generator) from the QMan Output Options menu, then
5. (SPECIAL reports) from the R-Man Custom Report Generator menu.

***** R-MAN SPECIAL REPORTS *****

Select one of the following:

1. AGE buckets
2. HEALTH summaries
3. MAILING labels
4. MONTH buckets
5. TIME series
6. WORKLOAD distribution
9. HELP
0. EXIT

Your choice: 4 <Enter> MONTH buckets

DEVICE: HOME// <Enter>

MONTH BUCKET REPORT: JAN 1987 to JAN 1990

MONTH TOTAL MONTH AVG
   COUNT PER MO.
----------------------------------
JAN  6  4  1.50
6.5 Time Series Reports

Let’s look at all patients in the database who have a diagnosis of chickenpox. I want to do a special report on the epidemiological breakdown on the occurrence of chickenpox with respect to month and year.

Although the data for several years is lumped together here, the seasonal findings are clearly demonstrated - chickenpox is shown to be most prevalent in February, March, April, and May.
Attribute of LIVING PATIENTS:

Figure 6-17 Example of Time Series reporting

At this point, we will choose options, in the following order:

6. (R-Man special report generator) from the QMan Output Options menu, then
5. (SPECIAL reports) from the R-Man Custom Report Generator menu.

***** R-MAN SPECIAL REPORTS *****

Select one of the following:
1  AGE buckets
2  HEALTH summaries
3  MAILING labels
4  MONTH buckets
5  TIME series
6  WORKLOAD distribution
9  HELP
0  EXIT

Your choice:  5 <Enter>  TIME series

DEVICE: HOME// <Enter>

TIME SERIES REPORT: 1985 to 1990

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>JANUARY</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>FEBRUARY</td>
<td>0</td>
<td>4</td>
<td>5</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>11</td>
</tr>
<tr>
<td>MARCH</td>
<td>0</td>
<td>4</td>
<td>18</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>25</td>
</tr>
<tr>
<td>APRIL</td>
<td>0</td>
<td>1</td>
<td>16</td>
<td>0</td>
<td>5</td>
<td>0</td>
<td>22</td>
</tr>
<tr>
<td>MAY</td>
<td>0</td>
<td>3</td>
<td>6</td>
<td>0</td>
<td>4</td>
<td>1</td>
<td>14</td>
</tr>
<tr>
<td>JUNE</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>JULY</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>AUGUST</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
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<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>OCTOBER</td>
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<td>1</td>
<td>2</td>
<td>1</td>
<td>0</td>
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<td>4</td>
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<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>DECEMBER</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>TOTAL</td>
<td>2</td>
<td>18</td>
<td>50</td>
<td>4</td>
<td>17</td>
<td>1</td>
<td>100</td>
</tr>
<tr>
<td>CUMUL.</td>
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<td>20</td>
<td>70</td>
<td>74</td>
<td>91</td>
<td>92</td>
<td>92</td>
</tr>
<tr>
<td>AVG/MONTH</td>
<td>0</td>
<td>1</td>
<td>4</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

Figure 6-18: Selecting option 5 from R-Man special reports menu

This times series is based on visits. This is the epidemiological breakdown of visits for chickenpox from 1985 to 1990. You can see in this case that there was an epidemic of chickenpox centered around 1988, and the majority of the cases that year were seen in February, March, April, and May.
The figures in the epidemiological breakdown we just did may be clouded by patients who were seen more than once during the time they had the chickenpox. This time we will do the same search, but we will differentiate between patients being seen for the first time for their chickenpox, and patients who are making return visits for the same diagnosis.

![Image of a search interface](image)

What is the subject of your search? LIVING PATIENTS // <Enter>

Subject of search: PATIENTS
    ALIVE TODAY [SER = .01]

Attribute of LIVING PATIENTS: DX <Enter>

Enter DX: CHICKENPOX <Enter>
052.9 (VARICELLA UNCOMPPLICATED)
VARICELLA WITHOUT MENTION OF COMPLICATION

OK? Y// <Enter>

ICD Code Range(s) Selected So Far =>
1) 052.9

Enter ANOTHER DX: <Enter>

SUBQUERY: Analysis of multiple DIAGNOSES

First condition/attribute of "DIAGNOSIS": FIRST <Enter>
1 FIRST
2 FIRST VISIT OR REVISIT
CHOOSE 1-2: 2 <Enter>
CHOOSE FROM:
1 FIRST VISIT
2 REVISIT
Value: 1 <Enter>

Next condition/attribute of "DIAGNOSIS": <Enter>

Computing Search Efficiency Rating.....

Subject of search: PATIENTS
    ALIVE TODAY [SER = .01]
    DIAGNOSIS (052.9) [SER = 24.37]
    Subject of subquery: DIAGNOSIS
    FIRST VISIT OR REVISIT = 1st VISIT

Attribute of LIVING PATIENTS:

![Figure 6-19: Sample search differentiating between patients' first visits and patients making return visits](image)

At this point, we will choose options, in the following order:

6. (R-Man special report generator) from the QMan Output Options menu, then
5. (SPECIAL reports) from the R-Man Custom Report Generator menu.

```
      ***** R-MAN    SPECIAL REPORTS      *****

Select one of the following:

1       AGE buckets
2       HEALTH summaries
3       MAILING labels
4       MONTH buckets
5       TIME series
6       WORKLOAD distribution
9       HELP
0       EXIT

Your choice: 5 <Enter>  TIME series
```

TIME SERIES REPORT: 1985 to 1989

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>JANUARY</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>FEBRUARY</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>MARCH</td>
<td>1</td>
<td>5</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td></td>
<td>9</td>
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<td>APRIL</td>
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<td>0</td>
<td>5</td>
<td>0</td>
<td></td>
<td>6</td>
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<tr>
<td>MAY</td>
<td>0</td>
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<td>0</td>
<td>4</td>
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<td>6</td>
</tr>
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<td>JUNE</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>JULY</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
</tr>
<tr>
<td>AUGUST</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>SEPTEMBER</td>
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<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>OCTOBER</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td></td>
<td>1</td>
</tr>
<tr>
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<td>0</td>
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<td>0</td>
<td>0</td>
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<td>0</td>
<td>0</td>
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<td>0</td>
</tr>
<tr>
<td>TOTAL</td>
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<td>10</td>
<td>3</td>
<td>16</td>
<td>1</td>
<td></td>
<td>38</td>
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<tr>
<td>CUMUL.</td>
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<td>12</td>
<td>15</td>
<td>31</td>
<td>32</td>
<td></td>
<td>32</td>
</tr>
<tr>
<td>AVG/MONTH</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td></td>
<td>0</td>
</tr>
</tbody>
</table>

Figure 6-20: Selecting option 5 from the R-Man special reports menu

In comparing the first display with the second, you can see that the total number of visits has decreased in the second display, which would lead us to believe that many of the visits listed in the first display were actually revisits for the same diagnosis. Also, when only first visits are considered, there were more visits for chickenpox in 1986 than in 1988. However, the months in which the majority of chickenpox patients are seen are still February, March, April, and May.

6.6 Workload Distribution Reports

Workload distribution reports are especially useful in anticipating staffing requirements in terms of the day of the week or the time of day that patient use of facilities is highest.
In this example, we’re going to use “visit” as the subject of our search, and we’re going to use the “JAN89” cohort.

What is the subject of your search?  LIVING PATIENTS // VISIT <Enter>
Attribute of VISIT:  [JAN89 <Enter>  (JUL 03, 1991)  USER #20 FILE #9000010
Select one of the following =>

1) LIVING PATIENTS must be a member of the JAN87 cohort
2) LIVING PATIENTS must NOT be a member of the JAN87 cohort
3) Select a random sample of the JAN87 cohort
4) Count the number of entries in the JAN87 cohort

Your choice (1-4): 1 // <Enter>
Computing Search Efficiency Rating.................................

Subject of search: PATIENTS
ALIVE TODAY   [SER = .01]
MEMBER OF 'JAN87' COHORT     [SER = 6.14]
Attribute of LIVING PATIENTS:

Figure 6-21: Sample search by visit and using the JAN89 cohort

At this point, we will choose options, in the following order:

6 (R-Man special report generator) from the QMan Output Options menu, then
5 (SPECIAL reports) from the R-Man Custom Report Generator menu.

***** R-MAN SPECIAL REPORTS *****
Select one of the following:

1   AGE buckets
2   HEALTH summaries
3   MAILING labels
4   MONTH buckets
5   TIME series
6   WORKLOAD distribution
9   HELP
0   EXIT

Your choice:  6 <Enter>   WORKLOAD distribution

WORKLOAD DISTRIBUTION REPORT: JAN 1,1989 to JAN 6,1989
VISIT TIME    SUN    MON    TUE    WED    THU    FRI    SAT    TOT
------------------------------------------------------------------------
0000-0059     .      .      .      .      .      .      .      0
0100-0159     .      .      .      .      .      .      .      0
0200-0259     .      .      .      .      .      .      .      0
0300-0359     .      .      .      .      .      .      .      0
0400-0459     .      .      .      .      .      1      .      1
The display shows the time of day and the days of the week. You can easily see how the patient visits cluster, and in this example, the peak time occurs at noon.

We’re going to do another workload distribution report, this time starting with ‘living patients’ rather than ‘visit’. We’re going to find the time of day our chickenpox patients tended to arrive.

<table>
<thead>
<tr>
<th>Time of Day</th>
<th>Mon</th>
<th>Tue</th>
<th>Wed</th>
<th>Thu</th>
<th>Fri</th>
<th>Sat</th>
<th>Sun</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>0500-0559</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>0600-0659</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>0700-0759</td>
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TOTAL 5 16 57 62 59 48 0 247

Figure 6-22: Selecting option 6 from the R-Man special reports menu

What is the subject of your search? LIVING PATIENTS //

Subject of search: PATIENTS ALIVE TODAY [SER = .01]

Attribute of LIVING PATIENTS: DX <Enter>

Enter DX: CHICKENPOX <Enter>
052.9 (VARICELLA UNCOMPPLICATED) VARICELLA WITHOUT MENTION OF COMPLICATION

OK? Y// <Enter>

ICD Code Range(s) Selected So Far =>

1) 052.9

Enter ANOTHER DX: <Enter>

SUBQUERY: Analysis of multiple DIAGNOSES
First condition/attribute of "DIAGNOSIS": <Enter>
Computing Search Efficiency Rating.....

Subject of search: PATIENTS
ALIVE TODAY [SER = .01]
DIAGNOSIS (052.9) [SER = 24.37]

Attribute of LIVING PATIENTS:

Figure 6-23: Sample workload distribution report by living patient instead of visit

At this point, we will choose options, in the following order:
6. (R-Man special report generator) from the QMan Output Options menu, then
5. (SPECIAL reports) from the R-Man Custom Report Generator menu.

***** R-MAN SPECIAL REPORTS *****

Select one of the following:
1 AGE buckets
2 HEALTH summaries
3 MAILING labels
4 MONTH buckets
5 TIME series
6 WORKLOAD distribution
9 HELP
0 EXIT

Your choice: 6 <Enter> WORKLOAD distribution

WORKLOAD DISTRIBUTION REPORT: MAY 28, 1985 to JAN 18, 1990

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<th>THU</th>
<th>FRI</th>
<th>SAT</th>
<th>TOT</th>
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In this display, the peak time that most of the chickenpox patients appeared for treatment was between noon and 6:00 PM during the week.

At this point, we will choose options, in the following order:

6. (R-Man special report generator) from the QMan Output Options menu, then
5. (SPECIAL reports) from the R-Man Custom Report Generator menu.
WORKLOAD DISTRIBUTION REPORT: JAN 1, 1988 to JAN 30, 1988

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Figure 6-26: Selecting option 6 from the R-Man special reports menu
7.0 Appendix A: RPMS Rules of Behavior

The information in this required section was written by the IHS Office of Information Technology. It does not contain any information about the functionality of the software.

7.1 All RPMS Users

In addition to these rules, each application can include additional RoBs, which can be defined within the individual application’s documentation (e.g., PCC, Dental, Pharmacy).

7.1.1 Access

RPMS Users shall:

- Only use data for which you have been granted authorization.
- Only give information to personnel who have access authority and have a need to know.
- Always verify a caller’s identification and job purpose with your supervisor or the entity provided as employer before providing any type of information system access, sensitive information, or non-public agency information.
- Be aware that personal use of information resources is authorized on a limited basis within the provisions Indian Health Manual Chapter 6 OMS Limited Personal Use of Information Technology Resources TN 03-05," August 6, 2003.
- Users Shall Not:
  - Retrieve information for someone who does not have authority to access the information.
  - Access, research, or change any user account, file, directory, table, or record not required to perform your OFFICIAL duties.
  - Store sensitive files on a PC hard drive, or portable devices or media, if access to the PC or files cannot be physically or technically limited.
  - Exceed their authorized access limits in RPMS by changing information or searching databases beyond the responsibilities of their job or by divulging information to anyone not authorized to know that information
7.1.2 Logging On To The System
RPMS Users shall:

- Have a unique User Identification/Account name and password.
- Be granted access based on authenticating the account name and password entered.
- Be locked out of an account after 5 successive failed login attempts within a specified time period (e.g., one hour).

7.1.3 Information Accessibility

RPMS shall restrict access to information based on the type and identity of the user. However, regardless of the type of user, access shall be restricted to the minimum level necessary to perform the job.

Users Shall

- Access only those documents they created and those other documents to which they have a valid need-to-know and to which they have specifically granted access through an RPMS application based on their menus (job roles), keys, and FileMan access codes. Some users might be afforded additional privileges based on the function they perform such as system administrator or application administrator.
- Acquire a written preauthorization in accordance with IHS polices and procedures prior to interconnection to or transferring data from RPMS.
- Behave in an ethical, technically proficient, informed, and trustworthy manner.
- Logout of the system whenever they leave the vicinity of their PC.
- Be alert to threats and vulnerabilities in the security of the system.
- Report all security incidents to their local Information System Security Officer (ISSO)
- Differentiate tasks and functions to ensure that no one person has sole access to or control over important resources.
- Protect all sensitive data entrusted to them as part of their government employment.
- Shall abide by all Department and Agency policies and procedures and guidelines related to ethics, conduct, behavior and IT information processes
7.1.4 Accountability

Users Shall:

- Behave in an ethical, technically proficient, informed, and trustworthy manner.
- Logout of the system whenever they leave the vicinity of their PC.
- Be alert to threats and vulnerabilities in the security of the system.
- Report all security incidents to their local Information System Security Officer (ISSO)
- Differentiate tasks and functions to ensure that no one person has sole access to or control over important resources.
- Protect all sensitive data entrusted to them as part of their government employment.
- Shall abide by all Department and Agency policies and procedures and guidelines related to ethics, conduct, behavior and IT information processes.

7.1.5 Confidentiality

Users Shall:

- Be aware of the sensitivity of electronic and hardcopy information, and protect it accordingly.
- Store hardcopy reports/storage media containing confidential information in a locked room or cabinet.
- Erase sensitive data on storage media, prior to reusing or disposing of the media.
- Protect all RPMS terminals from public viewing at all times.
- Abide by all HIPAA regulations to ensure patient confidentiality

Users Shall Not:

- Allow confidential information to remain on the PC screen when someone who is not authorized to that data is in the vicinity.
- Store sensitive files on a portable device or media without encrypting

7.1.6 Integrity

Users Shall:

- Protect your system against viruses and similar malicious programs.
- Observe all software license agreements.
Follow industry standard procedures for maintaining and managing RPMS hardware, operating system software, application software, and/or database software and database tables.

Comply with all copyright regulations and license agreements associated with RPMS software.

Users Shall Not:

- Violate Federal copyright laws.
- Install or use unauthorized software within the system libraries or folders.
- Use freeware, shareware or public domain software on/with the system without your manager’s written permission and without scanning it for viruses first.

### 7.1.7 Passwords

**Users Shall:**

- Change passwords a minimum of every 90 days.
- Create passwords with a minimum of eight characters.
- If the system allows, use a combination of alpha, numeric characters for passwords, with at least one uppercase letter, one lower case letter, and one number. It is recommended, if possible, that a special character also be used in the password.
- Change vendor-supplied passwords immediately.
- Protect passwords by committing them to memory or store them in a safe place (do not store passwords in login scripts, or batch files).
- Change password immediately if password has been seen, guessed or otherwise compromised; and report the compromise or suspected compromise to your ISSO.
- Keep user identifications (ID) and passwords confidential

**Users Shall Not:**

- Use common words found in any dictionary as a password.
- Use obvious readable passwords or passwords that incorporate personal data elements (e.g., user’s name, date of birth, address, telephone number, or social security number; names of children or spouses; favorite band, sports team, or automobile; or other personal attributes).
- Share passwords/IDs with anyone or accept the use of another’s password/ID, even if offered.
- Reuse passwords. A new password must contain no more than five characters per 8 characters from the previous password.
- Post passwords.
- Keep a password list in an obvious place, such as under keyboards, in desk drawers, or in any other location where it might be disclosed.
- Give a password out over the phone.

### 7.1.8 Backups

Users Shall:
- Plan for contingencies such as physical disasters, loss of processing, and disclosure of information by preparing alternate work strategies and system recovery mechanisms.
- Make backups of systems and files on a regular, defined basis.
- If possible, store backups away from the system in a secure environment

Users Shall Not:
- Violate Federal copyright laws.
- Install or use unauthorized software within the system libraries or folders.
- Use freeware, shareware or public domain software on/with the system without your manager’s written permission and without scanning it for viruses first.

### 7.1.9 Reporting

Users Shall:
- Contact and inform your ISSO that you have identified an IT security incident and you will begin the reporting process by providing an IT Incident Reporting Form regarding this incident.
- Report security incidents as detailed in IHS SOP 05-03, Incident Handling Guide

Users Shall Not:
- Assume that someone else has already reported an incident. The risk of an incident going unreported far outweighs the possibility that an incident gets reported more than once.

### 7.1.10 Session Time Outs

RPMS system implements system-based timeouts that back users out of a prompt after no more than 5 minutes of inactivity.

Users Shall:
- Utilize a screen saver with password protection set to suspend operations at no greater than 10-minutes of inactivity. This will prevent inappropriate access and viewing of any material displayed on your screen after some period of inactivity.
7.1.11 Hardware

Users Shall:

- Avoid placing system equipment near obvious environmental hazards (e.g., water pipes).
- Keep an inventory of all system equipment.
- Keep records of maintenance/repairs performed on system equipment.

Users Shall Not:

- Do not eat or drink near system equipment.

7.1.12 Awareness

Users Shall:

- Participate in organization-wide security training as required.
- Read and adhere to security information pertaining to system hardware and software.
- Take the annual information security awareness.
- Read all applicable RPMS Manuals for the applications used in their jobs.

7.1.13 Remote Access

Each subscriber organization establishes its own policies for determining which employees can work at home or in other remote workplace locations. Any remote work arrangement should include policies that:

- Are in writing.
- Provide authentication of the remote user through the use of ID and password or other acceptable technical means.
- Outline the work requirements and the security safeguards and procedures the employee is expected to follow.
- Ensure adequate storage of files, removal and non-recovery of temporary files created in processing sensitive data, virus protection, intrusion detection, and provides physical security for government equipment and sensitive data.
- Establish mechanisms to back up data created and/or stored at alternate work locations.
Remote Users Shall:

- Remotely access RPMS through a virtual private network (VPN) whenever possible. Use of direct dial-in access must be justified and approved in writing and its use secured in accordance with industry best practices or government procedures.

Remote Users Shall Not:

- Disable any encryption established for network, internet and web browser communications.

### 7.2 RPMS Developers

Developers Shall:

- Always be mindful of protecting the confidentiality, availability, and integrity of RPMS when writing or revising code.
- Always follow the IHS RPMS Programming Standards and Conventions (SAC) when developing for RPMS.
- Only access information or code within the namespaces for which they have been assigned as part of their duties.
- Remember that all RPMS code is the property of the U.S. Government, not the developer.
- Shall not access live production systems without obtaining appropriate written access, shall only retain that access for the shortest period possible to accomplish the task that requires the access.
- Shall observe separation of duties policies and procedures to the fullest extent possible.
- Shall document or comment all changes to any RPMS software at the time the change or update is made. Documentation shall include the programmer’s initials, date of change and reason for the change.
- Shall use checksums or other integrity mechanism when releasing their certified applications to assure the integrity of the routines within their RPMS applications.
- Shall follow industry best standards for systems they are assigned to develop or maintain; abide by all Department and Agency policies and procedures.
- Shall document and implement security processes whenever available.

Developers Shall Not:

- Write any code that adversely impacts RPMS, such as backdoor access, “Easter eggs,” time bombs, or any other malicious code or make inappropriate comments within the code, manuals, or help frames.
• Grant any user or system administrator access to RPMS unless proper documentation is provided.
• Not release any sensitive agency or patient information.

7.3 Privileged Users

Personnel who have significant access to processes and data in RPMS, such as, system security administrators, systems administrators, and database administrators have added responsibilities to ensure the secure operation of RPMS.

Privileged Users Shall:
• Verify that any user requesting access to any RPMS system has completed the appropriate access request forms.
• Ensure that government personnel and contractor personnel understand and comply with license requirements. End users, supervisors, and functional managers are ultimately responsible for this compliance.
• Advise the system owner on matters concerning information technology security.
• Assist the system owner in developing security plans, risk assessments, and supporting documentation for the certification and accreditation process.
• Ensure that any changes to RPMS that affect contingency and disaster recovery plans are conveyed to the person responsible for maintaining continuity of operations plans.
• Ensure that adequate physical and administrative safeguards are operational within their areas of responsibility and that access to information and data is restricted to authorized personnel on a need to know basis.
• Verify that users have received appropriate security training before allowing access to RPMS.
• Implement applicable security access procedures and mechanisms, incorporate appropriate levels of system auditing, and review audit logs.
• Document and investigate known or suspected security incidents or violations and report them to the ISSO, CISO, and systems owner.
• Protect the supervisor, superuser or system administrator passwords.
• Avoid instances where the same individual has responsibility for several functions (i.e., transaction entry and transaction approval).
• Watch for unscheduled, unusual, and unauthorized programs.
• Help train system users on the appropriate use and security of the system.
• Establish protective controls to ensure the accountability, integrity, confidentiality, and availability of the system.
Replace passwords when a compromise is suspected. Delete user accounts as quickly as possible from the time that the user is no longer authorized system. Passwords forgotten by their owner should be replaced, not reissued.

Terminate user accounts when a user transfers or has been terminated. If the user has authority to grant authorizations to others, review these other authorizations. Retrieve any devices used to gain access to the system or equipment. Cancel logon IDs and passwords, and delete or reassign related active and back up files.

Use a suspend program to prevent an unauthorized user from logging on with the current user's ID if the system is left on and unattended.

Verify the identity of the user when resetting passwords. This can be done either in person or having the user answer a question that can be compared to one in the administrator’s database.

Shall follow industry best standards for systems they are assigned to; abide by all Department and Agency policies and procedures

Privileged Users Shall Not:

- Access any files, records, systems, etc., that are not explicitly needed to perform their duties.
- Grant any user or system administrator access to RPMS unless proper documentation is provided.
- Not release any sensitive agency or patient information.
8.0 Glossary

@ symbol
This symbol (key combination of Shift+2) has two functions: (1) to delete an entry and (2) to separate a date and time.

Acute
Used to describe a condition that lasts for a short time. Used in contrast to chronic.

Append
To add additional data items to an existing visit, usually at the end of entering the data.

Billable Visit
A visit from a patient that has third party insurance coverage that a hospital/clinic can bill services.

Best Practice Prompts
Best Practice Prompts are a set of clinical messages related to procedures such as lab tests, immunizations, procedures etc. that are generally recommended for a subset of the population who share a common diagnosis (e.g. Asthma, CVD). They are displayed in a variety of places including the Health Summary, Supplements, and the Patient Record in both EHR and iCare.

Users can turn on (activate) and display BP Prompts on Health Summaries, similar to the Health Maintenance Reminder function.

Billable Visit
A visit from a patient that has third party insurance coverage that a hospital/clinic can then bill for services.

Caret (“Up Hat”)
The symbol “^” obtained by using the Shift+6 key combination. Commonly used in RPMS character-based interfaces to exit out of a routine or to back up from the previous field.

Chart Number
A unique numerical identifier assigned to each patient. This is also referred to as Health Record Number.
**Chronic**
Used to describe a condition that has an indefinite duration or with a frequent occurrence. Used in contrast to *acute*.

**Clinical**
To do with treatment in or as a clinic: involving or concerned with direct observation and treatment of patients.

**Command**
The instructions you give the computer to record a certain transaction. For example, selecting “Payment” or “P” at the command prompt tells the computer you are applying a payment to a chosen bill.

**Community of Service**
The community where the encounter took place.

**Community of Residence**
The community where the patient resides.

**CPT Code**
Current Procedural Terminology code. Used to identify procedures provided during an encounter and for billing outpatient services provided.

**Database**
A database is a collection of files containing information that may be used for many purposes. Storing information in the computer helps in reducing the user’s paperwork load and enables quick access to a wealth of information. Databases are comprised of fields, records, and files.

**Default Response**
Many of the prompts in the RPMS applications contain responses that can be activated simply by pressing the Enter key. For example: “Do you really want to quit? No//.” Pressing the Enter key tells the system you do not want to quit. “No//” is considered the default response. The default is generally set to the most frequently used response for the prompt.

**Designated Primary Care Provider (DPCP)**
The primary care provider designated for the patient. This is distinguished from a primary or secondary visit provider for a specific visit.

**Device**
The name of the printer you want the system to use when printing information. *Home* means the computer screen.
DOB
Date of Birth

DOD
Date of Death

DOS
Date of Service

DX
Common abbreviation for Diagnosis

EDC
Expected/estimated date of confinement, that is the expected/estimated due or delivery date for a pregnancy.

EDD
Expected/estimated date of delivery.

Export
To format data so it can be used by another application.

Fields
Fields are a collection of related information that comprises a record. Fields on a display screen function like blanks on a form. For each field, you will find a prompt requesting specific types of data. There are nine basic field types in RPMS programs, and each collects a specific type of information.

Free Text Field
This field type will accept numbers, letter, and most of the symbols on the keyboard. There may be restrictions on the number of characters you are allowed to enter.

Health Factors
Health Factors are data elements utilized by RPMS to record health status information about the patient. Current Smoker use is an example of a health factor in the Tobacco category. Health Factor data are recorded in the PCC V Health Factor file. For a current list of Health Factors, see the Health Summary User Manual.
Health Management Reminders (HMRs)

Health Maintenance Reminders are a set of clinical reminders related to procedures such as lab tests, immunizations, procedures, etc. that are generally recommended for a subset of the population. They are displayed in a variety of places including the Health Summary, Supplements, and the Patient Record in both EHR and iCare.

Health Record Number (HRN)

A unique numerical identifier assigned to each patient. This is also referred to as a Chart Number.

Health Summary

The Health Summary is a patient report displaying related data built from the PCC V files such as laboratory and pharmacy. There are many different types of Health Summaries available to users at each site. Users are also able to design a health summary on-the-fly from the available components.

HRN#

Health Record Number, also referred to as a Chart Number

HS

Health Summary, a summary of a patient’s medical care. The RPMS PCC is distributed with several standard health summaries, but can be customized. Examples of standard health summaries are: Adult Regular, Behavioral Health, CHR, Dental.

HX

Abbreviation for History. History is an event taking place in the past, such as surgery, immunizations, etc.

ICD

International Classifications of Diseases. This is a national coding system primarily used for: (1) classifying morbidity and mortality information for statistical purposes, (2) indexing of hospital records by disease and operations, and (2) data storage and retrieval. In addition, this is the coding system physicians must use for billing purposes of Medicare, Medicaid, and private insurance for services rendered.

Interfaces

A boundary where two systems can communicate. RPMS applications contain both character-based (“roll-and-scroll”) and graphical user (GUI) interfaces. PCC Data Entry is an example of a character-based interface; RPMS EHR is an example of a GUI.
Menu
The menu is a list of different options you may select at a given time. To choose a specific task, select one of the items from the list by entering the established abbreviation or synonym at the appropriate prompt. A menu option followed by the ellipsis (…) indicates there are submenus.

Mnemonic
An abbreviation used to name a menu option or report used in the RPMS character-based packages. RPMS PCC data entry mnemonics to enter a data type can be two, three, or four characters; for example, BP (blood pressure).

Narrative Description
A detailed description given using words rather than codes.

Patient Care Component (PCC)
PCC is the core of the RPMS applications and functions as a clinical data repository. Most RPMS applications “pass” key data elements to PCC, stored in V (visit) files, e.g., V Lab. Other data is entered directly into V file; for example, V Patient Education, BP (blood pressure), WT (weight), HT (height), HC (head circumference) etc.

Patient Wellness Handout
The Patient Wellness Handout is a type of Health Summary that is directed to the patient. It displays personal medical information in easy to interpret language.

Narrative Description
A detailed description given using words rather than codes.

PGEN
Abbreviation for Patient General Retrieval Report. PGEN is the Patient General Retrieval report located in PCC Management Reports. The General Retrieval reports allow users to create on-the-fly reports by choosing specific data elements to select, sort by, and print.

Problem List
A list of important/chronic medical, social, or psychiatric problems, related notes, and treatment plans for a patient that are recorded and updated as part of the patient’s health record. The Health Summary has two categories: Active and Inactive.

POV
Purpose of Visit - one or more diagnoses (ICD codes) that are identified as the reason for the patient’s visit, recorded in the PCC V POV file.
Prompt
Text displayed onscreen indicating that the system is waiting for input to a field. Once the computer displays a prompt, it waits for you to enter some specific information.

Provider
One who provides direct medical care to a patient; that is, physician, nurse, mid-level provider).

Provider Narrative
A detailed description of the patient’s conditions, using words rather than codes.

QMan
Short for Query Manager, QMan is a VA-based search utility that allows users to construct detailed searches of the RPMS database. QMan is part of the integrated PCC suite.

Retrieval
To obtain data from another location.

Roll-and-Scroll
The roll-and-scroll (character-based) data entry format captures the same information as the screen format but uses a series of prompts for recording data. This is typically the most efficient method for data entry.

RPMS
Resource and Patient Management System; a suite of integrated software packages used by IHS

Secondary Providers
A provider for a patient’s visit other than the patient’s primary visit provider. A patient visit might have multiple secondary providers, depending on the services provided.

Security Key
A means of securing menus to limit accessibility. To use certain functions, such as those on a Manager’s menu, you must be assigned the appropriate key by the Site Manager.

Select
To choose one option from a list of options.
Site Manager
The person in charge of setting up and maintaining the technical aspects of the RPMS System at the facility or area level.

Specialty Providers
Defined through the Designated Specialty Provider Management (BDP) application.

Submenu
A menu that is accessed through another menu. A menu option followed by the ellipsis (…) indicates there are submenus.

Supplement
A Supplement is a type of modified Health Summary that is related to a specific condition such as Diabetes or HIV/AIDS. It displays personal medical information related to that condition.

Tally
To make a count, total, or subtotal a number of items.

VGEN
Short for Visit General Retrieval Report. VGEN is one of the search utilities that enable users to construct searches of the RPMS database. The General Retrieval reports allow users to create on-the-fly reports by choosing specific data elements to select, print and sort by.
9.0 Contact Information

If you have any questions or comments regarding this distribution, please contact the OIT Help Desk (IHS).

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