ONE

USER GROUP MEETING

Mandalay Bay, Las Vegas | November 1-4, 2015

NEXTGEN®
HEALTHCARE

Presenter(s):

Jesus Vasquez

Topic

Introduction to NextGen Database Reporting

Level

100

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Session Agenda

1. High level concepts needed to understand the **basics** of identifying **data elements** and **data sets**

2. Methods for uncovering the hidden **SQL code** to create **custom report** logic

3. Understanding the inner workings of how to **audit template workflow** and **usage activity**

Expected Level of Knowledge

- **100** level = introductory/beginner

- Still need to understand:
  - Relational Database (SQL Server)
  - T-SQL syntax/code structure
  - NextGen basic terminology

- Quickly move to **200**, **300**, **400** level content

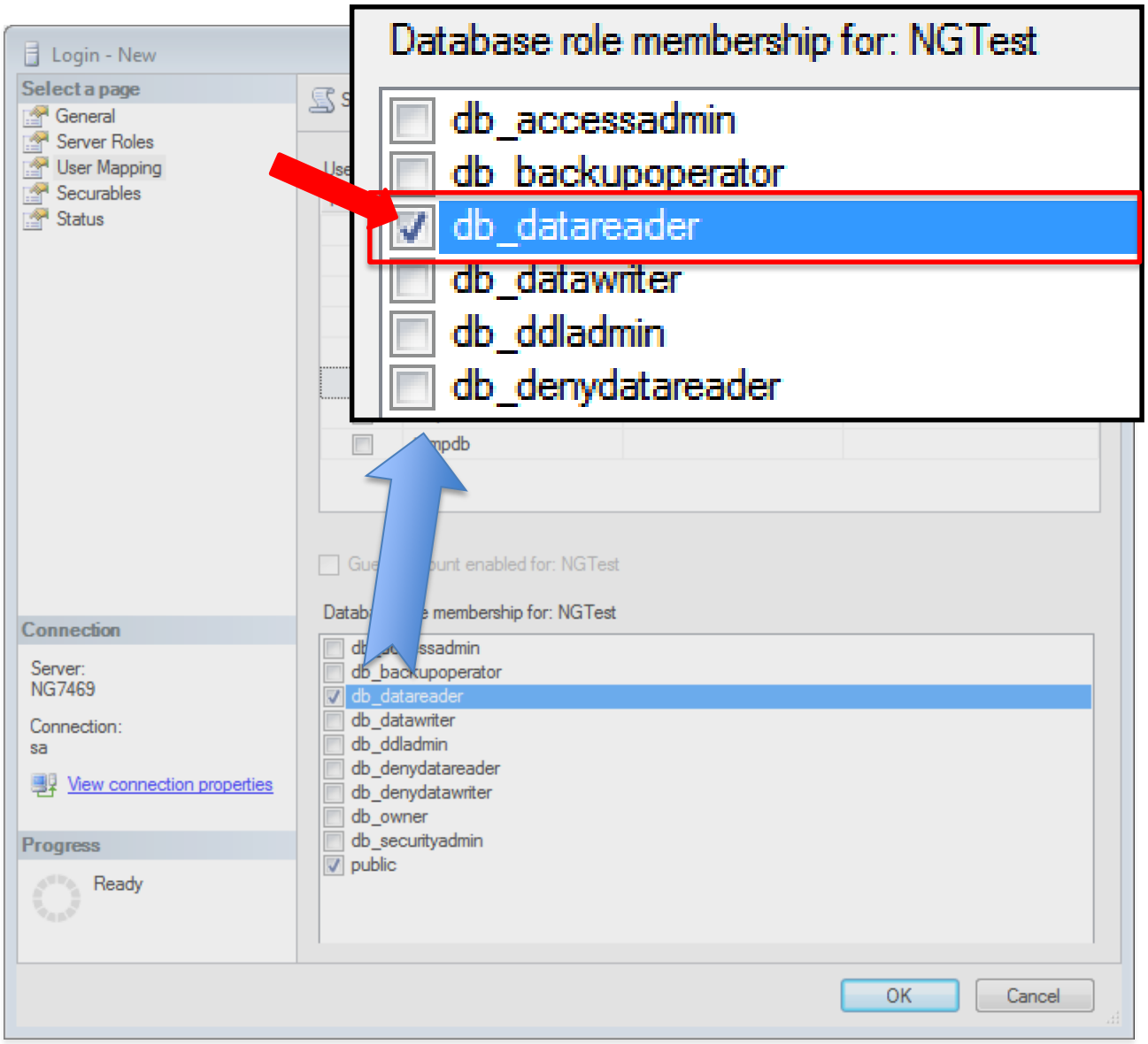
- All queries should be **READ-ONLY**

- **NEVER:**
  - **INSERT**
  - **UPDATE**
  - **DELETE**

- Write and test queries against **NON-PRODUCTION** environments

READ-ONLY ACCESS

- **DO NOT USE** SA login in SSMS
- Create user with **READ-ONLY** rights



Data Elements/Data Sets

Need to understand:

- The basic **patient workflow**
- EPM and EHR data concepts
- How **YOU** use things

Getting Started

What **tables** are involved?

What **information** do you need?

How does everything **link** together?

How do **YOU** figure out what all is involved?

Based on Table Relationships

- How to determine these relationships?
- Start with the **DATA DICTIONARY**

https://knowledge.nextgen.com/pe/action/km/viewelement?id=10328152


BACK TO BASICS

Table Joins

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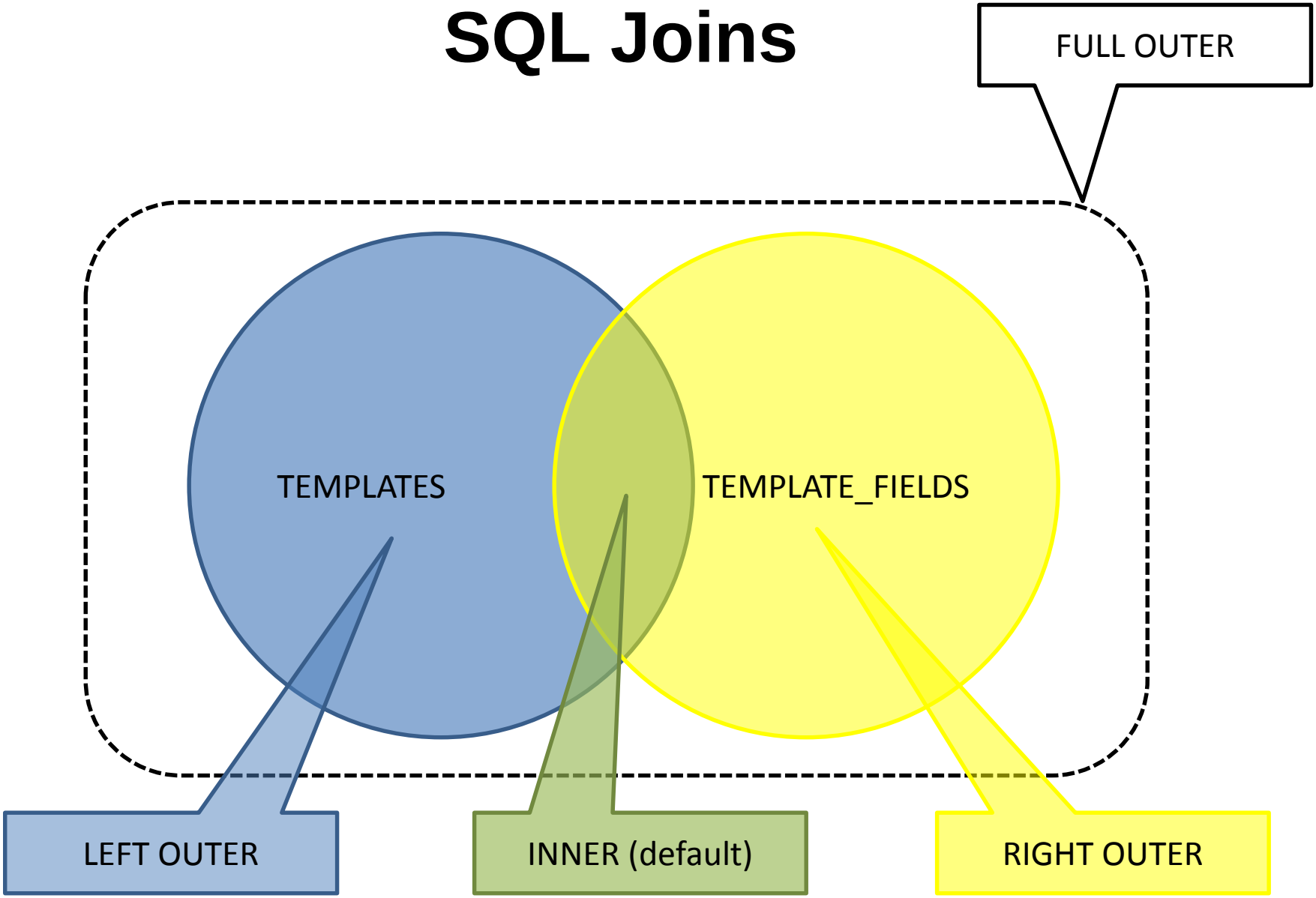
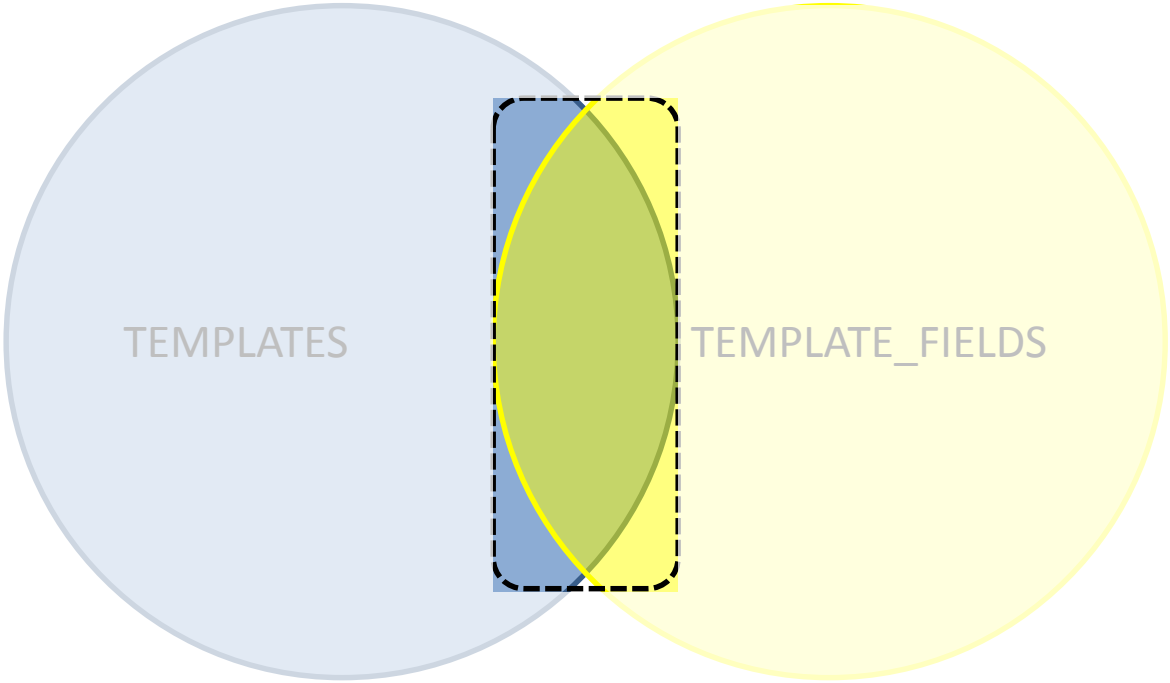
SQL Joins


FULL OUTER
TEMPLATES
TEMPLATE_FIELDS
LEFT OUTER
INNER (default)
RIGHT OUTER

INNER Join

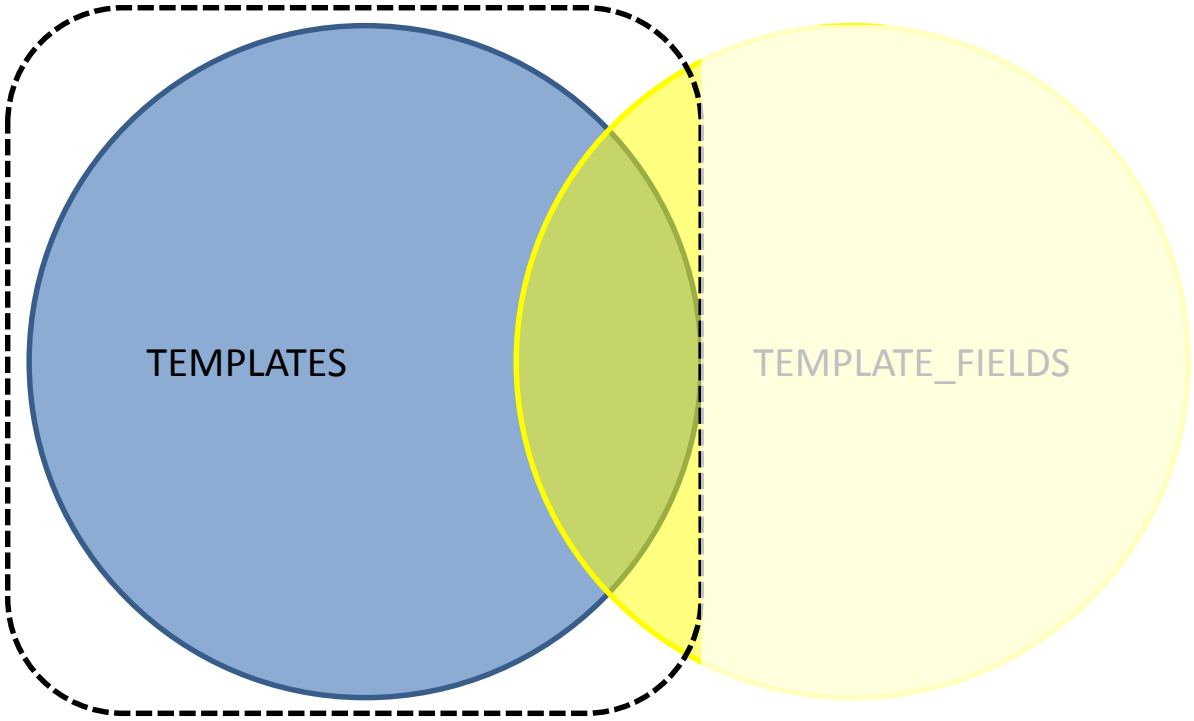
```
SELECT * FROM
    TEMPLATES T INNER JOIN TEMPLATE_FIELDS TF
        ON T.TEMPLATE_ID = TF.TEMPLATE_ID
```



Return only records that **MATCH** between both tables

LEFT (OUTER) Join

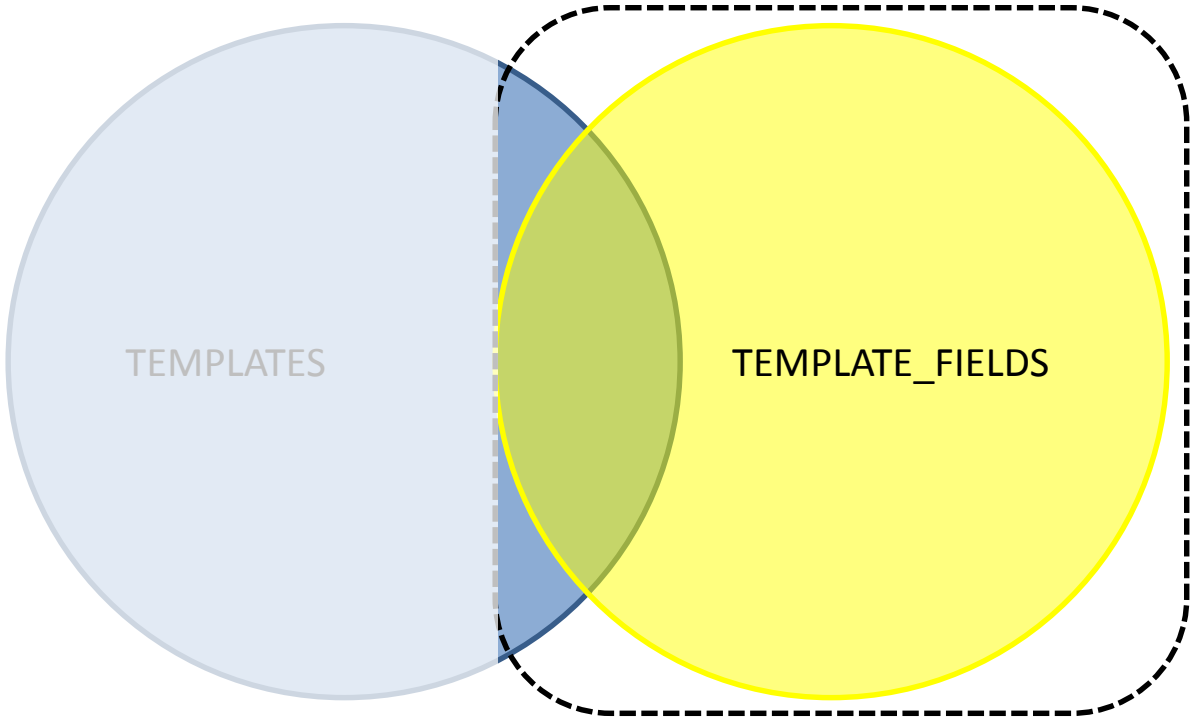
```
SELECT * FROM
    TEMPLATES T LEFT OUTER JOIN TEMPLATE_FIELDS TF
        ON T.TEMPLATE_ID = TF.TEMPLATE_ID
```



Regardless of matching records on the **RIGHT**, return all rows from the **LEFT**

RIGHT (OUTER) Join

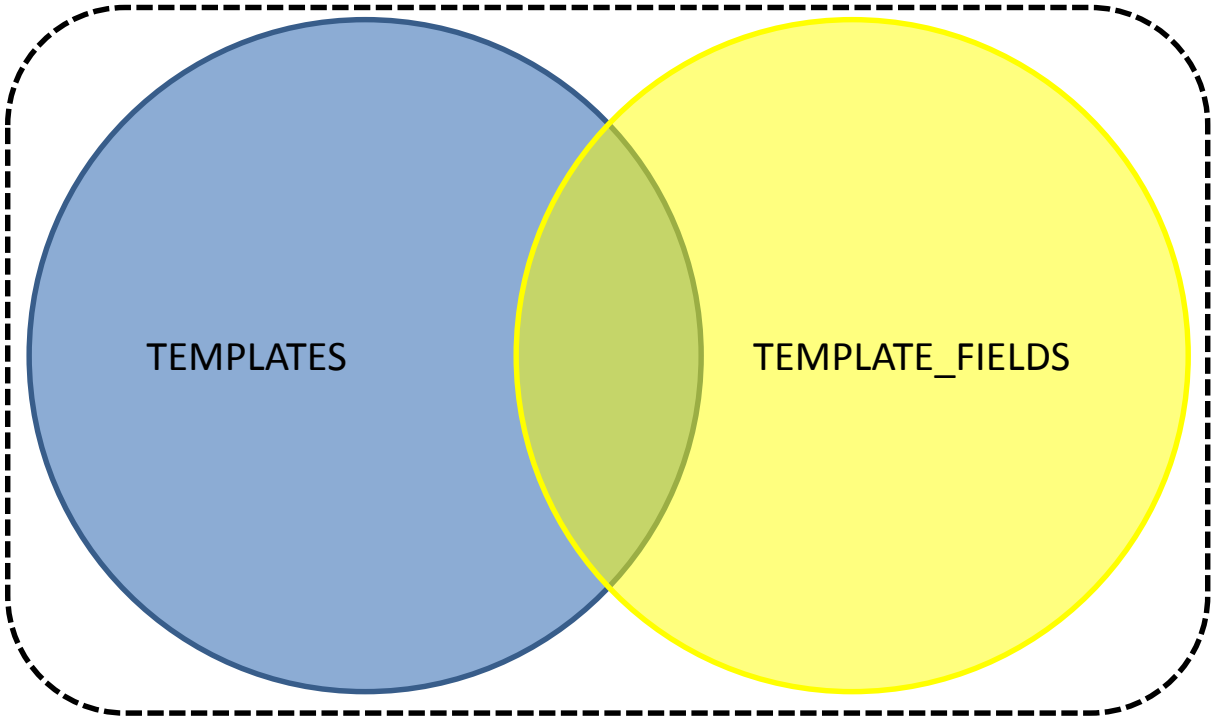
```
SELECT * FROM
    TEMPLATES T RIGHT OUTER JOIN TEMPLATE_FIELDS TF
        ON T.TEMPLATE_ID = TF.TEMPLATE_ID
```



Regardless of matching records on the **LEFT**, return all rows from the **RIGHT**

FULL OUTER Join

```
SELECT * FROM
    TEMPLATES T FULL OUTER JOIN TEMPLATE_FIELDS TF
        ON T.TEMPLATE_ID = TF.TEMPLATE_ID
```



Returns ALL rows from **LEFT** table regardless if they have **RIGHT** matches.
Returns ALL rows from **RIGHT** table regardless if they have **LEFT** matches.

Keys (ways of joining tables)

Primary Key (PK)

- Uniquely identifies a record
- Columns used can not be NULL

Foreign Key (FK)

- Field in one table used as a PK (or AK) in another table
- Can have more than one per table
- A way to “link” tables

Alternate Keys (AK)

Candidate Fields

- Fields that make records unique and are not NULL
- PK fields are also Candidate Keys

Alternate Key (AK)

- Left over candidate fields NOT used as PK

TABLE	FIELDS	SCHEMA TYPE	TYPE
TEMPLATES	template_id	NOT NULL, UNIQUE	PK
TEMPLATES	template_name	NOT NULL, UNIQUE	AK

NextGen Real World Example

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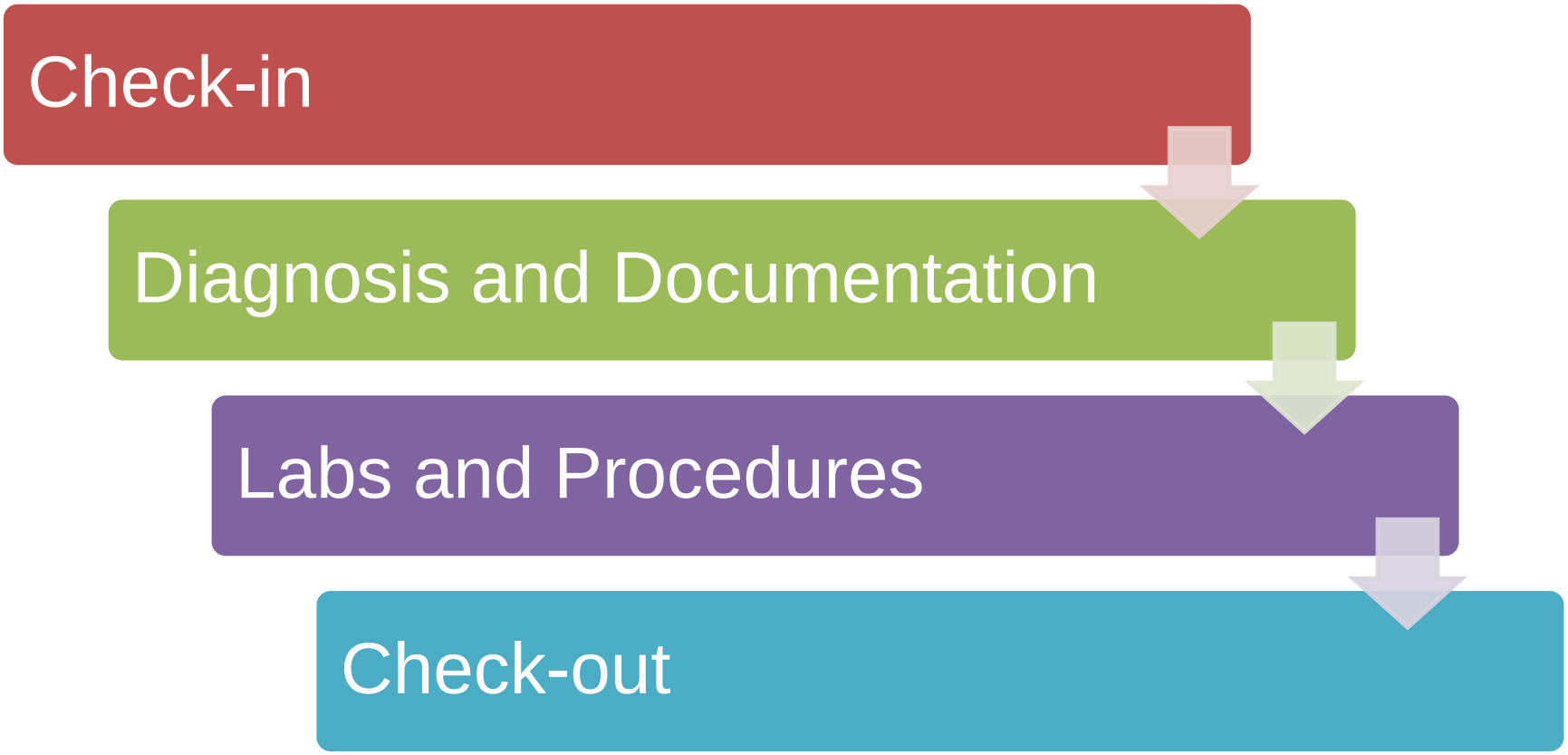
Stages of a Patient Lifecycle



Check-in

- **Scheduling**
- **Appointments**
- **Encounters**

Where to Begin?

- Use existing reports in **EPM**
- Use **SQL Profiler**
- Use internal **EPM SQL logging**

SQL Profiler

How to setup a trace:

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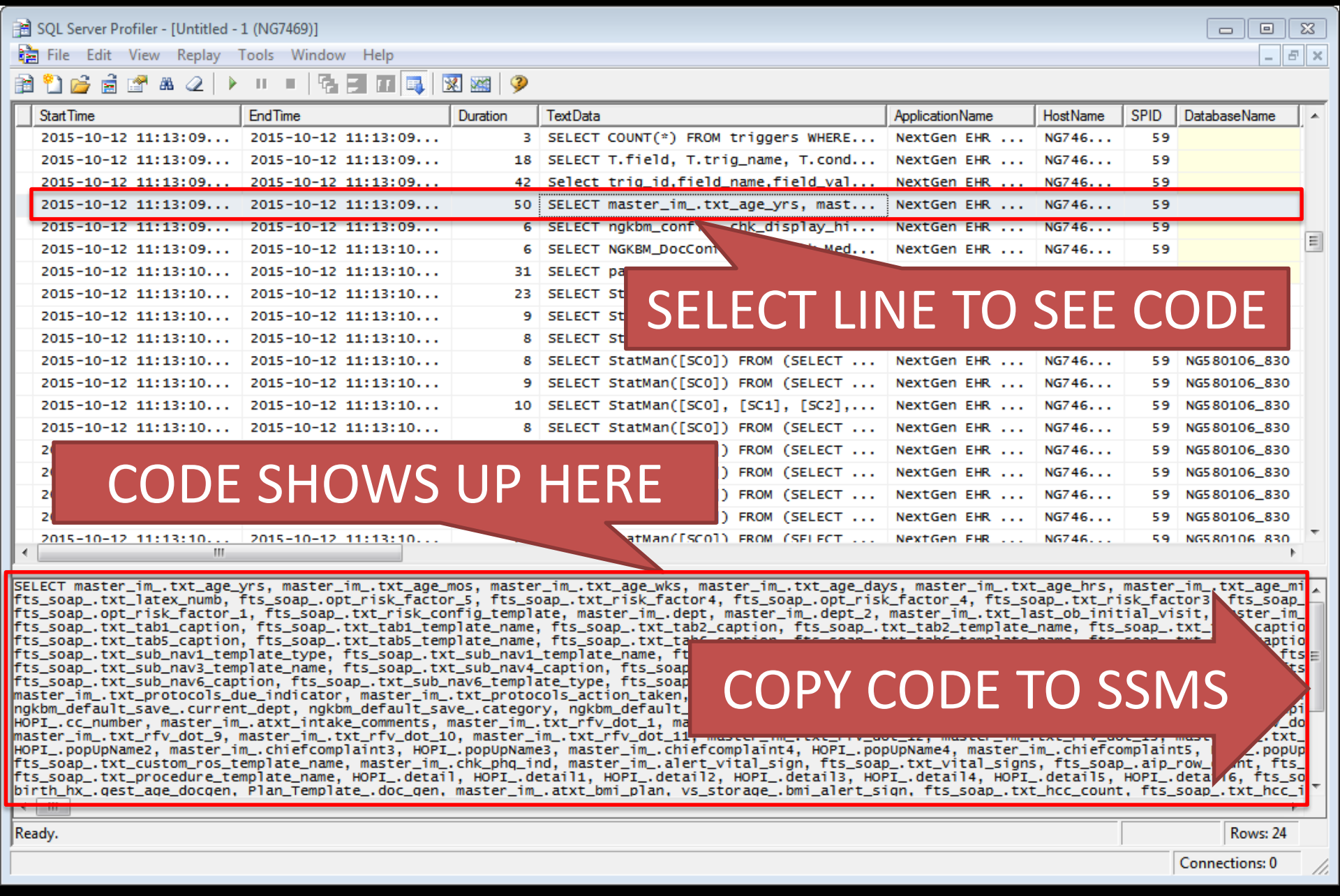
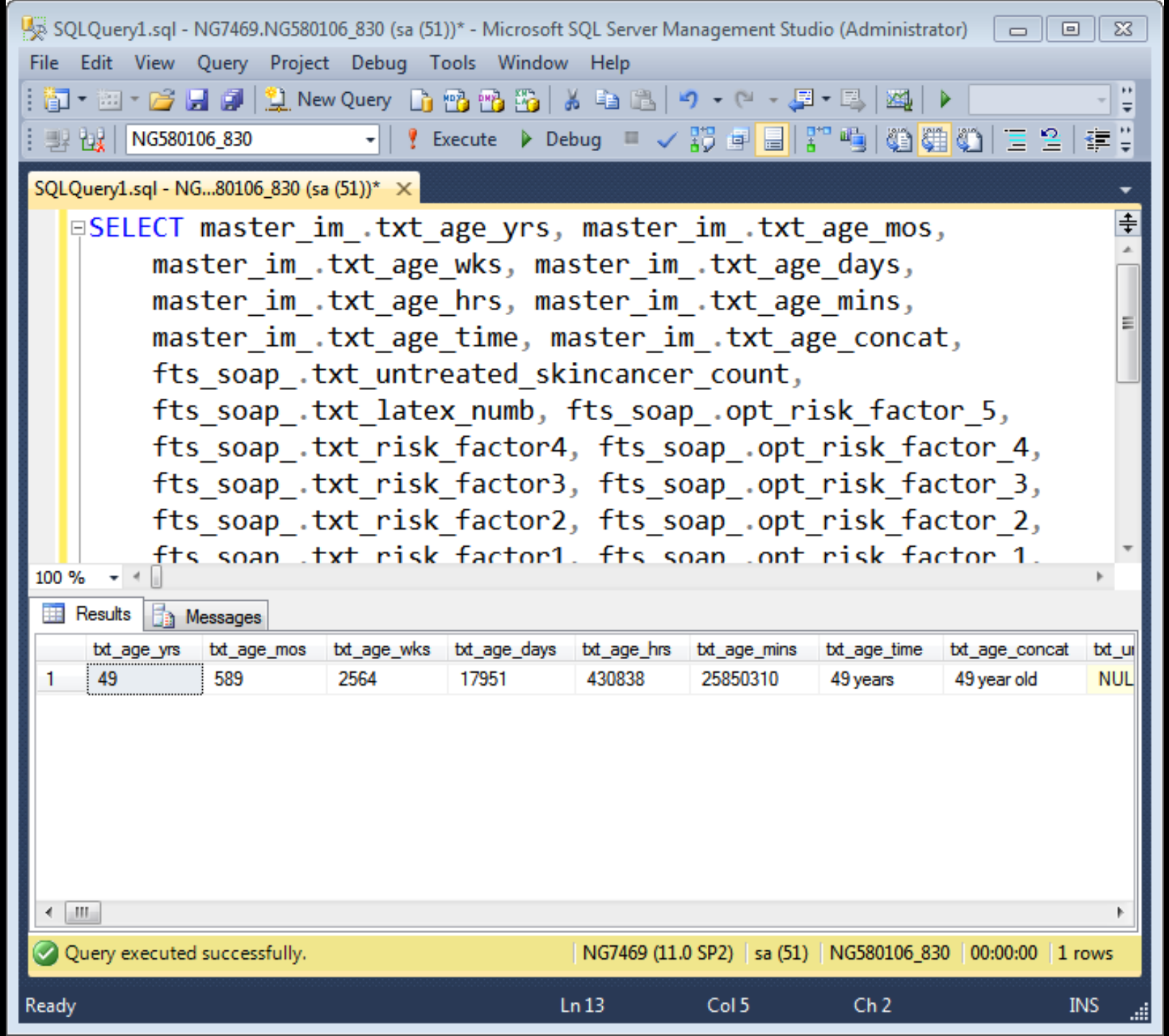
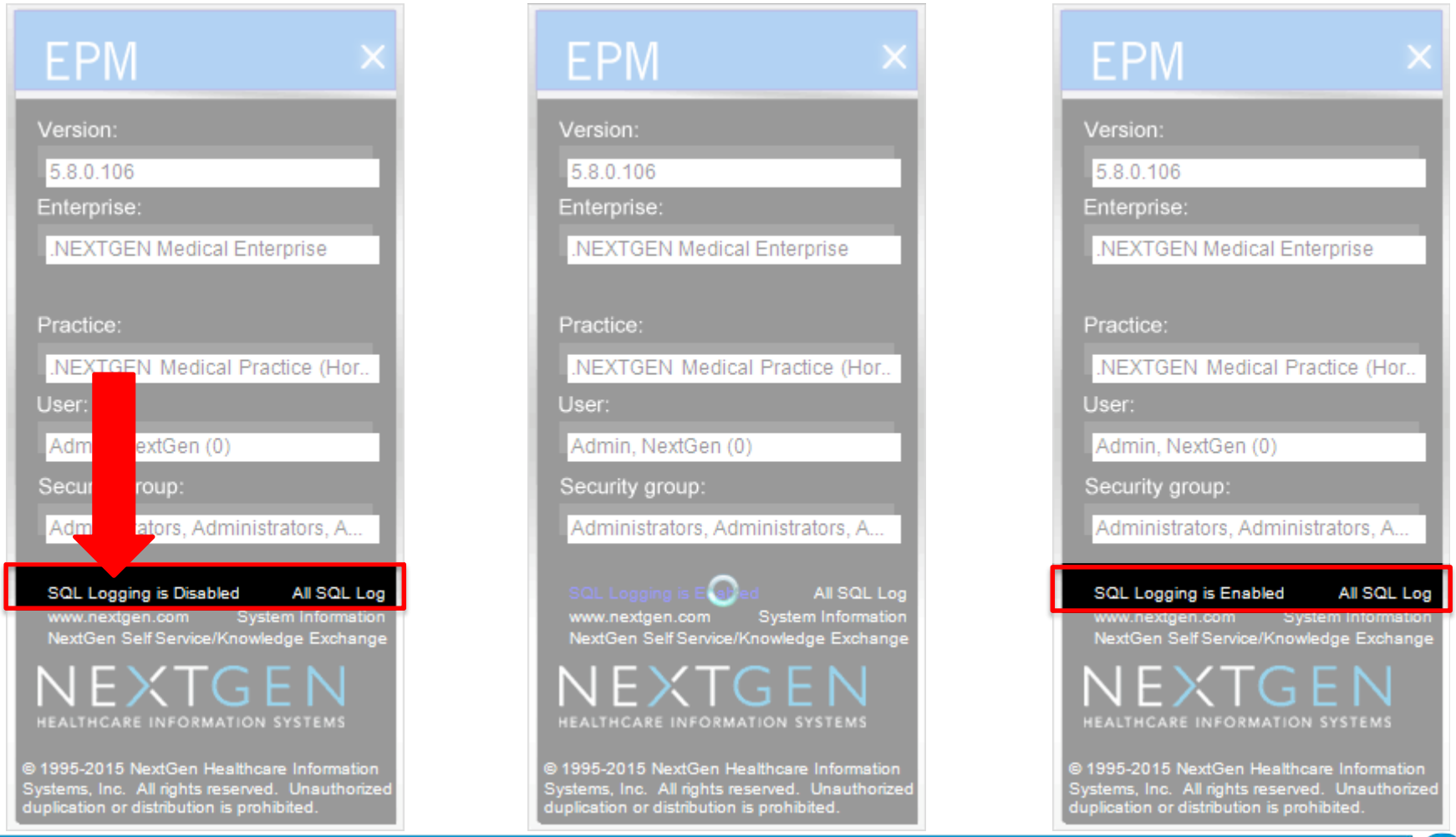
- Capture executing SQL scripts
- Trace the path of the data

EXAMPLE OPENING FTS_SOAP

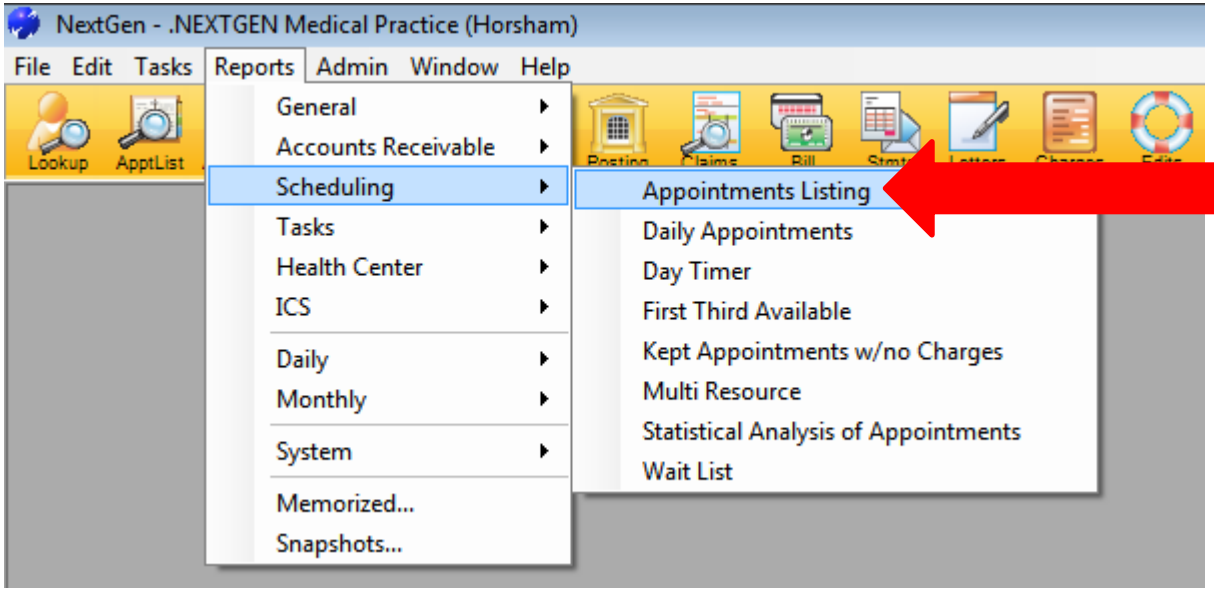



SQLQuery1.sql - NG7469.NG580106_830 (sa (51))* - Microsoft SQL Server Management Studio (Administrator)
File Edit View Query Project Debug Tools Window Help
New Query
NG580106_830
Execute Debug
SQLQuery1.sql - NG...80106_830 (sa (51))*
SELECT master_im_.txt_age_yrs, master_im_.txt_age_mos,
master_im_.txt_age_wks, master_im_.txt_age_days,
master_im_.txt_age_hrs, master_im_.txt_age_mins,
master_im_.txt_age_time, master_im_.txt_age_concat,
fts_soap_.txt_untreated_skincancer_count,
fts_soap_.txt_latex_numb, fts_soap_.opt_risk_factor_5,
fts_soap_.txt_risk_factor4, fts_soap_.opt_risk_factor_4,
fts_soap_.txt_risk_factor3, fts_soap_.opt_risk_factor_3,
fts_soap_.txt_risk_factor2, fts_soap_.opt_risk_factor_2,
100 %
Results
Messages
txt_age_yrs txt_age_mos txt_age_wks txt_age_days txt_age_hrs txt_age_mins txt_age_time txt_age_concat
1 49 589 2564 17951 430838 25850310 49 years 49 year old
Query executed successfully.
NG7469 (11.0 SP2) sa (51) NG580106_830 00:00:00 1 rows
Ready
Ln 13 Col 5 Ch 2 INS

EPM: Enable SQL Logging



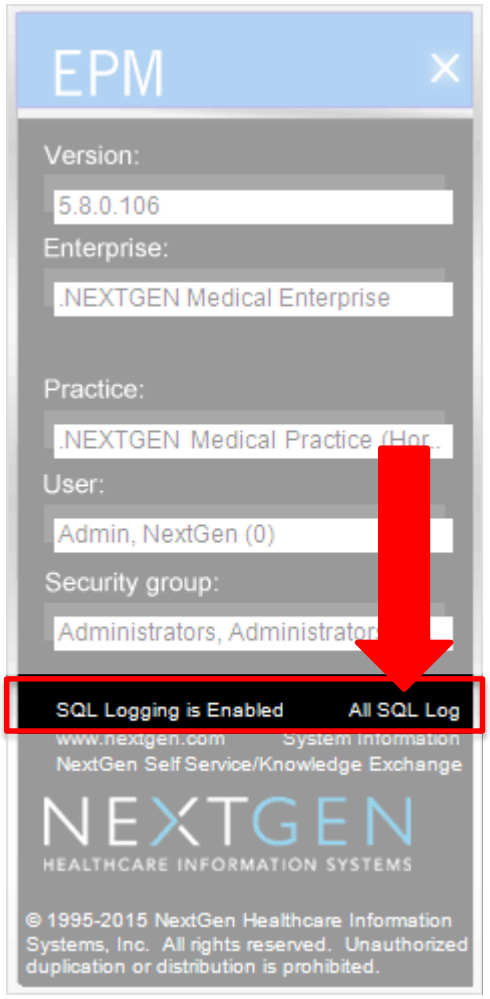
EPM: Running a Report

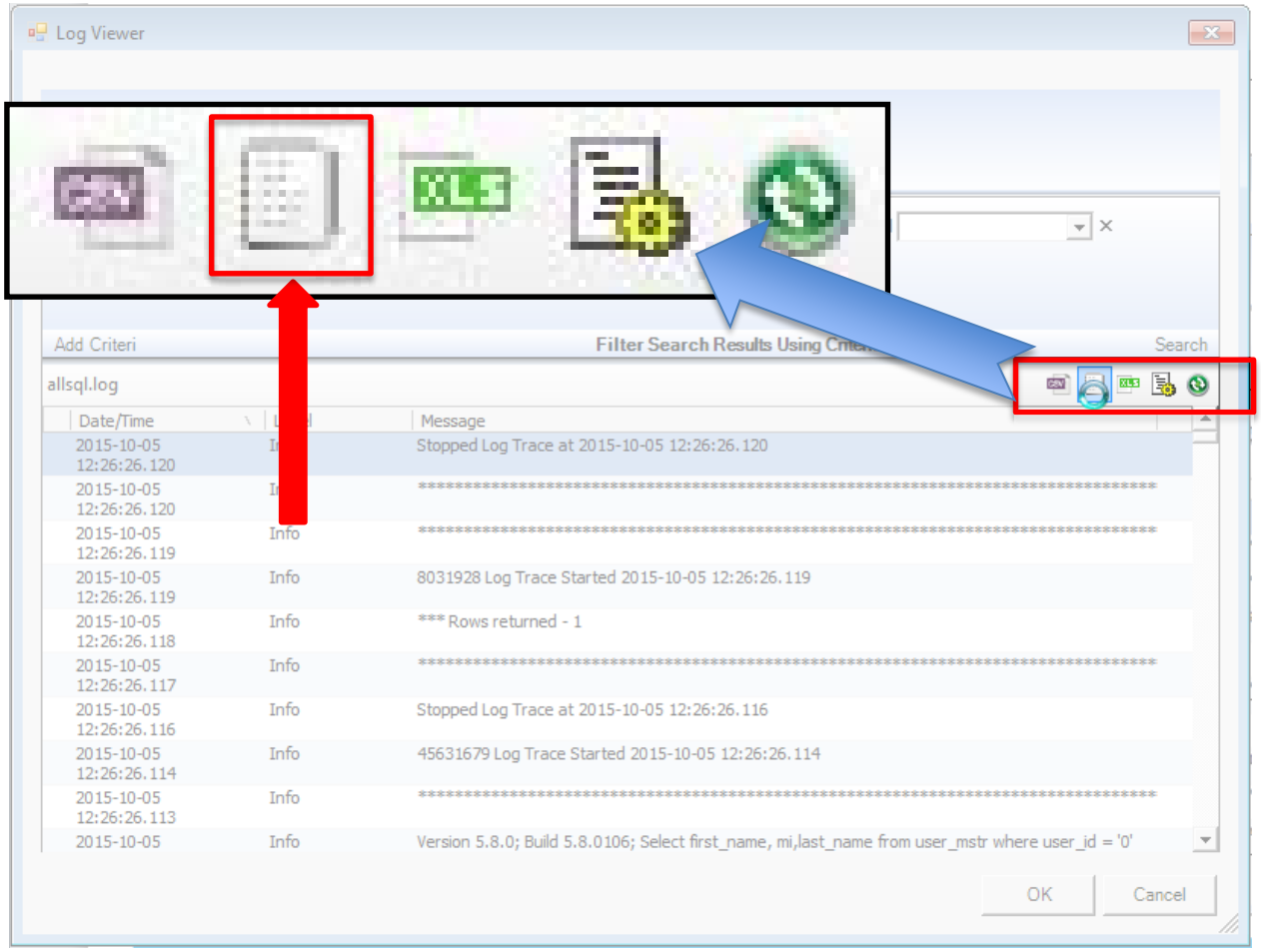


Select a report

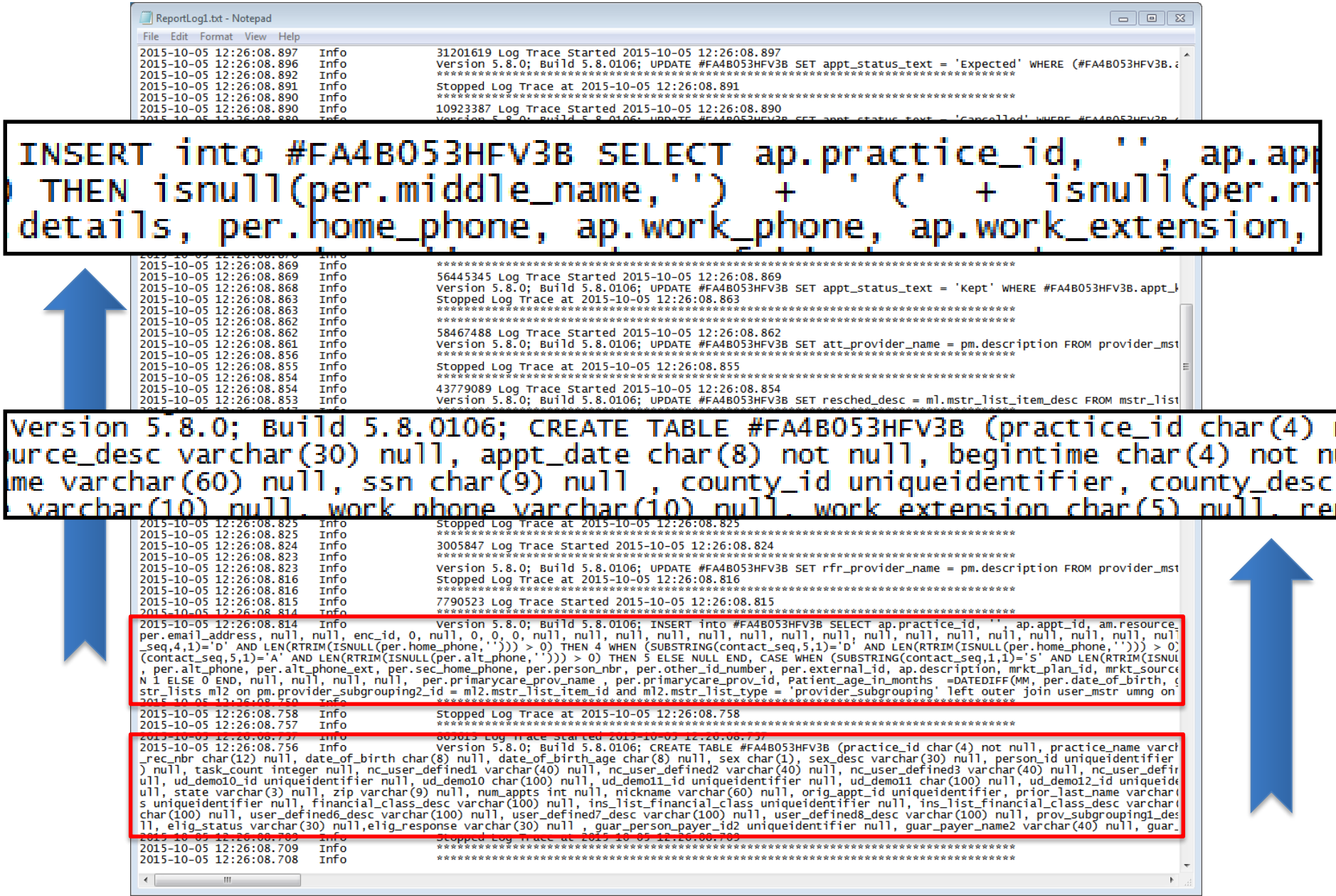
- Select report columns
- Select filter parameters
- Select any other report options

EPM: View SQL Log





EPM: View SQL Log



Understanding the Log

- Contains a list of all SQL commands to generate the selected report
- Code is in reverse order (bottom to top)

Understanding the Log

- Looking for **CREATE**, **INSERT**, and **UPDATE**

Command	Use
CREATE	Build temp table
INSERT	Add initial data set
UPDATE	Add additional information

Understanding the Log

- Reorder SQL commands in proper order
- Eliminate comment lines
- Isolate SQL commands in SSMS SQL Query

Query CREATE statement

```
CREATE TABLE #FA4B053HFV3B (practice_id char(4) not null, practice_name varchar(40) null, appt_id uniqueidentifier not null,
resource_id uniqueidentifier not null, resource_desc varchar(30) null, appt_date char(8) not null, begintime char(4) not null,
endtime char(4) not null, duration int null, first_name varchar(60) null, middle_name varchar(88) null, last_name varchar(60) null,
ssn char(9) null, id uniqueidentifier, county_desc varchar(100) null, event varchar(30) not null, event_chain uniqueidentifier null,
details varchar(255) null, me_phone varchar(10) null, work_phone varchar(10) null, work_extension char(5) null,
rendering_provider_id tifier null, refer_provider_id uniqueidentifier null, att_provider_name varchar(75) null,
rfr_provider_name varcha user_defined1 varchar(40) null, user_defined2 varchar(40) null, confirm_ind char(1) null,
cancel_ind char(1) null, pr ept ind char(1) null, med_rec_nbr char(12) null, date_of_birth char(8) null,
date_of_birth_age char(8) null, 1), sex_desc varchar(30) null, person_id uniqueidentifier null, delete_ind char(1) null,
retain_ind char(1) null, resched 1) null, cancel_reason uniqueidentifier null, cancel_desc varchar(100) null,
resched_reason uniqueidentifier nu hed_desc varchar(100) null, appt_kept_ind char(1) null, location_id uniqueidentifier null,
location_name varchar(40) null, appt_status
orig_created_by int null, create_timestamp
creator_name varchar(40) null, orig_creator
checkin_datetime datetime null, checkout_da
med_rec_term_digit char(14) null, todays_ba
nc_user_defined1 varchar(40) null, nc_user_defined2 varchar(40) null, nc_user_defined3 varchar(40) null, nc_user_defined4 varchar(40) null,
nc_user_defined5 varchar(40) null, nc_user_defined6 varchar(40) null, nc_user_defined7 varchar(40) null, nc_user_defined8 varchar(40) null,
patient_status_id uniqueidentifier null, patient_status_desc varchar(100) null, patient_status_rsn_chng_id uniqueidentifier null,
patient_status_reason_desc varchar(100) null, ud_demo1_id uniqueidentifier null, ud_demo1 char(100) null, ud_demo2_id uniqueidentifier null,
ud_demo2 char(100) null, ud_demo3_id uniqueidentifier null, ud_demo3 char(100) null, ud_demo4_id uniqueidentifier null, ud_demo4 char(100) null,
ud_demo5_id uniqueidentifier null, ud_demo5 char(100) null, ud_demo6_id uniqueidentifier null, ud_demo6 char(100) null,
ud_demo7_id uniqueidentifier null, ud_demo7 char(100) null, ud_demo8_id uniqueidentifier null, ud_demo8 char(100) null,
ud_demo9_id uniqueidentifier null, ud_demo9 char(100) null, ud_demo10_id uniqueidentifier null, ud_demo10 char(100) null,
ud_demo11_id uniqueidentifier null, ud_demo11 char(100) null, ud_demo12_id uniqueidentifier null, ud_demo12 char(100) null,
ud_demo13_id uniqueidentifier null, ud_demo13 char(100) null, ud_demo14_id uniqueidentifier null, ud_demo14 char(100) null,
baddebt_amt numeric(19,2) null, self_less_baddebt_amt numeric(19,2) null, day_phone char(10) null, day_phone_ext char(5) null,
first_app_ind char(1) null, last_app_ind char(1) null, location_subgrouping1_id uniqueidentifier null,
location_subgrouping2_id uniqueidentifier null, location_subgrouping1_desc varchar(100) null, location_subgrouping2_desc varchar(100) null,
person_payer_id uniqueidentifier null, payer_name varchar(40) null, def_guar_id uniqueidentifier, def_guar_type char(1) null,
ins_list_payer_name varchar(40) null, ins_list_person_payer_id uniqueidentifier, enc_nbr numeric null, expired_ind char(1) null,
address_line_1 varchar(55) null, address_line_2 varchar(55) null, city varchar(35) null, state varchar(3) null, zip varchar(9) null,
num_appts int null, nickname varchar(60) null, orig_appt_id uniqueidentifier, prior_last_name varchar(40) null, contact_pref_desc varchar(50) null,
home_phone_comment varchar(50) null, day_phone_comment varchar(50) null, alt_phone_comment varchar(50) null,
sec_home_phone_comment varchar(50) null,  email_address_comment varchar(50) null, home_phone_seq integer null, day_phone_seq integer null,
alt_phone_seq integer null, sec_home_phone_seq integer null,  email_address_seq integer null, alt_phone char(10) null, alt_phone_ext char(5) null,
sec_home_phone char(10) null, person_nbr char(12) null, other_id_number varchar(15), external_id varchar(20), appt_description varchar(122) null,
```

CREATE TABLE #FA4B053HFV3B

Understanding the Log

- Find all references to the table **CREATE**
- Find **INSERT** statement
- Find **UPDATE** statements
- Run the statements

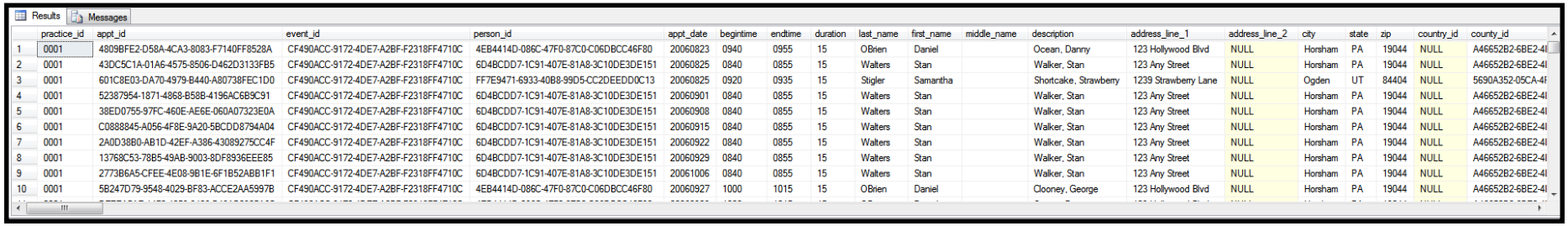
Using Temp Table

- Select from temp table (name changes)
  example: **#FA4B053HFV3B**

- Generates result set based on the EPM report engine selected **columns**, **filters**, **options**

Query Results!

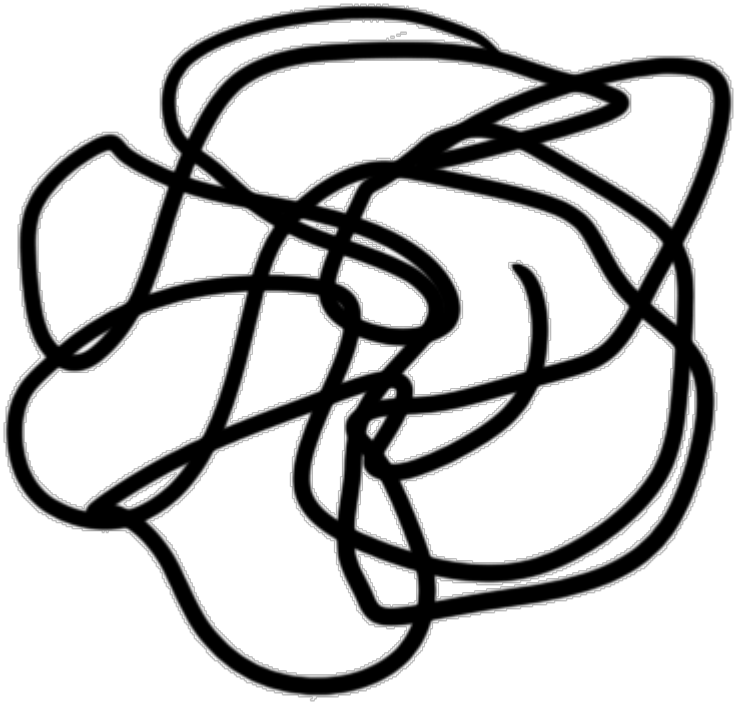
- Can anyone read the results?
- 225 columns returned!
- Many are NULL
- Too many to be useful



Results | Messages

	practice_id	appt_id	event_id	person_id	appt_date	begintime	endtime	duration	last_name	first_name	middle_name	description	address_line_1	address_line_2	city	state	zip	country_id	county_id
1	0001	4809BFE2-D58A-4CA3-8083-F7140FF8528A	CF490ACC-9172-4DE7-A2BF-F2318FF4710C	4EB4414D-086C-47F0-87C0-C06DBCC46F80	20060823	0940	0955	15	OBrien	Daniel		Ocean, Danny	123 Hollywood Blvd	NULL	Horsham	PA	19044	NULL	A46652B2-6BE2-4I
2	0001	43DC5C1A-01A6-4575-8506-D462D3133FB5	CF490ACC-9172-4DE7-A2BF-F2318FF4710C	6D4BCDD7-1C91-407E-81A8-3C10DE3DE151	20060825	0840	0855	15	Walters	Stan		Walker, Stan	123 Any Street	NULL	Horsham	PA	19044	NULL	A46652B2-6BE2-4I
3	0001	601C8E03-DA70-4979-B440-A80738FEC1D0	CF490ACC-9172-4DE7-A2BF-F2318FF4710C	FF7E9471-6933-40B8-99D5-CC2DEEDD0C13	20060825	0920	0935	15	Stigler	Samantha		Shortcake, Strawberry	1239 Strawberry Lane	NULL	Ogden	UT	84404	NULL	5690A352-05CA-4I
4	0001	52387954-1871-4868-B58B-4196AC6B9C91	CF490ACC-9172-4DE7-A2BF-F2318FF4710C	6D4BCDD7-1C91-407E-81A8-3C10DE3DE151	20060901	0840	0855	15	Walters	Stan		Walker, Stan	123 Any Street	NULL	Horsham	PA	19044	NULL	A46652B2-6BE2-4I
5	0001	38ED0755-97FC-460E-AE6E-060A07323E0A	CF490ACC-9172-4DE7-A2BF-F2318FF4710C	6D4BCDD7-1C91-407E-81A8-3C10DE3DE151	20060908	0840	0855	15	Walters	Stan		Walker, Stan	123 Any Street	NULL	Horsham	PA	19044	NULL	A46652B2-6BE2-4I
6	0001	C0888845-A056-4F8E-9A20-5BCDD8794A04	CF490ACC-9172-4DE7-A2BF-F2318FF4710C	6D4BCDD7-1C91-407E-81A8-3C10DE3DE151	20060915	0840	0855	15	Walters	Stan		Walker, Stan	123 Any Street	NULL	Horsham	PA	19044	NULL	A46652B2-6BE2-4I
7	0001	2A0D38B0-AB1D-42EF-A386-43089275CC4F	CF490ACC-9172-4DE7-A2BF-F2318FF4710C	6D4BCDD7-1C91-407E-81A8-3C10DE3DE151	20060922	0840	0855	15	Walters	Stan		Walker, Stan	123 Any Street	NULL	Horsham	PA	19044	NULL	A46652B2-6BE2-4I
8	0001	13768C53-78B5-49AB-9003-8DF8936EEE85	CF490ACC-9172-4DE7-A2BF-F2318FF4710C	6D4BCDD7-1C91-407E-81A8-3C10DE3DE151	20060929	0840	0855	15	Walters	Stan		Walker, Stan	123 Any Street	NULL	Horsham	PA	19044	NULL	A46652B2-6BE2-4I
9	0001	2773B6A5-CFEE-4E08-9B1E-6F1B52ABB1F1	CF490ACC-9172-4DE7-A2BF-F2318FF4710C	6D4BCDD7-1C91-407E-81A8-3C10DE3DE151	20061006	0840	0855	15	Walters	Stan		Walker, Stan	123 Any Street	NULL	Horsham	PA	19044	NULL	A46652B2-6BE2-4I
10	0001	5B247D79-9548-4029-BF83-ACCE2AA5997B	CF490ACC-9172-4DE7-A2BF-F2318FF4710C	4EB4414D-086C-47F0-87C0-C06DBCC46F80	20060927	1000	1015	15	OBrien	Daniel		Clooney, George	123 Hollywood Blvd	NULL	Horsham	PA	19044	NULL	A46652B2-6BE2-4I

Query Results!



So now what do YOU do?

- Need to cut down **SELECT** columns
- Need to cut down **INSERT** columns
- Need to cut down **CREATE** table columns

Only use what YOU need

Let’s look at some SQL

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Query FROM statements

TABLE LINKING

FILTER CRITERIA

```
FROM appointments ap
    LEFT OUTER JOIN person per
        ON ap.person_id = per.person_id
    JOIN appointment_members am
        ON am.practice_id = ap.practice_id
        AND am.appt_id = ap.appt_id
        AND ap.appt_date = am.appt_date
    JOIN events ev
        ON ev.practice_id = ap.practice_id
        AND ev.event_id = ap.event_id
    JOIN resources r
        ON r.practice_id = ap.practice_id
        AND r.resource_id = am.resource_id
    LEFT OUTER JOIN provider_mstr pm
        ON r.phys_id = pm.provider_id
    LEFT OUTER JOIN mstr_lists ml1
        ON pm.provider_subgrouping1_id = ml1.mstr_list_item_id
        AND ml1.mstr_list_type = 'provider_subgrouping'
    LEFT OUTER JOIN mstr_lists ml2
        ON pm.provider_subgrouping2_id = ml2.mstr_list_item_id
        AND ml2.mstr_list_type = 'provider_subgrouping'

    WHERE
        (ap.appt_type is null or ap.appt_type <> 'D') AND
        ap.appt_date >= '20151005' AND
        ap.appt_date < '20151006' AND
        (ap.delete_ind  = 'N') AND
        ap.practice_id = '0001' AND
        am.practice_id = '0001' AND
        ev.practice_id = '0001'
```

Table Relationships

Table	Alias	Relationship	Linked Table	Alias
appointments	ap	LEFT OUTER	person	per
appointment_members	am	JOIN	appointments	ap
events	ev	JOIN	appointments	ap
resources	r	JOIN	appointments	ap
provider_mstr	pm	LEFT OUTER	resources	r
mstr_lists	ml1	LEFT OUTER	provider_mstr	pm
mstr_lists	ml2	LEFT OUTER	provider_mstr	pm

APPOINTMENTS

Stores appointments created in the application

Column	FK Column	FK Table
person_id	person_id	PERSON
event_id	event_id	EVENTS
resource_id	resource_id	RESOURCES
enc_id	encounter_id	PATIENT_ENCOUNTER
rendering_provider_id	provider_id	PROVIDER_MSTR
refer_provider_id	provider_id	PROVIDER_MSTR
location_id	location_id	LOCATION_MSTR

APPOINTMENT_MEMBERS

Links resources to appointments

Column	FK Column	FK Table
appt_id	appt_id	APPOINTMENTS
resource_id	resource_id	RESOURCES

EVENTS

Master table for events (i.e. new patient appointment)

Column	FK Column	FK Table
practice_id	practice_id	PRACTICE

RESOURCES

Master list of scheduling resources

Column	FK Column	FK Table
practice_id	practice_id	PRACTICE

PROVIDER_MSTR

Master list of all physicians, therapists, psychiatrists, PA's, etc., used in the system.

(Nurses, Billers, Schedulers, Administrators, etc. are not in this table and are considered users)

Column	FK Column	FK Table
country_id	mstr_list_item_id	MSTR_LISTS
county_id	mstr_list_item_id	MSTR_LISTS
provider_subgrouping1_id	mstr_list_item_id	MSTR_LISTS
provider_subgrouping2_id	mstr_list_item_id	MSTR_LISTS

MSTR_LISTS

Master Lists table for EPM/EHR/KBM

Column	FK Column	FK Table
mstr_list_item_id	EPM	Depends
mstr_list_item_desc	EHR/KBM	Depends

Linking the tables

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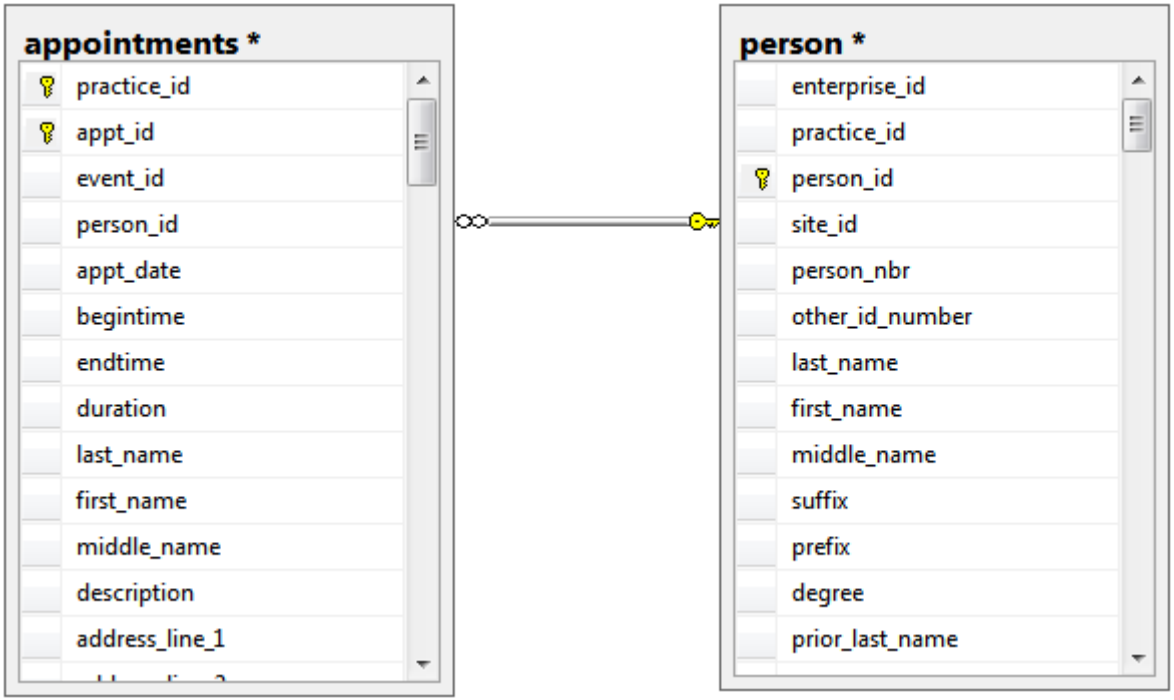
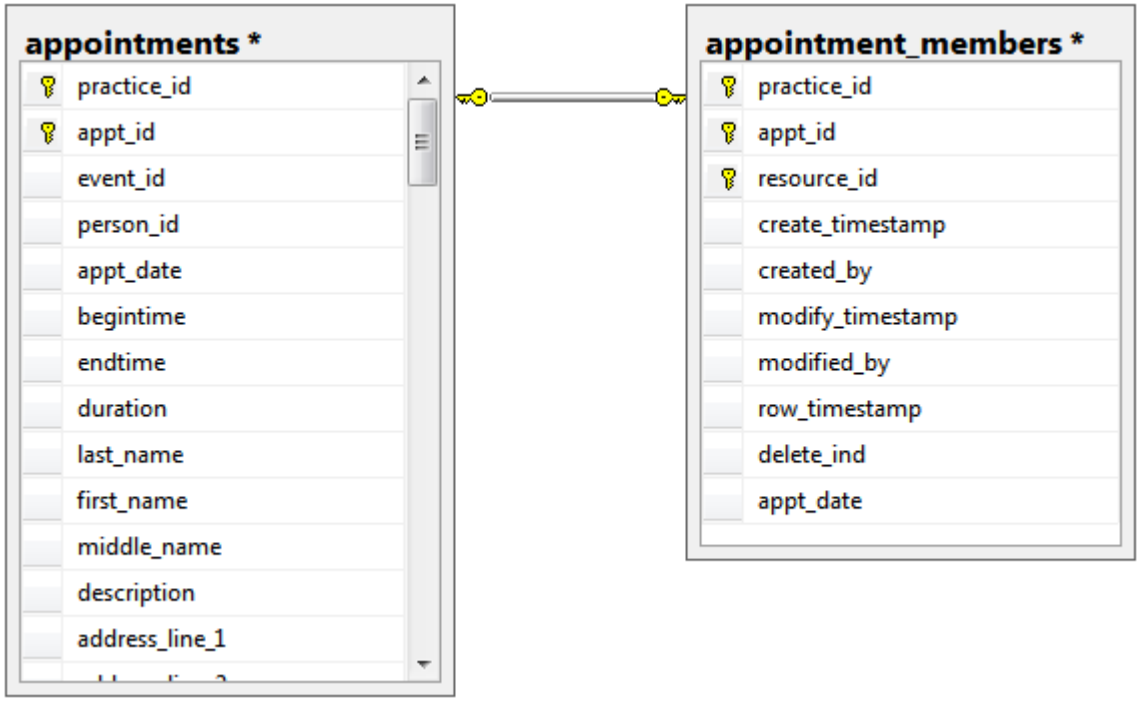
Appointment Information

```
APPOINTMENTS ap LEFT OUTER JOIN PERSON per
    ON ap.person_id = per.person_id
```



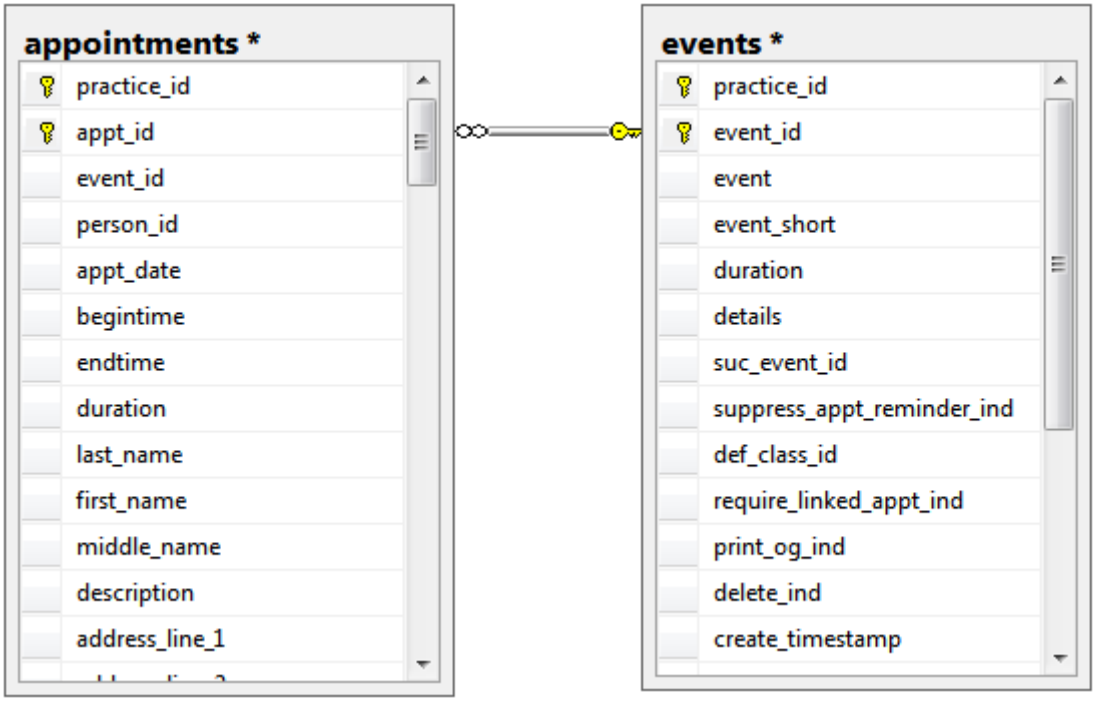
Resource Link to Appointments Information

```
APPOINTMENTS ap JOIN APPOINTMENT_MEMBERS am
    ON am.practice_id = ap.practice_id
       AND  am.appt_id = ap.appt_id
       AND  am.appt_date = ap.appt_date
```



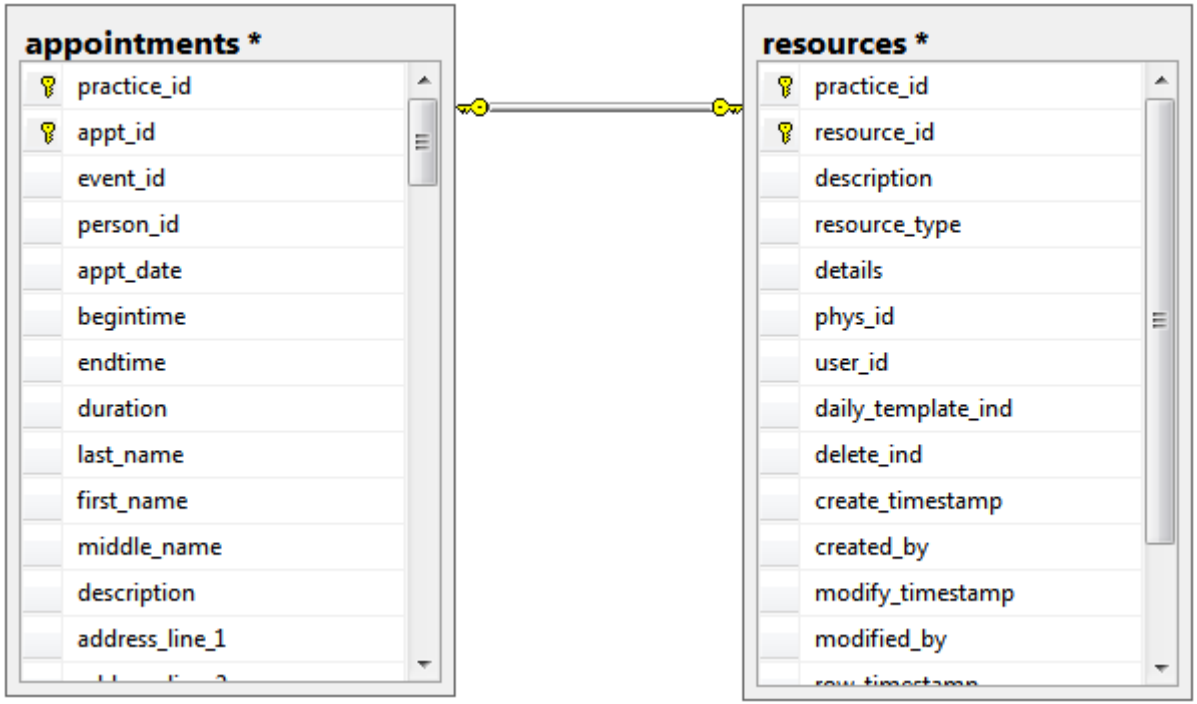
Events Information

```
APPOINTMENTS ap JOIN EVENTS ev
   ON ev.practice_id = ap.practice_id
      AND  ev.event_id = ap.event_id
```



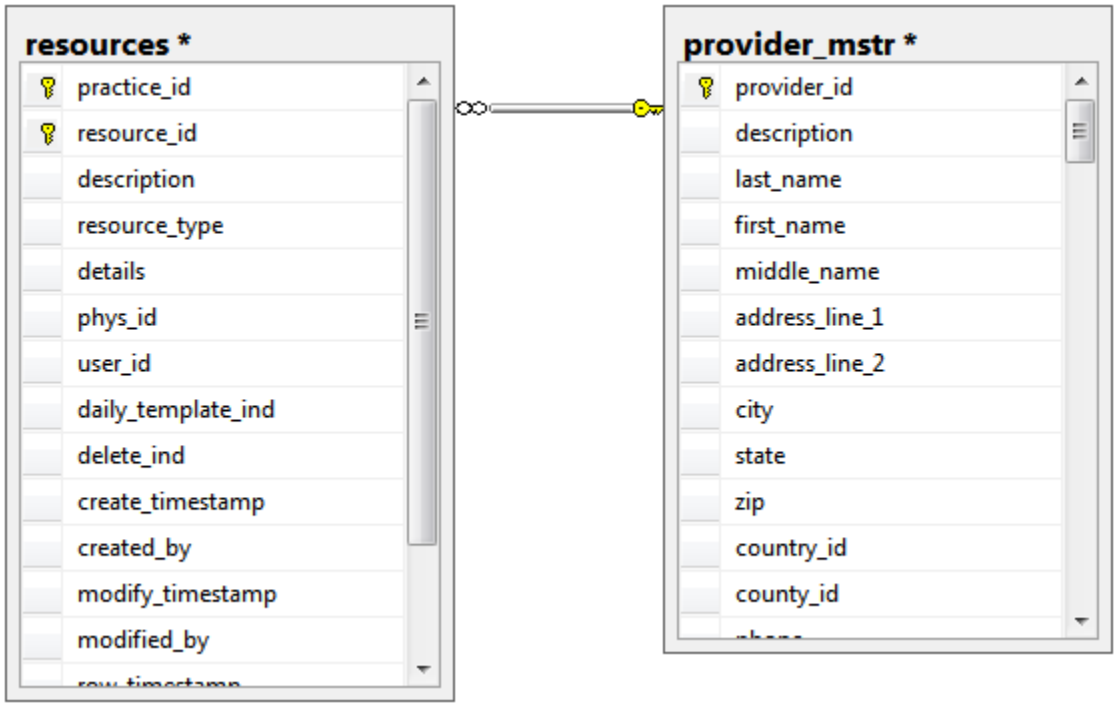
Resources Information

```
APPOINTMENTS ap JOIN RESOURCES r
   ON r.practice_id = ap.practice_id
      AND  r.resource_id = am.resource_id
```



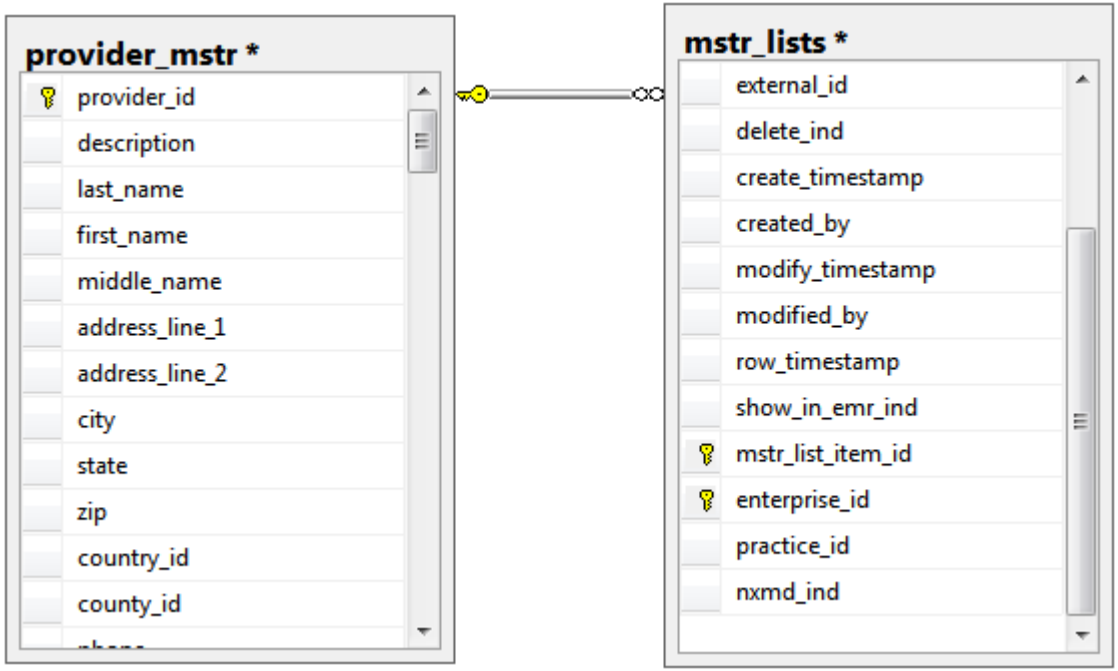
Provider Information

```
RESOURCES LEFT OUTER JOIN PROVIDER_MSTR pm
    ON r.phys_id = pm.provider_id
```



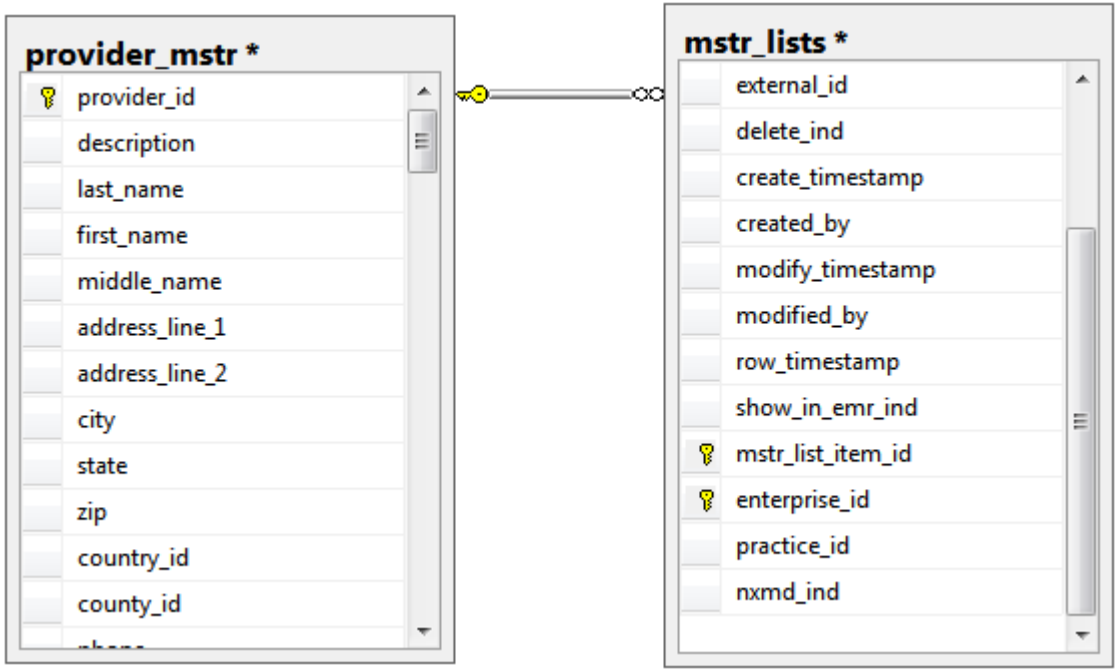
Provider Information

```
PROVIDER_MSTR pm LEFT OUTER JOIN MSTR_LISTS ml1
   ON    pm.provider_subgrouping1_id =
         ml1.mstr_list_item_id
AND ml1.mstr_list_type = 'provider_subgrouping'
```

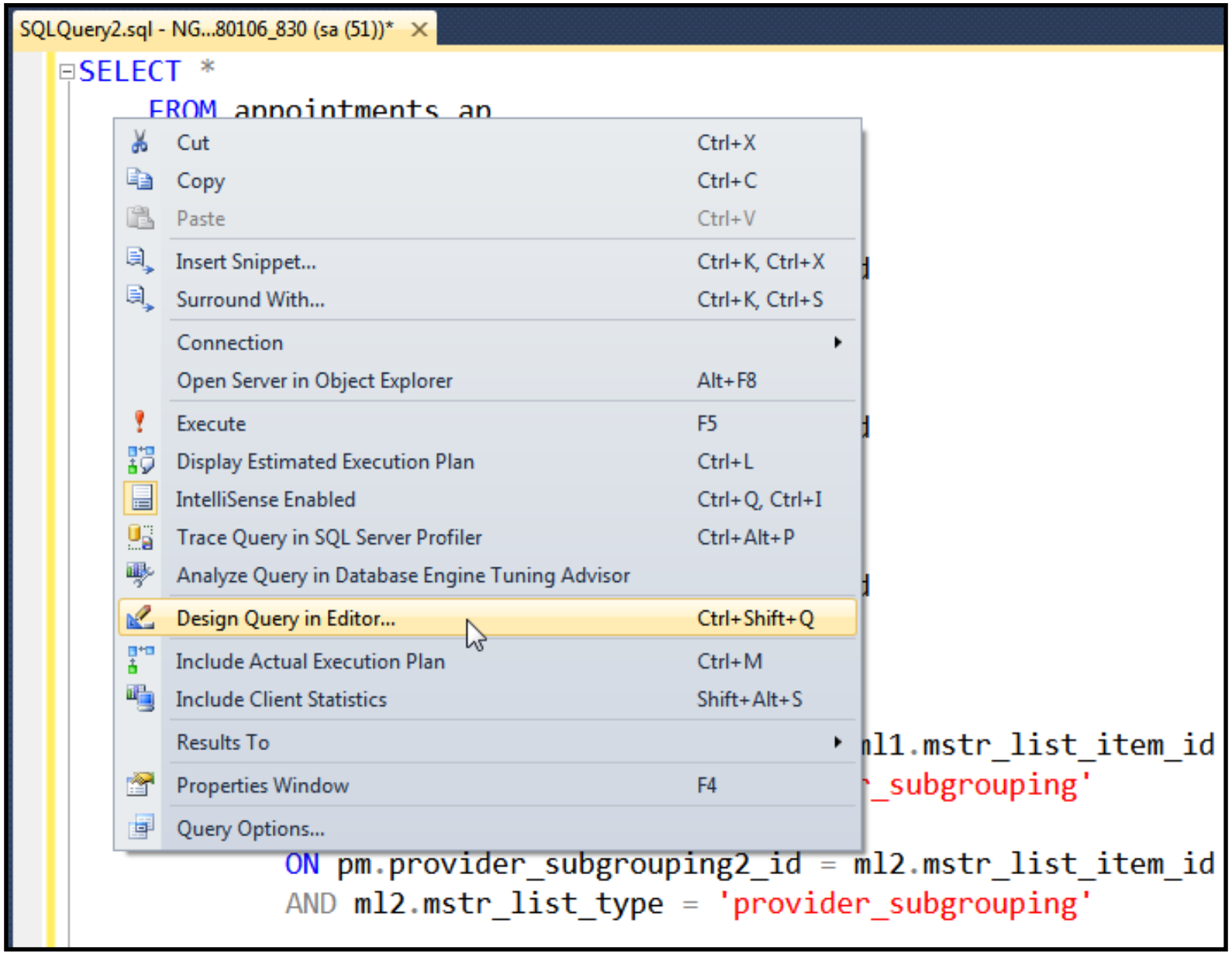


Provider Information

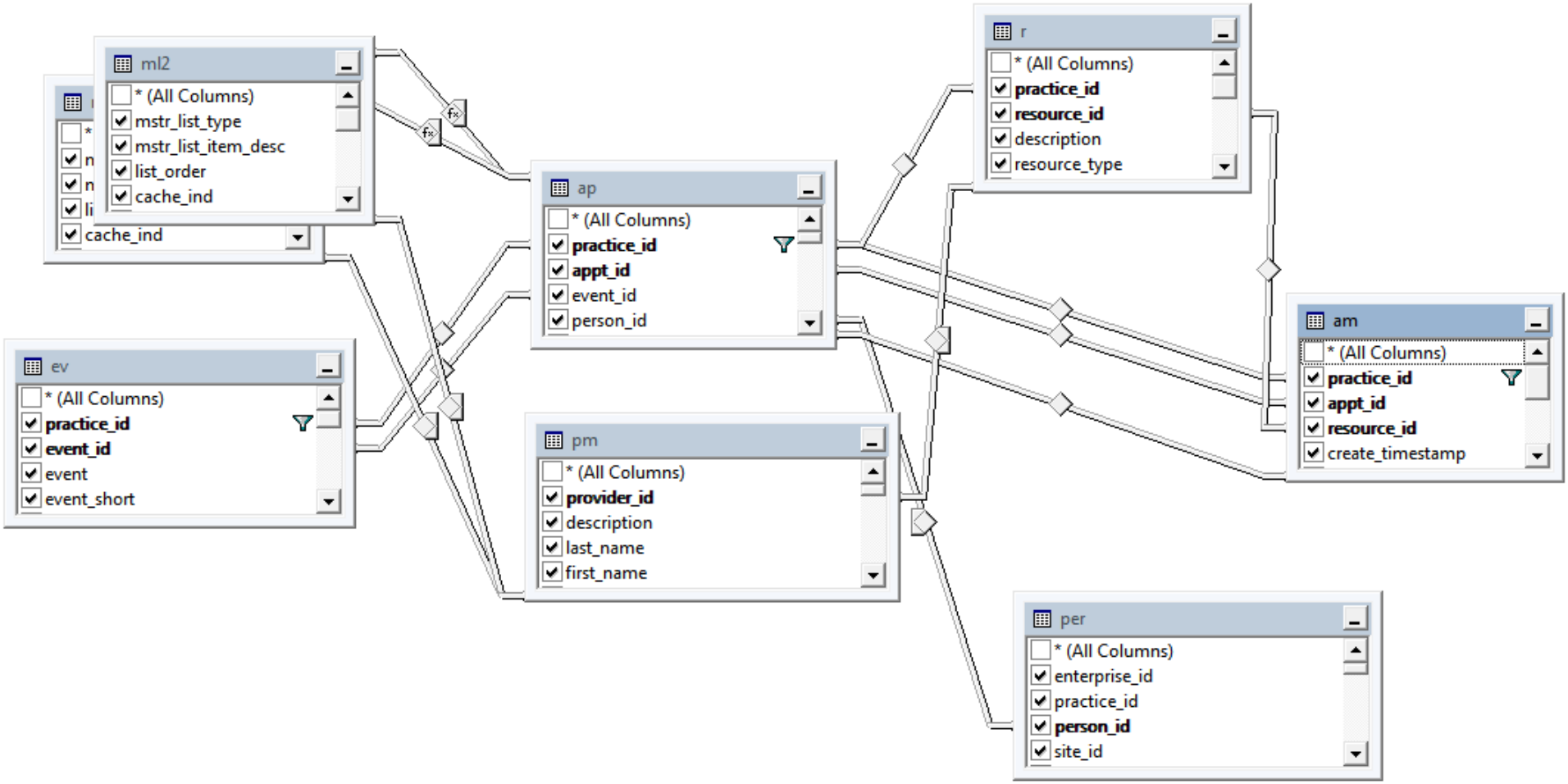
```
PROVIDER_MSTR pm LEFT OUTER JOIN MSTR_LISTS ml2
   ON    pm.provider_subgrouping2_id =
         ml2.mstr_list_item_id
AND ml2.mstr_list_type = 'provider_subgrouping'
```



Create Table Diagram



Final Entity Relationship Diagram (ERD)



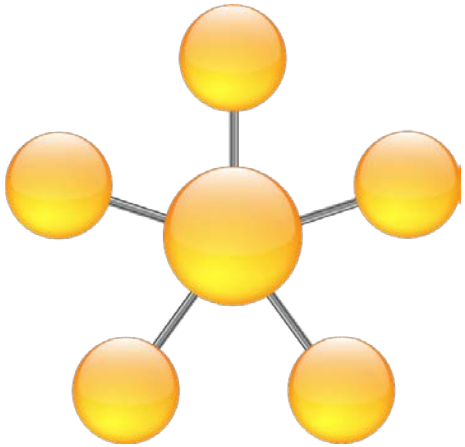
Sample Query Results

Results | Messages

	appt_date	event	begintime	endtime	duration	last_name	first_name	middle_name	description	user_defined1	sex	date_of_birth
1	20071104	TREADMILL	0920	0950	30	Sliding	Parent		Slide, Test	Tired	F	19870101
2	20071105	TREADMILL	0940	1010	30	First Health	Franklin	F	Martin, Larry		M	19520217
3	20071104	TREADMILL	0930	1000	30	Carbaugh	Tena		Carbaugh, Tena	Palpatations	F	19530523
4	20071106	Physical - New Patient	0910	1010	60	Peters	Dorothy		Pinnick, Dottie		F	19740928
5	20071105	Physical - New Patient	0920	1020	60	Lang	Lana		Lang, Lana		F	19830711
6	20071105	Est Patient Followup	1300	1310	10	Smith	Duane	A	Smith, Duane	Cold	M	19720707
7	20071105	Est Patient Followup	1330	1340	10	Evans	Sandra		Evans, Sandra	Throat	F	19500527
8	20071105	Est Patient Followup	1310	1320	10	Walters	Stan		Walker, Stan	Back	M	19600605
9	20071105	Est Patient Followup	1340	1350	10	Stigler	Samantha		Shortcake, Strawberry	Flu	F	19740918
10	20071105	Est Patient Followup	1410	1420	10	Warren	Allan	B	Warren, Allan	Arm	M	19700710
11	20071105	Est Patient Followup	1420	1430	10	Knight	Martin		Knight, Martin	Stomach	M	19511109
12	20071105	Physical - New Patient	0950	1050	60	Bing	Linda		Bing, Linda		F	19730315
13	20071105	Est Patient Followup	1320	1330	10	Hill	Tim		Hill, Tim	Knee	M	19620811
14	20071106	Consult	0950	1000	10	Demuniz	Shirlene	M	Demuniz, Shirlene		M	19621123
15	20100412	Consult	0920	0940	20	Stigler	Raymond		Siegle, Ray		M	19600701
16	20071105	Consult	0930	0940	10	Stigler	Samantha		Shortcake, Strawberry		F	19740918
17	20071105	Physical - Est Patient	1400	1410	10	Diaz	Shallyn	Kay	Diaz, Shallyn	Annual	F	19500527
18	20070801	Est Patient Followup	0900	0910	10	Coronel	Angel		Coronel, Angel	Chest Pain	M	19650814
19	20071106	Est Patient - Peds	0930	0940	10	Carbaugh	Tena		Carbaugh, Tena		F	19530523

Diagnosis and Documentation

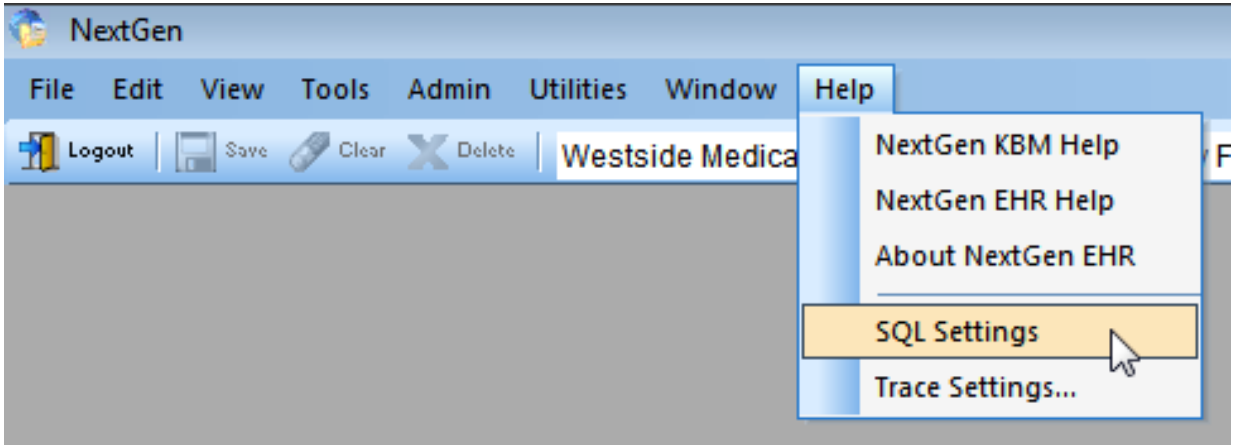
- Templates
- Documents
- Modules

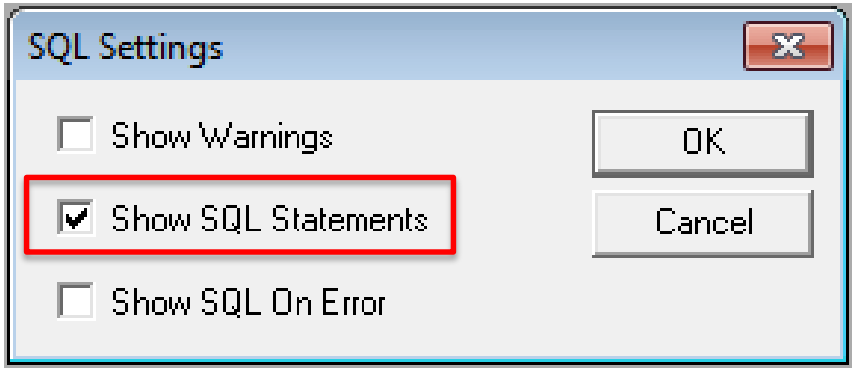


Where to Begin?

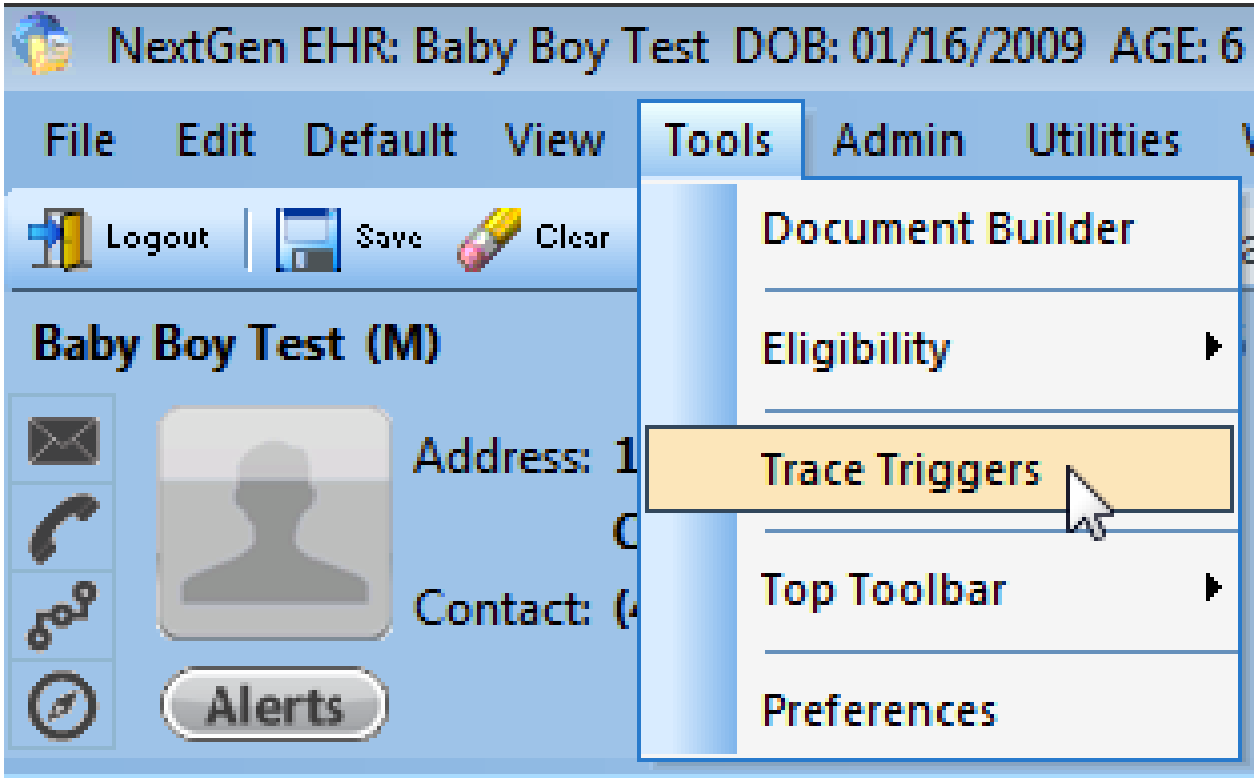
- **No** reports in EHR
- Limited internal **EHR SQL logging**
- Use **SQL Profiler**

SQL Settings

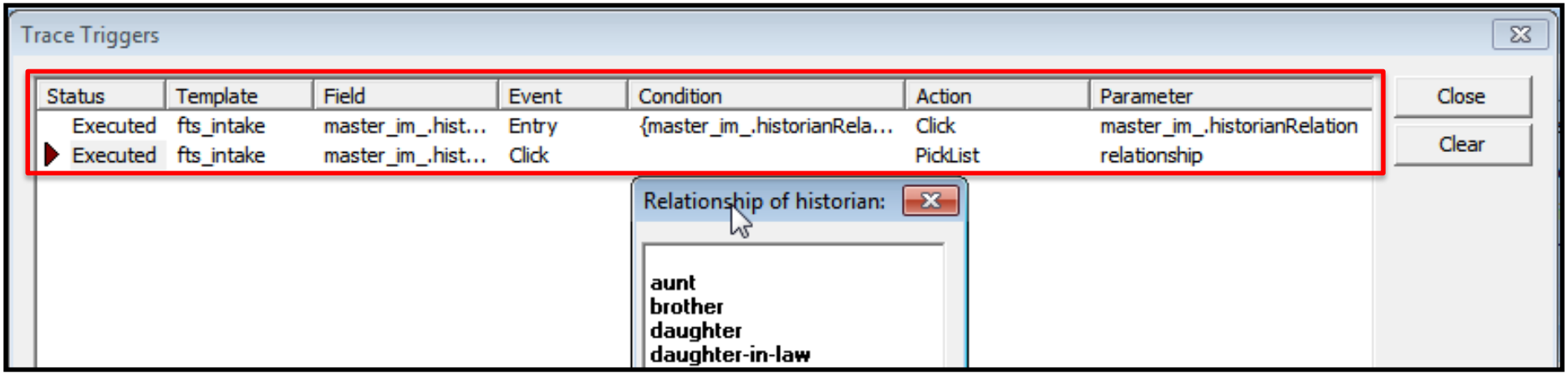


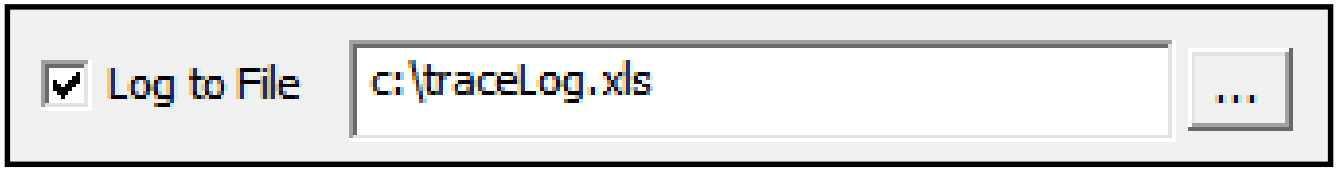


Trigger Trace



Trigger Trace





SQL Profiler

- Use profiler trace template created earlier
- Useful to identify SQL running
- Can add duration criteria to look for performance issues with templates

https://knowledge.nextgen.com/pe/action/km/viewelement?id=10153962

EHR Basics

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Key Tables

- EHR is encounter based
- Driven by **PATIENT_ENCOUNTER**
- EHR tables used to cross-reference info
- KBM clinical/template tables have underscore at the end of the table name (i.e. **master_im_**)

Key Tables

- **ENC_ID** is master key field across **MOST** EHR/KBM tables
- Lots of **UNENFORCED** foreign keys (FK)
- Lots of **DENORMALIZED** data

What's this mean?

HARD TO FIND WHAT YOU NEED!

Key EHR Tables

Table	Use	PK
enterprise	Enterprise Master	enterprise_id
practice	Practice Master	practice_id
person	Person Master	person_id
patient	Patient Master	person_id

PERSON vs. PATIENT

- One record for entire system
- One record per practice
- Demographic information
- Patient-practice specific values

PERSON -> PATIENT -> PATIENT_ENCOUNTER

Key EHR Tables

Table	Use	PK
provider_mstr	Provider Master	provider_id
location_mstr	Location Master	location_id
patient_encounter	List of all encounters	enc_id
patient_documents	Generated Docs	enc_id

KBM Table Types

Medical Record (medical_records)

- ENCOUNTER specific driven data

Field Name	Key Type	Assoc. Table
enterprise_id	AK	enterprise
practice_id	AK	practice
person_id	AK	person/patient
enc_id	PK, AK	patient_encounter

KBM Table Types

Medical Record Popup (mrpopup)

- ENCOUNTER specific driven data

Field Name	Key Type	Assoc. Table
enterprise_id	AK	enterprise
practice_id	AK	practice
person_id	AK	person/patient
enc_id	PK, AK	patient_encounter

KBM Table Types

Medical Record Popup Extended (mrpopup_ex)

- MULTIPLE records per ENCOUNTER

Field Name	Key Type	Assoc. Table
enterprise_id	AK	enterprise
practice_id	AK	practice
person_id	AK	person/patient
enc_id	AK	patient_encounter
seq_no	PK,AK	

KBM Table Types

Demographics (demographics)

- PERSON specific driven data

Field Name	Key Type	Assoc. Table
enterprise_id	PK	enterprise
practice_id	PK	practice
person_id	PK	person/patient

KBM Table Types

Demographics Popup (dmpopup)

- PERSON specific driven data

Field Name	Key Type	Assoc. Table
enterprise_id	PK	enterprise
practice_id	PK	practice
person_id	PK	person/patient

KBM Table Types

Demographics Popup Extended (dmpopup_ex)

- MULTIPLE records per PERSON

Field Name	Key Type	Assoc. Table
enterprise_id	AK	enterprise
practice_id	AK	practice
person_id	AK	person/patient
seq_no	PK, AK	

*

Special Field Name	Assoc. Table	Use
encounterID	patient_encounter	Used as ENC_ID but not a system created field

KBM Templates

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Template Fundamentals

- Tables end with a underscore character _

- Identify all tables using query below:

```
SELECT table_name
   FROM INFORMATION_SCHEMA.TABLES
WHERE RIGHT(table_name,1) = '_'
   ORDER BY table_name
```

Template Fundamentals

- Templates allow fields from multiple tables

- Identify all tables using on a template:

```
SELECT table_name, field_name
   FROM template_fields tf INNER JOIN templates t
   ON tf.template_id = t.template_id
WHERE t.template_name = 'fts_intake'
   AND tf.table_name <> ''
```

Template Fundamentals

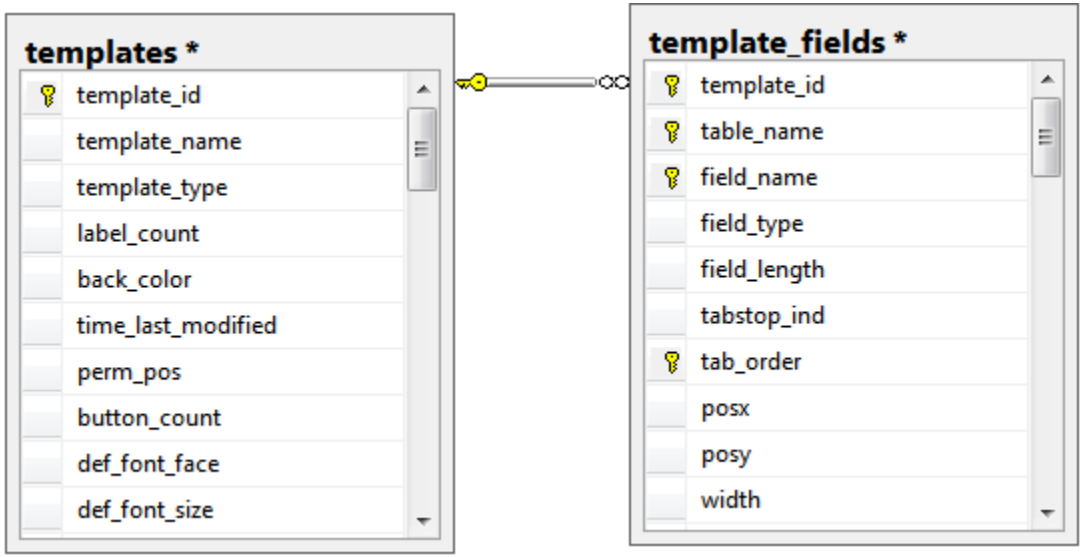
- How do you find the **fields used** on a template?
- Based on the template runtime "**metadata**"
- **Standard** relationships exist
- Clinical relationships based on **ENC_ID**

Template Runtime Information

TABLE	USE	Relationship
templates	List of all templates	Primary Table
template_fields	List of elements on a template	T.template_id = TF.template_id
fields_master	List of all available fields in the database to use on templates.	DATA DICTIONARY INFORMATION
triggers	Information on MOST triggers (xref tables exist too)	T.template_id = TR.template_id

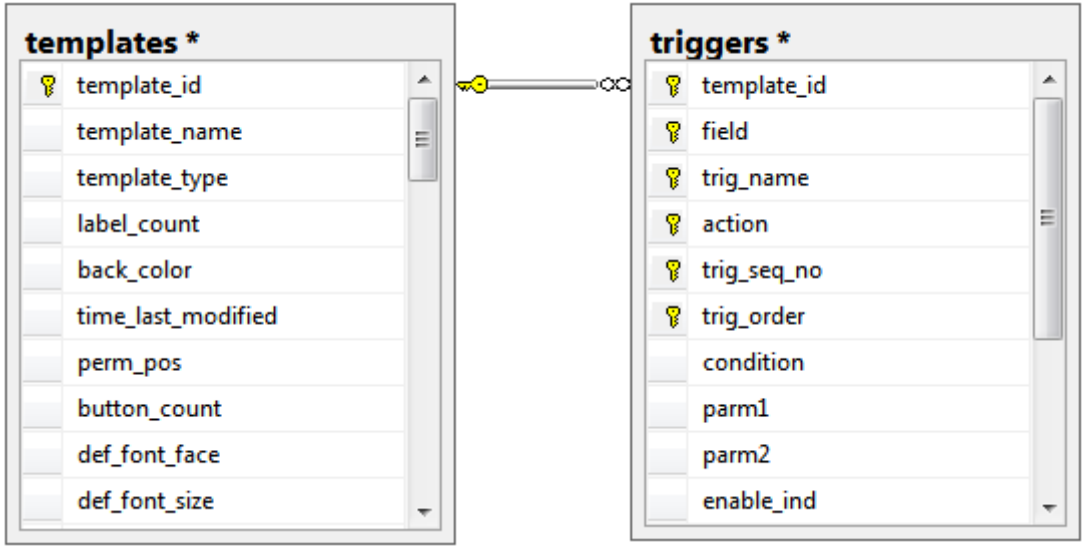
Template Field Information

```
TEMPLATES t
    INNER JOIN TEMPLATE_FIELDS tf
        ON t.template_id = tf.template_id
```



Template Trigger Information

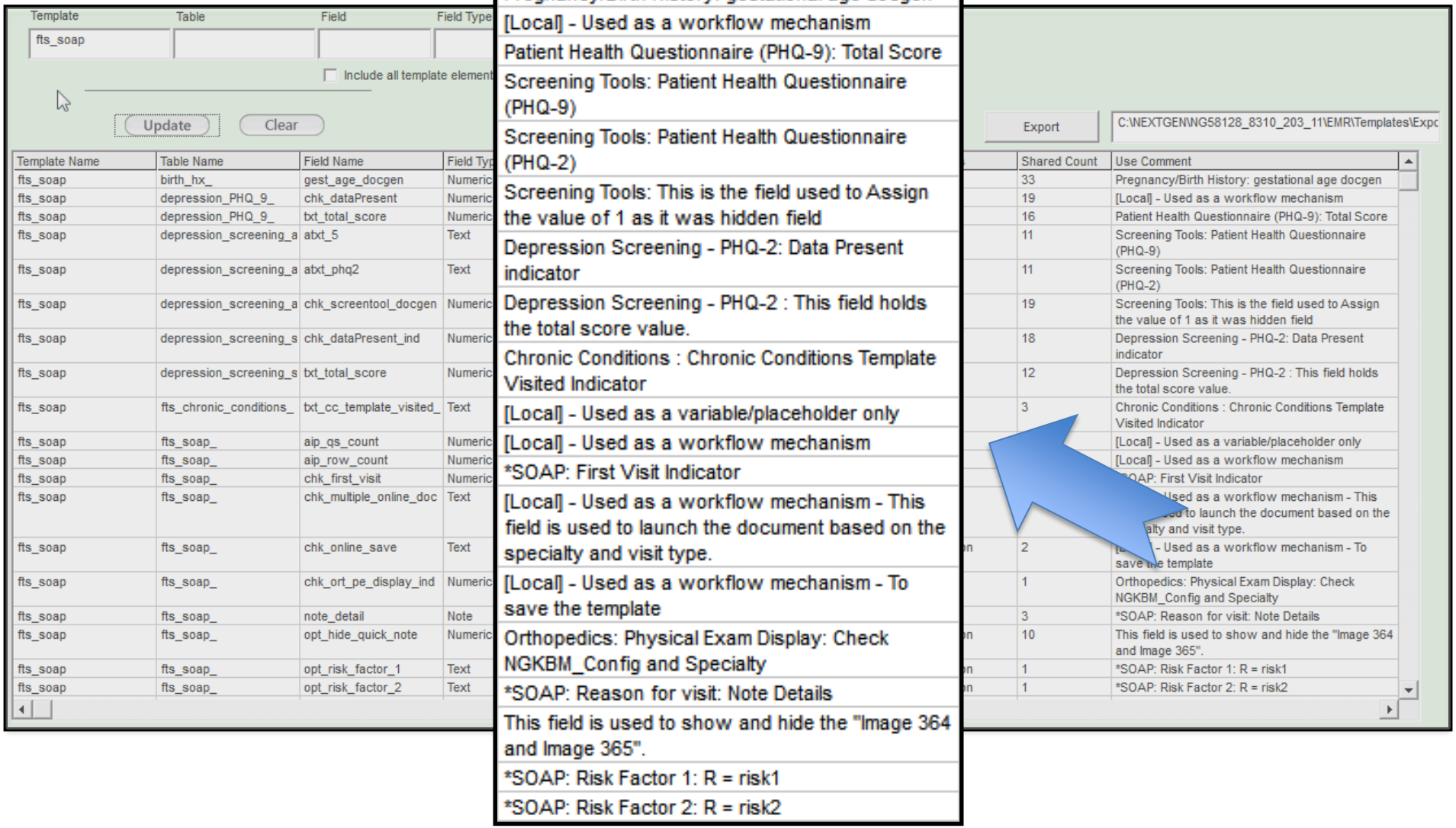
```
TEMPLATES t
   INNER JOIN TRIGGERS tr
      ON t.template_id = tr.template_id
```



Relationship Used

- Gap Analysis Utility
- Template/Document Compare
- Find fields on specific templates
- Find templates with certain fields
- Create Data Dictionary Lookup template

Data Dictionary Template



Use Comment
Pregnancy/Birth History: gestational age docgen
[Local] - Used as a workflow mechanism
Patient Health Questionnaire (PHQ-9): Total Score
Screening Tools: Patient Health Questionnaire (PHQ-9)
Screening Tools: Patient Health Questionnaire (PHQ-2)
Screening Tools: This is the field used to Assign the value of 1 as it was hidden field
Depression Screening - PHQ-2: Data Present indicator
Depression Screening - PHQ-2 : This field holds the total score value.
Chronic Conditions : Chronic Conditions Template Visited Indicator
[Local] - Used as a variable/placeholder only
[Local] - Used as a workflow mechanism
*SOAP: First Visit Indicator
[Local] - Used as a workflow mechanism - This field is used to launch the document based on the specialty and visit type.
[Local] - Used as a workflow mechanism - To save the template
Orthopedics: Physical Exam Display: Check NGKBM_Config and Specialty
*SOAP: Reason for visit: Note Details
This field is used to show and hide the "Image 364 and Image 365".
*SOAP: Risk Factor 1: R = risk1
*SOAP: Risk Factor 2: R = risk2

Template Usage/Activity

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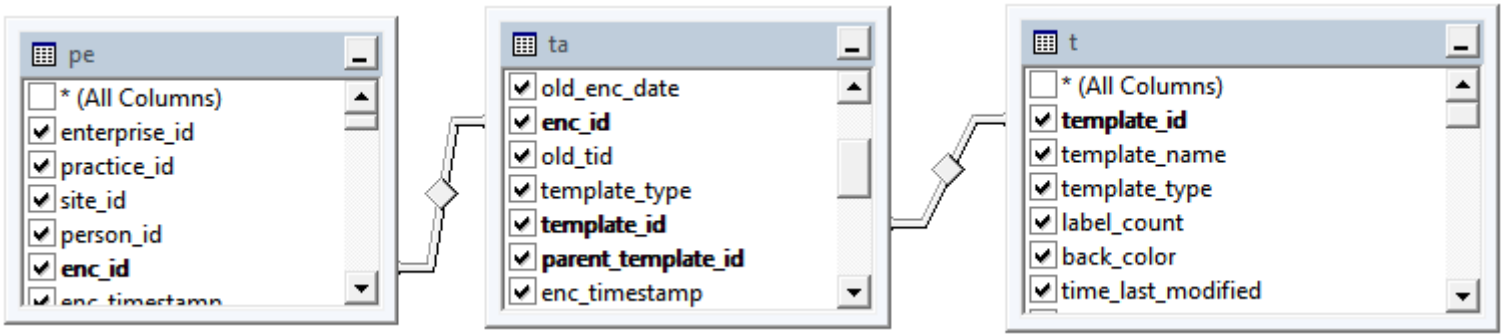
Template Usage/Activity Information

TABLE	USE	Relationship
templates	List of all templates	Primary Table
template_audit	List of elements on a template	t.template_id = ta.template_id
patient_encounter	List of all encounters	ta.enc_id = pe.enc_id

- Linking allows you to see which templates were opened
- Also provide the order they were opened
- Gap Analysis Usage grids based on this logic

Template Field Information

```
PATIENT_ENCOUNTER pe
   INNER JOIN TEMPLATE_AUDIT ta
      ON pe.enc_id = ta.enc_id
   INNER JOIN TEMPLATES t
      ON t.template_id = ta.template_id
```



```
SELECT pe.enc_id, t.template_name, ta.create_timestamp
    FROM
            PATIENT_ENCOUNTER pe
        INNER JOIN TEMPLATE_AUDIT ta
            ON pe.enc_id = ta.enc_id
        INNER JOIN TEMPLATES t
            ON t.template_id = ta.template_id
    ORDER BY pe.enc_id, ta.create_timestamp
```

enc_id	template_name	create_timestamp
A02B49EE-1762-49D1-804D-01E0EFC1D479	eyemaster_im	2014-01-27 19:38:56.673
A02B49EE-1762-49D1-804D-01E0EFC1D479	eyeChiefComplaint	2014-01-27 19:39:36.720
A02B49EE-1762-49D1-804D-01E0EFC1D479	eyeBriefExam	2014-01-27 19:40:01.550
A02B49EE-1762-49D1-804D-01E0EFC1D479	oph_intake	2014-01-27 19:40:45.997
A02B49EE-1762-49D1-804D-01E0EFC1D479	vital_signs_oph	2014-01-27 19:41:41.327
39E1334B-77CB-4834-8EE1-02125213628D	Asthma_Peak_Flow	2014-04-29 09:57:11.800
39E1334B-77CB-4834-8EE1-02125213628D	vital_signs	2014-04-29 10:02:11.787
1EA749F2-B3CD-4A10-A19E-02FAA365F6B7	pt_evaluate_objective	2014-01-17 15:19:23.733
1EA749F2-B3CD-4A10-A19E-02FAA365F6B7	pe_shoulder	2014-01-17 15:21:01.533
5F1F4A27-12E8-48BA-A368-037DFFF3E08D	fts_intake	2014-05-19 17:02:30.023
5F1F4A27-12E8-48BA-A368-037DFFF3E08D	derm_intake	2014-05-19 17:02:36.630
5F1F4A27-12E8-48BA-A368-037DFFF3E08D	derm_soap	2014-05-19 17:04:09.073
5F1F4A27-12E8-48BA-A368-037DFFF3E08D	proc_derm_excision_1	2014-05-19 17:05:01.467
5F1F4A27-12E8-48BA-A368-037DFFF3E08D	Assessment	2014-05-19 17:06:35.930
5F1F4A27-12E8-48BA-A368-037DFFF3E08D	procedure_billing	2014-05-19 19:26:02.717
E3A7DBCF-C2C1-4E4F-B395-037F02AA0108	oph_home_page	2014-04-30 16:44:41.037
9E0925C8-FB05-4E3E-AD65-0517698FABA5	fts_intake	2014-04-29 12:15:50.330

Documents

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KBM Documents

- Legal representation of an encounter
- Pulls information from database
- Formats it based on set of rules

KBM Documents

- Can be driven from the document side
  (I want info on the macros on a document)
- Can be driven from the encounter side
  (I want to know all documents generated)
- Primary table changes depending on approach

KBM Documents: Encounter Driven

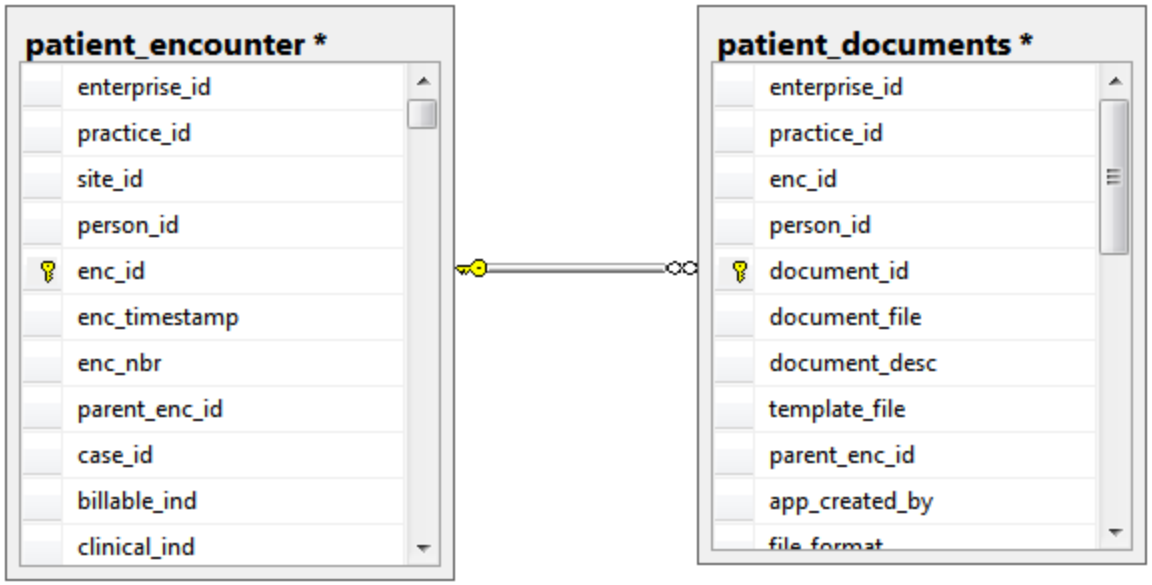
Table	Use	Alias
PATIENT_ENCOUNTER	Lists all encounters	PE
PATIENT_DOCUMENTS	Lists all documents generated	PD

FK Information

PE.enc_id = PD.enc_id

Document Information

```
PATIENT_ENCOUNTER pe
    LEFT OUTER JOIN PATIENT_DOCUMENTS pd
        ON pe.enc_id = pd.enc_id
```



KBM Documents: Document Driven

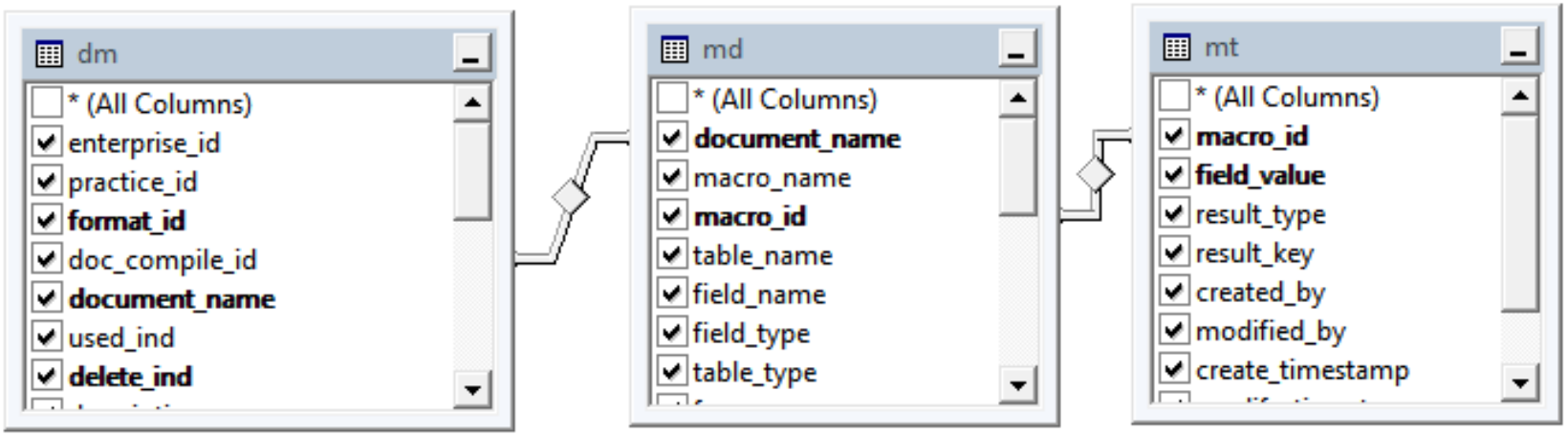
Table	Use	Alias
DOCUMENT_MSTR	List of all documents	DM
MACRO_DOC	List of macros and table/field info on each document	MD
MACRO_TRANS	List of logic related to each macro	MT

FK Information

```
DM.doc_compile_id = MD.document_name
MD.macro_id = MT.macro_id
```

Document Information

```
DOCUMENT_MSTR dm
   INNER JOIN MACRO_DOC md
      ON dm.doc_compile_id = md.document_name
   INNER JOIN MACRO_TRANS mt
      ON mt.macro_id = md.macro_id
```



Sample Report Requests

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End-User Report Request #1:

Create report listing **patients** who have **documents** generated for them for a **specific time period** (last year starting from today)

***** INCLUDE ANY PERTINENT INFORMATION**

Encounter Driven: Linking the Tables

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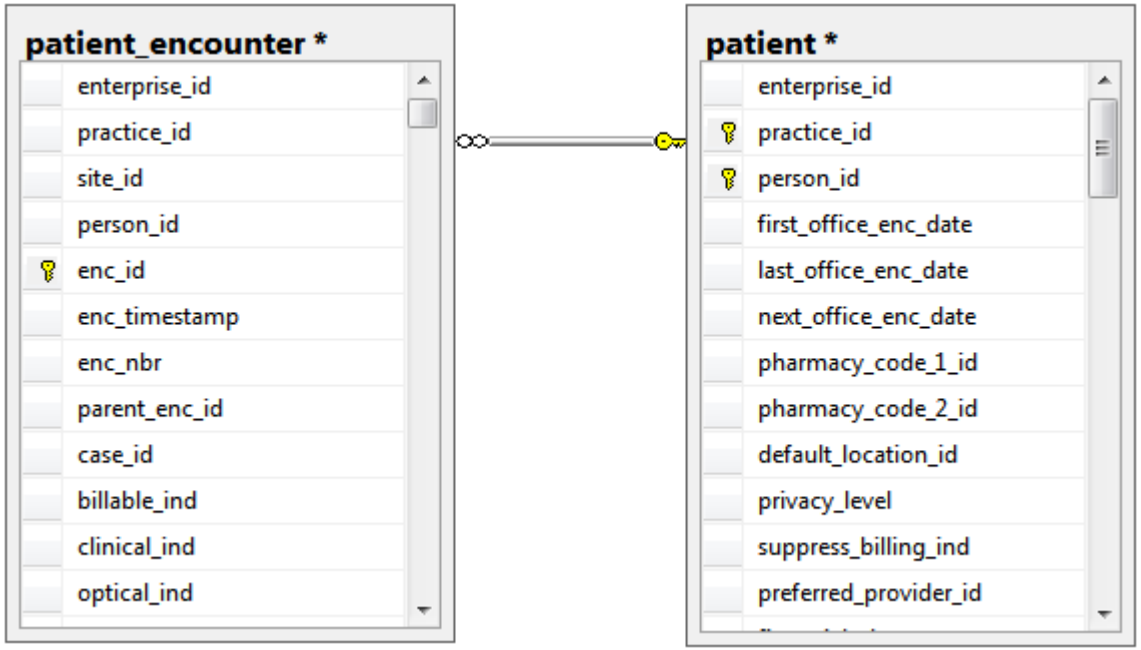
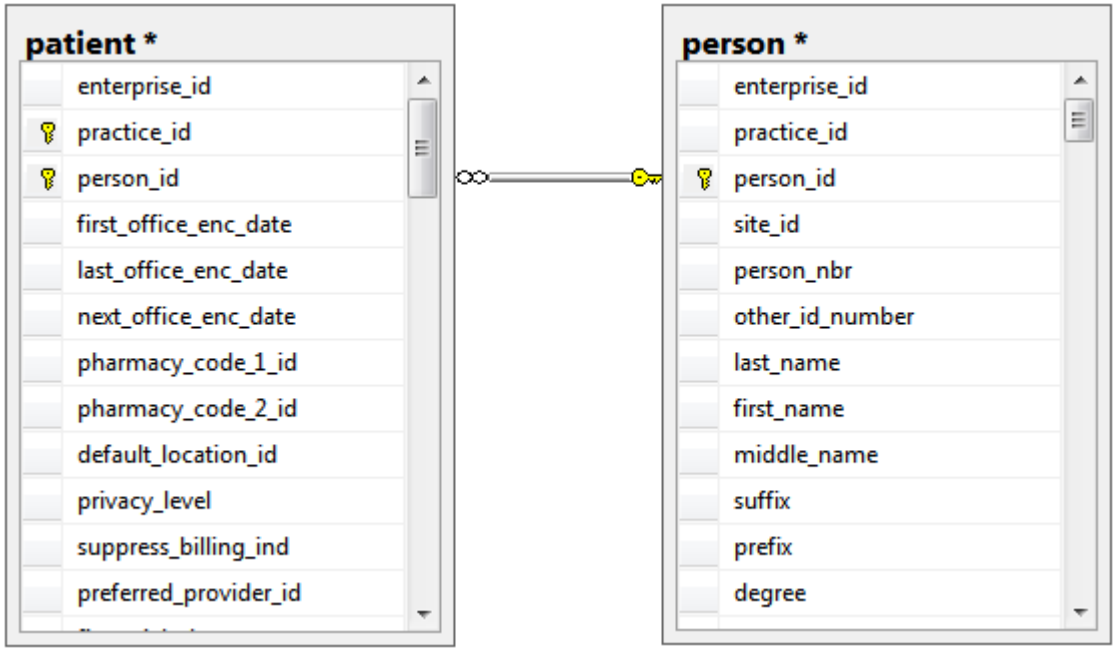
Patient Information

```
PATIENT_ENCOUNTER pe INNER JOIN PATIENT pat
   ON pe.person_id = pat.person_id
   AND pe.practice_id = pat.practice_id
   AND pe.enterprise_id = pat.enterprise_id
```



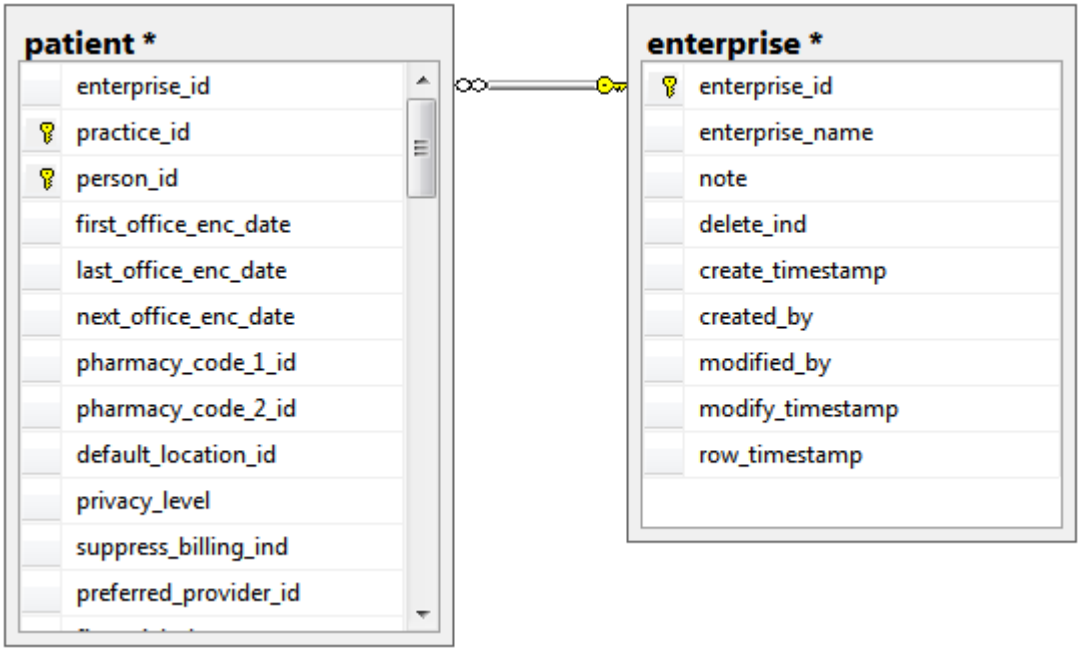
Person Information

```
INNER JOIN PERSON per
   ON per.person_id = pat.person_id
```



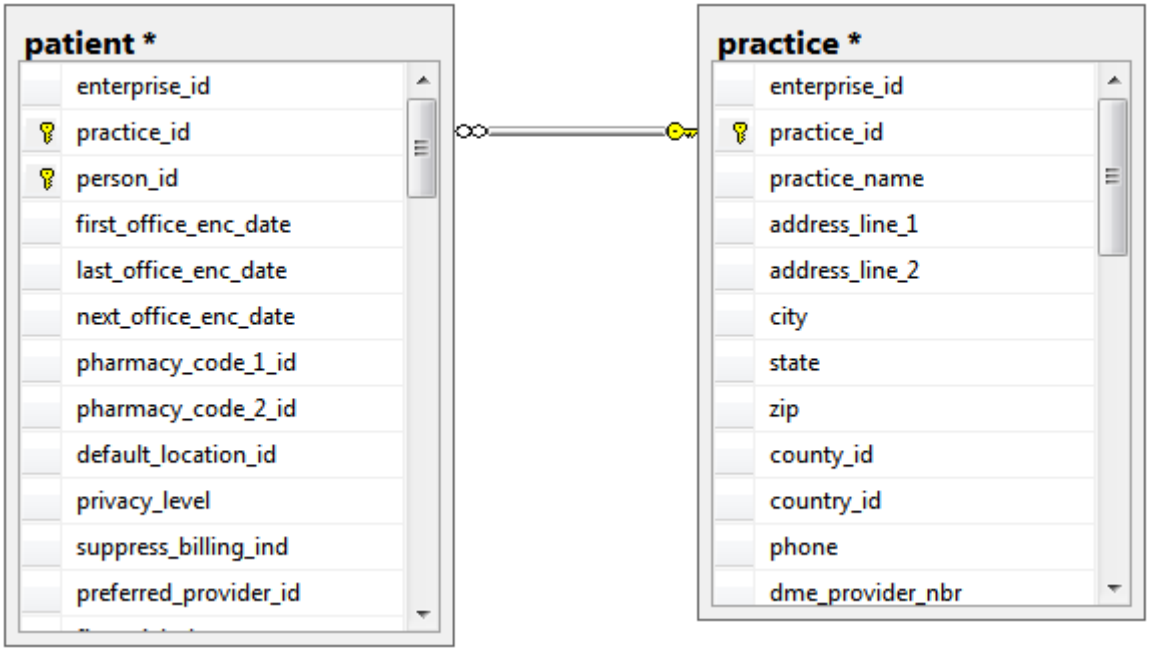
Enterprise Information

```
INNER JOIN ENTERPRISE e
   ON e.enterprise_id = pat.enterprise_id
```



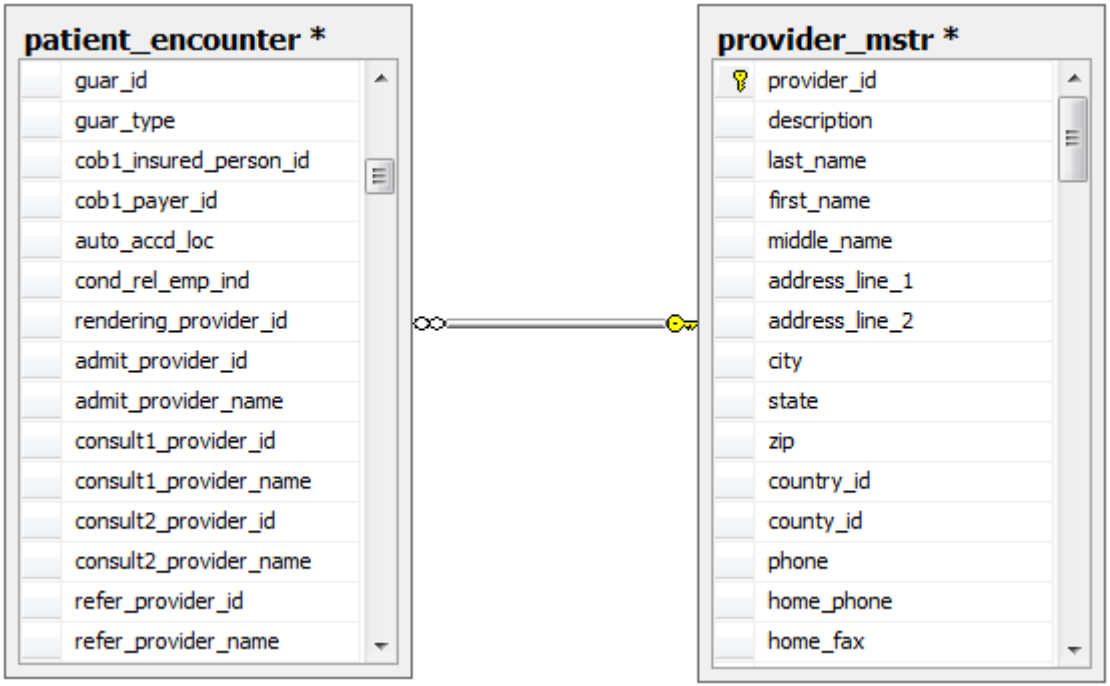
Practice Information

```
INNER JOIN PRACTICE p
   ON p.practice_id = pat.practice_id
```



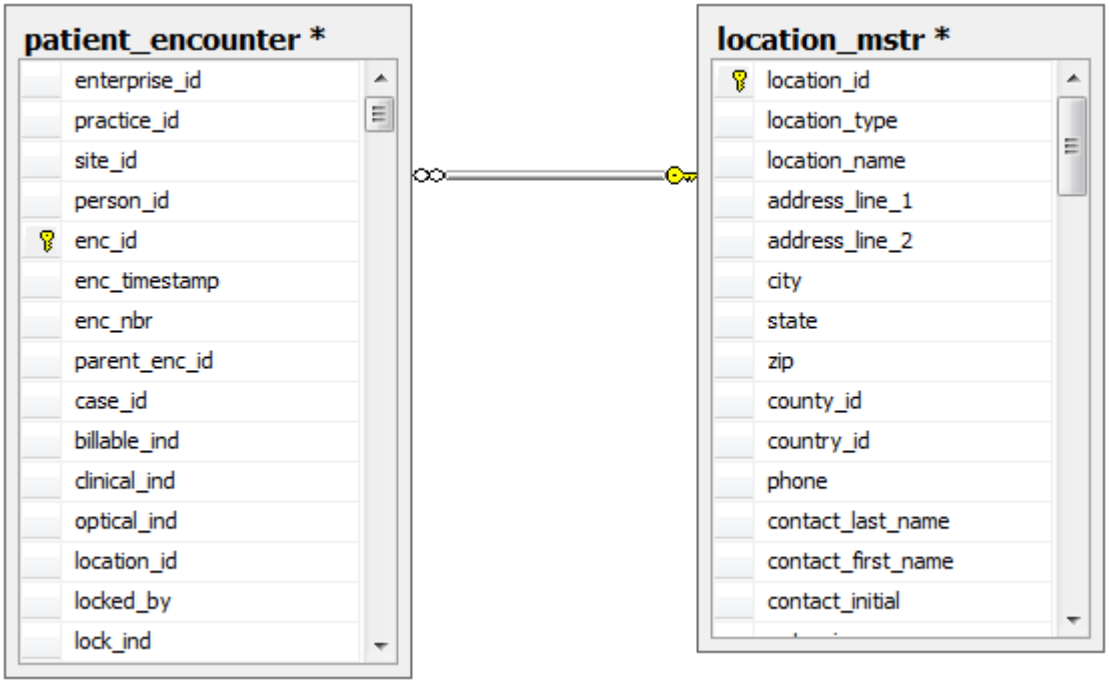
Provider Information

```
INNER JOIN PROVIDER_MSTR pm
   ON pm.provider_id = pe.rendering_provider_id
```



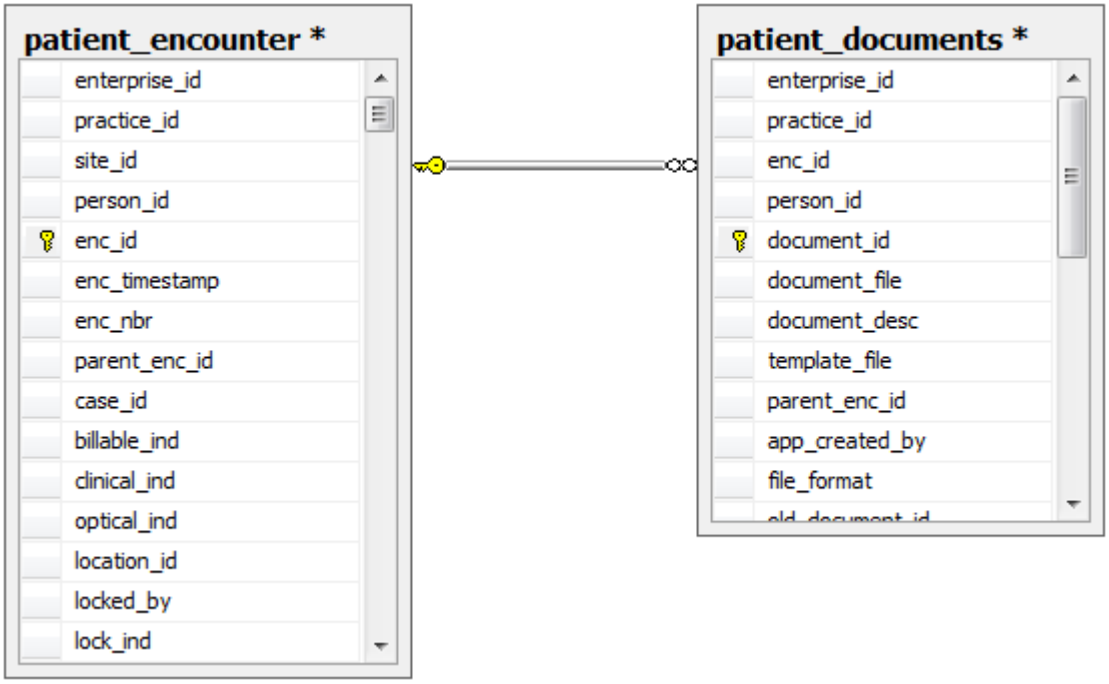
Location Information

```
INNER JOIN LOCATION_MSTR lm
   ON pe.location_id = lm.location_id
```



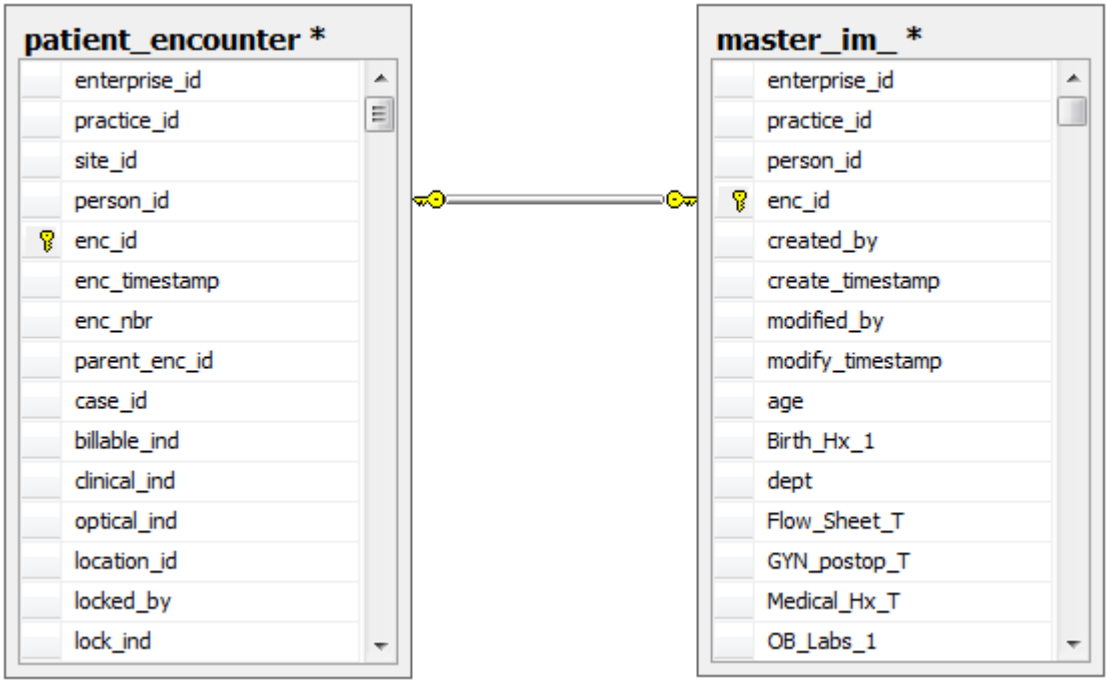
Generated Document Information

```
LEFT OUTER JOIN PATIENT_DOCUMENTS pd
   ON pd.enc_id = pe.enc_id
```



Template Information

```
LEFT OUTER JOIN MASTER_IM_ mi
   ON mi.enc_id = pe.enc_id
```



```
SELECT e.enterprise_name AS enterprise, p.practice_name AS practice,
lm.location_name,
dbo.fnDrLastNameFirst(pm.last_name, pm.degree, pm.first_name, pm.middle_name) AS
provider,
dbo.fnDisplayFullNameLNF(per.first_name, per.middle_name, per.last_name,
per.degree) AS patient,
ISNULL(mi.specialty,'') AS 'specialty',
CAST(CONVERT(DATETIME,enc_timestamp,120) AS VARCHAR(25)) AS 'encounter date',
ISNULL(document_desc,'') AS 'generated document'

FROM PATIENT_ENCOUNTER pe
    INNER JOIN patient pat ON pat.person_id = pe.person_id
        AND pat.practice_id = pe.practice_id
        AND pat.enterprise_id = pe.enterprise_id
    INNER JOIN person per ON per.person_id = pat.person_id
    INNER JOIN enterprise e ON e.enterprise_id = pat.enterprise_id
    INNER JOIN practice p ON p.practice_id = pat.practice_id
    INNER JOIN provider_mstr pm ON pm.provider_id = pe.rendering_provider_id
    INNER JOIN location_mstr lm ON pe.location_id = lm.location_id
    LEFT OUTER JOIN patient_documents pd ON pd.enc_id = pe.enc_id
    LEFT OUTER JOIN master_im_ mi ON mi.enc_id = pe.enc_id

WHERE enc_timestamp BETWEEN DATEADD(YY, -1, GETDATE()) AND GETDATE()
ORDER BY e.enterprise_id ASC, p.practice_id ASC,
dbo.fnDrLastNameFirst(pm.last_name, pm.degree, pm.first_name, pm.middle_name) ASC,
enc_timestamp DESC
```

Sample Query Results

location_name	provider	patient	specialty	encounter date	generated document
Westside Medical Clinic	Anderson MD, Barry F	Test, Baby Girl		Oct 15 2015 5:15PM	
Westside Medical Clinic	Anderson MD, Barry F	Test, Baby Boy		Oct 15 2015 5:09PM	
Westside Medical Clinic	Anderson MD, Barry F	Test, Father	Family Practice	Oct 15 2015 11:29AM	intake_note
Westside Medical Clinic	Anderson MD, Barry F	Test, Baby Boy		Oct 13 2015 9:11PM	

End-User Report Request #2:

Create report listing all the **table/fields** and their possible values used on a specific **document**

***** INCLUDE ANY PERTINENT INFORMATION**

Document Driven: Linking the Tables

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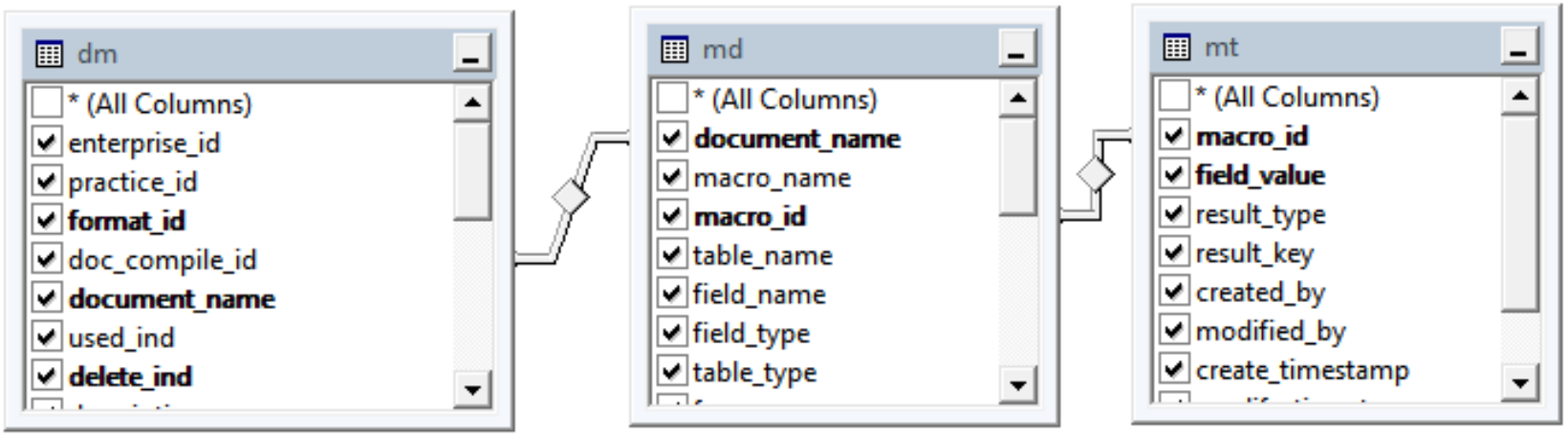
Document Information

```
DOCUMENT_MSTR dm
   INNER JOIN MACRO_DOC md
      ON dm.doc_compile_id = md.document_name
   INNER JOIN MACRO_TRANS mt
      ON mt.macro_id = md.macro_id
```



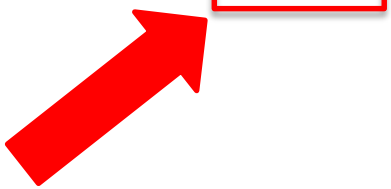
```
SELECT
   dm.document_name, md.macro_name,
   md.table_name, md.field_name,
   md.field_type, md.table_type,
   mt.field_value, mt.result_type,
   mt.result_key

FROM document_mstr dm
   INNER JOIN macro_doc md
      ON dm.doc_compile_id = md.document_name
   INNER JOIN macro_trans mt
      ON mt.macro_id = md.macro_id

WHERE dm.document_name = 'Chart_Note'
```

Sample Query Results

Results | Messages

	document_name	macro_name	table_name	field_name	field_type	table_type	field_value	result_type	result_key
1	Chart_Note	patient_dob	person	date_of_birth	Date	demographics	*	Value	
2	Chart_Note	patient_fname	person	first_name	Text	demographics	*	Value	
3	Chart_Note	patient_initial	person	middle_name	Text	demographics	*	Value	
4	Chart_Note	patient_lname	person	last_name	Text	demographics	*	Value	
5	Chart_Note	patient_mm	patient	med_rec_nbr	Text	demographics	*	Value	
6	Chart_Note	signoff	em_history_	chk_signoff1	Numeric	medical_records	*	Text	{signoff: Unexpected Value}
7	Chart_Note	signoff	em_history_	chk_signoff1	Numeric	medical_records	=blank	NextGen File	sub_mid_level_none
8	Chart_Note	signoff	em_history_	chk_signoff1	Numeric	medical_records	0	NextGen File	sub_mid_level_none
9	Chart_Note	signoff	em_history_	chk_signoff1	Numeric	medical_records	1	NextGen File	sub_mid_level_signoff
10	Chart_Note	last name	person	last_name	Text	demographics	*	Value	
11	Chart_Note	sub_footer	master_im_	docgen_header_footer	Numeric	medical_records	*	Text	{sub_footer: Unexpected Value}
12	Chart_Note	sub_footer	master_im_	docgen_header_footer	Numeric	medical_records	=blank	NextGen File	sub_footer
13	Chart_Note	sub_footer	master_im_	docgen_header_footer	Numeric	medical_records	0	NextGen File	sub_footer
14	Chart_Note	sub_footer	master_im_	docgen_header_footer	Numeric	medical_records	1	NextGen File	sub_footer
15	Chart_Note	sub_header	master_im_	docgen_header_footer	Numeric	medical_records	*	Text	{sub_header: Unexpected Value}
16	Chart_Note	sub_header	master_im_	docgen_header_footer	Numeric	medical_records	=blank	NextGen File	sub_header
17	Chart_Note	sub_header	master_im_	docgen_header_footer	Numeric	medical_records	0	NextGen File	sub_header
18	Chart_Note	sub_header	master_im_	docgen_header_footer	Numeric	medical_records	1	NextGen File	sub_header
19	Chart_Note	dob	person	date_of_birth	Date	demographics	*	Value	

Query executed successfully. | NG7469 (11.0 SP2) | sa (52) | NG58128_8310_203_11 | 00:00:00 | 109 rows



Orders/Procedures

- Orders
- Procedures
- Immunizations

ORDER_ Table

- KBM template table
- Based on very specific rules
- **Minimum** requires for orders of **TYPE**:
  - ORDERED
  - COMPLETED
- To be used with **UPLOAD EXTENDED TRIGGERS**

Order_ Table Relationships

Table	Field	Table	Field
ENTERPRISE	enterprise_id	ORDER_	enterprise_id
PRACTICE	practice_id	ORDER_	practice_id
PERSON	person_id	ORDER_	person_id
PATIENT_ENCOUNTER	enc_id	ORDER_	encounterID
PROVIDER_MSTR	provider_id	ORDER_	orderedByKey
LAB_NOR	order_num	ORDER_	order_module_order_num

STATUS: Ordered (1/3)

FIELD NAME	NOTE	USE
actClass	mandatory	see list of acceptable actClasses below
actCode		always required for any labs, diagnostics, procedures, optional for other orders but recommended when available
actDiagnosis		recommended when available
actDiagnosisCode	mandatory	
actMood	mandatory	see list of acceptable actMoods below
actStatus	mandatory	“ordered”
actSubClass		required for education/instructions and follow-up orders, see list below; optional for others

STATUS: Ordered (2/3)

FIELD NAME	NOTE	USE
actText	*mandatory	These 3 must contain the *same text at the minimum*. actTextDisplay and actTextDispDoc can also contain additional information, such as side, site, etc.
ActTextDisplay	*mandatory	
actTextDispDoc	*mandatory	
documented_by	mandatory	the Current UserName
encounterDate	mandatory	
EncounterID	mandatory	
locationName	recommended	Current Location Name function
ordered	mandatory	Value of “1”

STATUS: Ordered (3/3)

FIELD NAME	NOTE	USE
orderedBy	required unless “historical entry” or “ordered elsewhere”	Current Provider Name
orderByKey	required unless “historical entry” or “ordered elsewhere”	Current Provider ID
orderedDate	required unless “historical entry” or “ordered elsewhere”	Current Date
orderedTime	required unless “historical entry” or “ordered elsewhere”	Current Time
sortOrderDisplay	required unless “historical entry” or “ordered elsewhere”	default is “1” except CARD
supplyQuantity	required unless “historical entry” or “ordered elsewhere”	default is “1”
txt_dept	required unless “historical entry” or “ordered elsewhere”	master_im_.dept

STATUS: Completed (1/4)

FIELD NAME	NOTE	USE
actClass	mandatory	see list of acceptable actClasses
actCode		always required for any labs, diagnostics, procedures, optional for other orders but recommended when available
actDiagnosis		recommended when available
actDiagnosisCode	mandatory	
actMood	mandatory	default “ORD”, “EVN” when actClass = “MPROT”
actStatus	mandatory	“completed”
actSubClass		required for education/instructions and follow-up orders, see list below; optional for others

STATUS: Completed (2/4)

FIELD NAME	NOTE	USE
actText	*mandatory	These 3 must be the *same text at the minimum*. actTextDisplay and actTextDispDoc can also contain additional information, such as side, site, etc.
actTextDisplay	*mandatory	
actTextDispDoc	*mandatory	
completed	mandatory	
completedBy	mandatory	the Current UserName
completedDate	mandatory	
completedDateDocumented	mandatory	
completedReason	recommended	Current Location Name function
completedTime	mandatory	Value of “1”

STATUS: Completed (3/4)

FIELD NAME	NOTE	USE
documented_by	required unless “historical entry” or “ordered elsewhere”	Current Provider Name
encounterDate	required unless “historical entry” or “ordered elsewhere”	Current Provider ID
encounterID	required unless “historical entry” or “ordered elsewhere”	Current Date
locationName	required unless “historical entry” or “ordered elsewhere”	Current Time
ordered	required unless “historical entry” or “ordered elsewhere”	default is “1” except CARD
orderedBy	required unless “historical entry” or “ordered elsewhere”	Current Provider Name
UserID	required unless “historical entry” or “ordered elsewhere”	Current UserID

STATUS: Completed (4/4)

FIELD NAME	NOTE	USE
orderByKey	required unless “historical entry” or “ordered elsewhere”	Current Provider ID
orderedDate	required unless “historical entry” or “ordered elsewhere”	Current Date
orderedTime	required unless “historical entry” or “ordered elsewhere”	Current Time
sortOrderDisplay	required unless “historical entry” or “ordered elsewhere”	default is “1” except CARD
supplyQuantity	required unless “historical entry” or “ordered elsewhere”	default is “1”
txt_dept	required unless “historical entry” or “ordered elsewhere”	master_im_.dept

Valid actClass (1/4)

actClass	ADDITIONAL INFORMATION
"DIAGSTUDY"	All radiology orders or a non-lab order, not otherwise defined by another actClass, that generally has a narrative findings/result. Eg - EKG, colonoscopy, sigmoidoscopy
"DME"	Durable medical equipment, non-disposable items eg - wheel chairs, crutches
"EDU"	Patient Education provided to patient in written form.
"INSTRUCT"	Any instructions/counseling given to the patient unrelated to a test. If instructions about meds then actSubClass = "MEDS"; if about diet then actSubClass = "DIET"; if about exercise then actSubClass = "EXERCISE"; all else actSubClass = "GEN"
"EXAM"	Specific exams that generally are defined by office protocols eg - breast exam, foot exam, etc
"IMM"	Immunizations NO LONGER USED in order_, MUST be done via the Immunization Module.

Valid actClass (2/4)

actClass	ADDITIONAL INFORMATION
"INJ"	Injections given in office
"INSTRUCT"	For Patient Education - If INSTRUCT the actSubClass must be "EDU"
"IVFLUID"	ivfluids given in office
"LAB OFFICE"	Labs performed in office during an encounter
"LAB"	Labs to be performed outside of the current encounter or to an outside vendor
"MED"	In office medications
"MEDSUPPLY"	Medical supplies e.g. - glucose strips, catheters, gauze, bandages…

Valid actClass (3/4)

actClass	ADDITIONAL INFORMATION
"MONITOR"	Use for repeated activity, confined to an encounter / case, by clinical personnel on a patient and requiring ongoing documentation for a medical condition, or during / as a result of a procedure. Example: repeated vital signs, glucose, neuro checks, swelling, etc...
"MPROT"	Monitoring program/Screenings - An officially or unofficially instituted program or screening instrument to track or categorize events or conditions
"OV"	All office visits, follow-up visits to the same location/office
"PAP"	Pap orders
"PATH"	Pathology orders
"PPD"	PPD/tuberculin skin test

Valid actClass (4/4)

actClass	ADDITIONAL INFORMATION
"PROC"	Use for procedures or services performed in the office.
"PT"	Physical therapy orders not referred out
"REFR"	Referral to other physician/practice
"SURG"	Use for procedure(s) to be scheduled and performed / billed elsewhere. (or scheduled and performed / billed in a surgical section in the office i.e. a surgi-center)
"TRANSPORT"	Orders for arrangement of transportation to/from medical facility
"XRAY"	X-ray orders. Can be DIAGSTUDY w/ actSubClass of XRAY

Acceptable Statuses

Acceptable Status	Hierarchical Position
"cancelled"	XX
"completed"	5
"result received"	4
"obtained"	3
"scheduled"	2
"ordered"	1

Orders Module = lab_nor

- All general info on a single order
- Can be many tests under a single order
- Info on entire lab order
  (person_id, ordering provider, order priority, etc.)
- Individual test information stored in **lab_order_tests**

Orders Module = lab_nor

- Individual test information returned by lab (after matched and committed) stored in:
  - **lab_results_obr_p**
  - **lab_results_obr2_p**

- Link from **ORDER_** to **Order Module**

order_.order_module_order_num = lab_nor.order_num

LAB_NOR (1/8)

FIELD NAME	USE	NOTE
ENTERPRISE_ID	The Id of the enterprise that owns this record.	enterprise_id
PRACTICE_ID		practice_id
ENC_ID	Encounter ID. Corresponds to the encounter_id in patient_encounter table.	encounter_id
ORDER_NUM	Internal order number used to link all tables together.	lab_order_id
PERSON_ID		person_id
ORDERING_PROVIDER		provider_id
DATE_RECEIVED		MS-Date Time
SIGN_OFF_DATE		MS-Date Time
SIGN_OFF_PERSON		

LAB_NOR (2/8)

FIELD NAME	USE	NOTE
TEST_LOCATION	ID of the facility that ordered the test. It must be the same code as location_key in the LOCATION table. Rosetta will use this ID code to find lab assigned facility id.	location_id
TEST_STATUS	Used to indicate test order status. The initial status is “Pending”. Upon receiving results, the status can be “Unknown”, “Final”, or “Preliminary”. Lab orders interface will use this field and override “Pending” status with “Sent” after the acknowledgment is received in TCP/IP agent or after lab order was written to a file in the batch agent. If the any of the required fields are missing, the order is rejected. In such cases, the error status is displayed in this field.	
NGN_STATUS	Not used by lab orders. Used by NextGen to mark test status (Assigned, Ordered, and Signed-Off)	
TEST_DESC	Names of the tests that are included with this order	

LAB_NOR (3/8)

NOTE:
Indicator = Values are 'Y' or 'N'

FIELD NAME	USE	NOTE
DELETE_IND		Indicator
SIGNED_OFF		
ORDER_CONTROL	Used to fill in “Order Control” field in the ORC segment. Allowed values: “NW” – New order “CA” – Cancel order “RP” – Replace order “XO” – Change order “HD” – Hold order	
ORDER_PRIORITY	Required when the OBR segment is sent. This is the required component of the “Quantity/Timing” field. Allowed values: “S” = Stat (highest priority) “A” = As soon as possible “R” = Routine “C” = Callback	

LAB_NOR (4/8)

FIELD NAME	USE	NOTE
TIME_ENTERED	Date and time that the order was entered into the NextGen system. HL7 Standard assumes that this is not necessarily the same date and time the order was issued or specimen was collected.	MS-Date Time
SPEC_ACTION_CODE	Required when the OBR segment is sent. Used in the “Specimen Action Code” field. Allowed values: “A” = Add ordered tests to the existing specimen “G” = Generated order/reflex order “L” = Lab to obtain specimen from patient	
BILLING_TYPE	Billing type (payment type) is required by some labs (LabCorp in particular) when sending lab order. Allowed values are as follows: ‘C’ = Client (doctor or medical practice) ‘P’ = Patient ‘T’ = Third party (usually medical insurance) ‘O’ = Other	

LAB_NOR (5/8)

FIELD NAME	USE	NOTE
CLINICAL_INFO	Relevant clinical info field containing suspected diagnosis or other clinical findings.	
CANCEL_REASON	Reason for order cancellation (if applicable).	
UFO_NUM	User Friendly Order number.	System Counters
LAB_ID	Lab for each order was entered	
OLD_ORDER_NUM	No Longer Used	Old Lab Order Number Id
ENC_TIMESTAMP	Admit date/time (PV1 segment) NextGen Specific	MS-Date Time

LAB_NOR (6/8)

FIELD NAME	USE	NOTE
GENERATED_BY	Stores the identity of the module that created lab order. Possible values are: * “EMR” (if order was created by lab module) * “Lab Assign” (if order was generated by Lab Assign) * “Interface” (if order has been generated by lab Results interface from lab results data) * “Imported” (if lab order message from external lab was received by our lab interface) * actual template name (if order was created by a Template)	
PAQ_PROVIDER_ID		PAQ provider_id
REFERRING_PROVIDER_ID	Referring provider from patient_encounter table	provider_id
ORDER_TYPE	Identifies if order is lab, radiology, etc.	

LAB_NOR (7/8)

FIELD NAME	USE	NOTE
GENERAL_COMMENT	General order comment	
ORDER_COMMENT	Order comment	
PATIENT_COMMENT	Patient specific comment for this order	
START_DATE	order start date for recurring order	MS-Date Time
END_DATE	order end date for recurring order	MS-Date Time
RECUR_MODE	Order recurrence mode	
MAX_RECUR	Maximum number of times an order can recur	
RECUR_FREQ	Recurrence frequency	
NG_ORDER_IND	Indicates if NextGen compendium is used to create an order	

LAB_NOR (8/8)

FIELD NAME	USE	NOTE
ABN_SIGNED	Indicates patient's ABN choice	
DOCUMENTS_IND	indicate if order has any documents linked to them	
SIGNOFF_COMMENTS_IND	indicate if order has any sign-off comments	
ORDERED_ELSEWHERE_IND	column to indicate if an order is created by NextGen or outside system	
INTRF_MSG	error message from the interface	
COMPLETED_IND	An indicator that the order was fully completed by a lab	
SCHEDULE_DATE	Schedule date	
PARENT_ORDER_NUM	Column records the parent order number of an order. Altered table is lab_nor	

Procedures

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PATIENT_PROCEDURE

- List of procedures submitted from the **EMR**
- This table is the **EMR** version of the **EPM** charges table
- If a client is licensed for both products, both the **patient_procedure** and the **charges** table are populated
- Field specific information available in **data dictionary**

Procedures Table Relationships

Table	Alias	Relationship	Linked Table	Alias
service_item_mstr	sim	LEFT OUTER JOIN	patient_procedure	pp
patient_encounter	p	JOIN	patient_procedure	pp

FK Information

```
P.enc_id = PP.enc_id

SIM.service_item_id = pp.service_item_id
```

SERVICE_ITEM_MSTR

- This table contains libraries of **customized procedure codes** selected from the **CPT4_CODE_MSTR** table.

- Allows having the same **CPT4** code in different libraries with a different value for the description fields

```
--PATIENT PROCEDURES
SELECT
p.enc_timestamp, p.enc_id, p.enc_timestamp_tz,
p.practice_id, 'Encounter Date:Time',
pp.service_item_desc, pp.service_item_id, pp.units

FROM patient_encounter p
   JOIN patient_procedure pp
      ON pp.enc_id = p.enc_id
   LEFT OUTER JOIN service_item_mstr sim
      ON sim.service_item_id = pp.service_item_id
         AND sim.service_item_lib_id =
             pp.service_item_lib_id
         AND sim.eff_date <='20151015'
         AND sim.exp_date>='20151015'

WHERE
   (pp.delete_ind <> 'Y' OR pp.delete_ind IS NULL)
   AND p.enterprise_id = '00001'
   AND p.person_id = 'FB765CA6-CA0E-4C1E-B697-C801F84E2264'
   AND pp.enc_id = p.enc_id
ORDER BY p.enc_timestamp DESC, p.enc_id DESC
```

Example Query Results

Results | Messages

	enc_timestamp	enc_id	practice_id	service_item_desc	service_item_id	units
1	2015-10-15 11:29:02.000	E204297C-08B1-423E-A8A8-0E9F6D8FEACA	0001	Orthovisc inj per dose	J7324	1.00
2	2015-10-15 11:29:02.000	E204297C-08B1-423E-A8A8-0E9F6D8FEACA	0001	Synvisc or synvisc-one	J7325	1.00
3	2015-10-15 11:29:02.000	E204297C-08B1-423E-A8A8-0E9F6D8FEACA	0001	Injection, therapeutic, carpal tunnel	20526	1.00
4	2014-05-19 16:52:30.000	56CCDE35-B3C6-4CB3-B513-62B813F805C6	0001	Simple repair face/eyelid/nose/lip, 2.5cm	12011	1.00
5	2014-05-19 16:52:30.000	56CCDE35-B3C6-4CB3-B513-62B813F805C6	0001	Excise bgn lsn fce/lid/ear/nse/lip >4.0 cm	11446	1.00
6	2014-05-06 13:37:00.000	F8321BA2-37A7-45EE-A384-A5861786D229	0001	Arterial puncture for blood draw	36600	1.00
7	2014-05-06 13:37:00.000	F8321BA2-37A7-45EE-A384-A5861786D229	0001	Arterial puncture for blood draw	36600	1.00
8	2014-05-06 13:37:00.000	F8321BA2-37A7-45EE-A384-A5861786D229	0001	Comprehensive eye examin, established patient	92014	1.00
9	2014-05-06 13:12:20.000	68C39B92-1476-4F8D-9697-EF34F4BA9AAA	0001	Arterial puncture for blood draw	36600	1.00
10	2014-05-06 13:12:20.000	68C39B92-1476-4F8D-9697-EF34F4BA9AAA	0001	Comprehensive eye examin, established patient	92014	1.00
11	2014-03-31 15:03:47.000	6000AE14-3946-44E9-AFF7-36A608626A2A	0001	Remove FB from extrn eye, cornea	65220	1.00
12	2014-02-18 16:51:43.000	488C46EA-69A0-4692-8246-D8E058D795A7	0001	Immunization admin, 1 vaccine	90471	1.00
13	2014-01-14 18:54:49.000	3B1B284F-0E47-4E77-9C9E-AC7CD26D89BC	0001	Immunization admin, 1 vaccine	90471	1.00
14	2013-10-31 23:38:00.000	712CDAA3-3358-45F3-BCBF-CE6E258F194B	0001	Aspirate/inject bone cyst treatment	20615	1.00
15	2013-10-31 23:38:00.000	712CDAA3-3358-45F3-BCBF-CE6E258F194B	0001	Incision & drainage abscess, simple/single	10060	1.00
16	2007-11-05 00:00:00.000	5DFB752D-0438-4A99-84F7-E12812F33ACC	0001	Office outpatient visit, est, exp prob	99213	1.00
17	2007-08-24 00:00:00.000	22768A18-03AF-4519-9DE7-950A71A00C21	0001	Office outpatient visit, est, exp prob	99213	1.00

Immunizations

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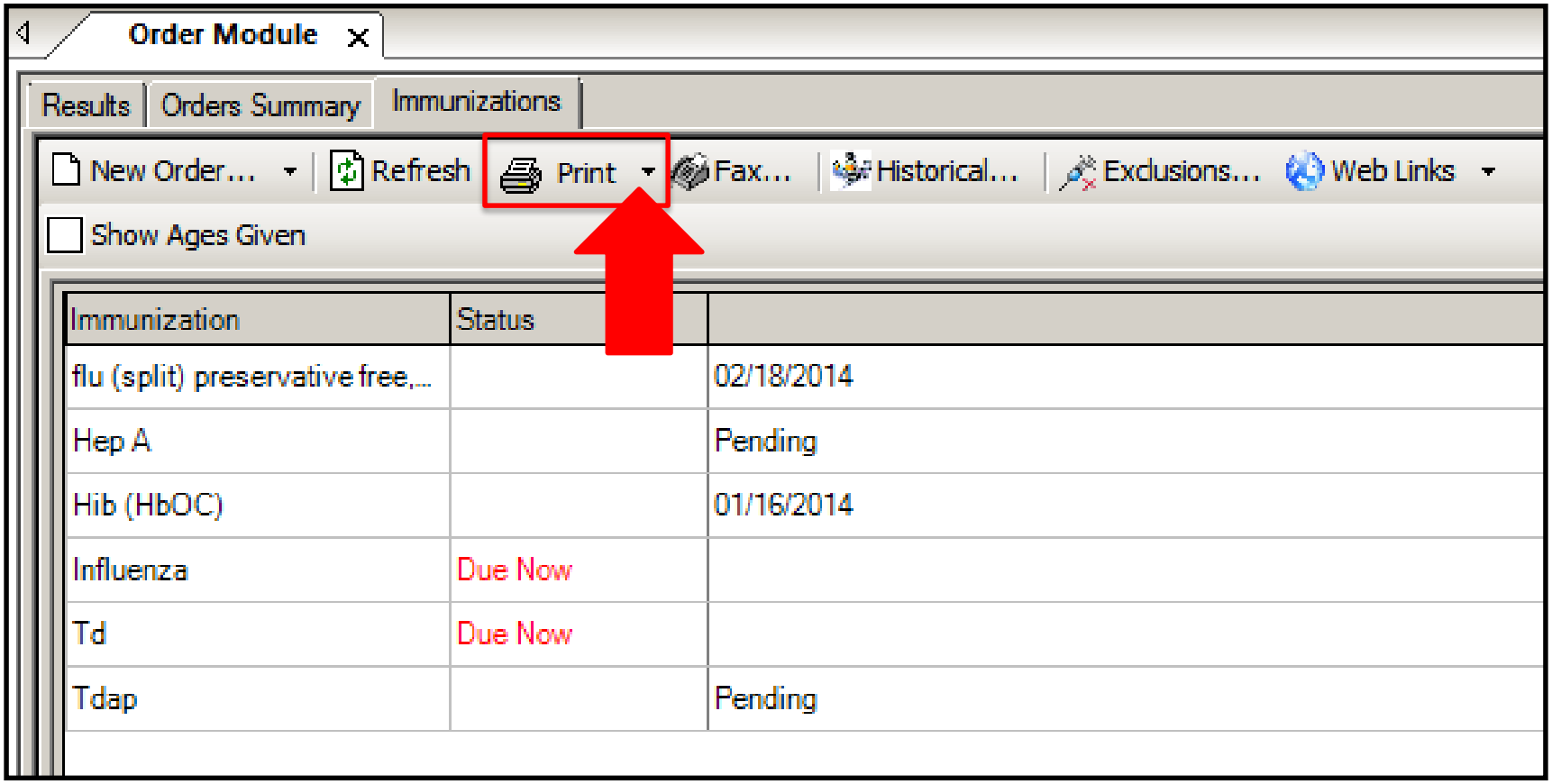
Order Module: Immunizations Tab



Vaccinesummary.rpt

Patient: FatherTest
Date of Birth: 01/01/1965
Date: 10/15/2015

Immunization Allergies

Allergy	Status
Egg Allergy	No
Neomycin Allergy	No
Latex Allergy	No
Gelatin Allergy	No

Immunizations:

Vaccine Group	Dose	Vaccine Status	Date Administered	Vaccine Name	Vaccine Brand
HIB	1	Completed	01/16/2014	Hib(HbOC)	
Influenza	1	Completed	02/18/2014	flu(split) preservative free, 3yrs or older	

Completed Vaccine Series:

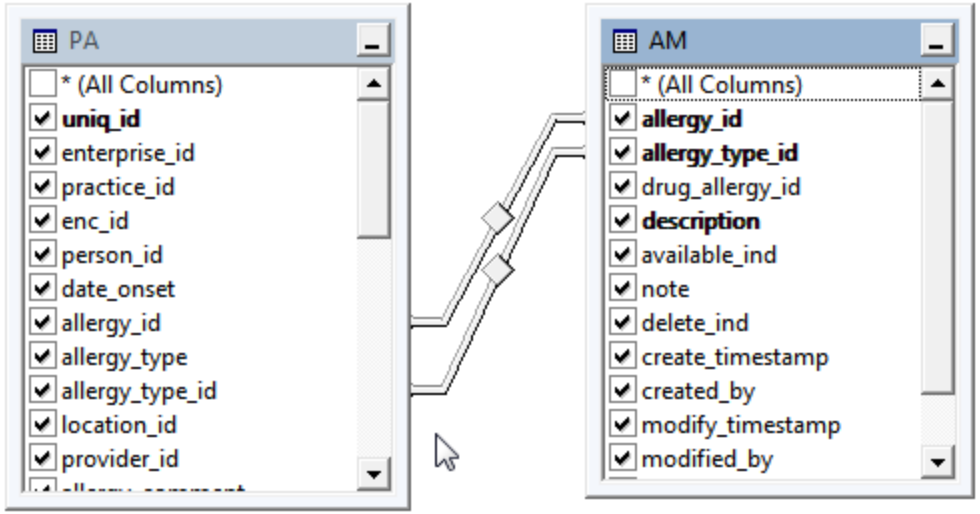
Vaccine Series	Completed Status	Provider Comment

Excluded Vaccines:

Excluded Vaccine	Start Date	End Date	Reason	Provider Comment

Immunization Allergies

```
PATIENT_ALLERGY PA INNER JOIN ALLERGY_MSTR AM
   ON  pa.allergy_type_id = am.allergy_type_id
   AND pa.allergy_id = am.allergy_id
```

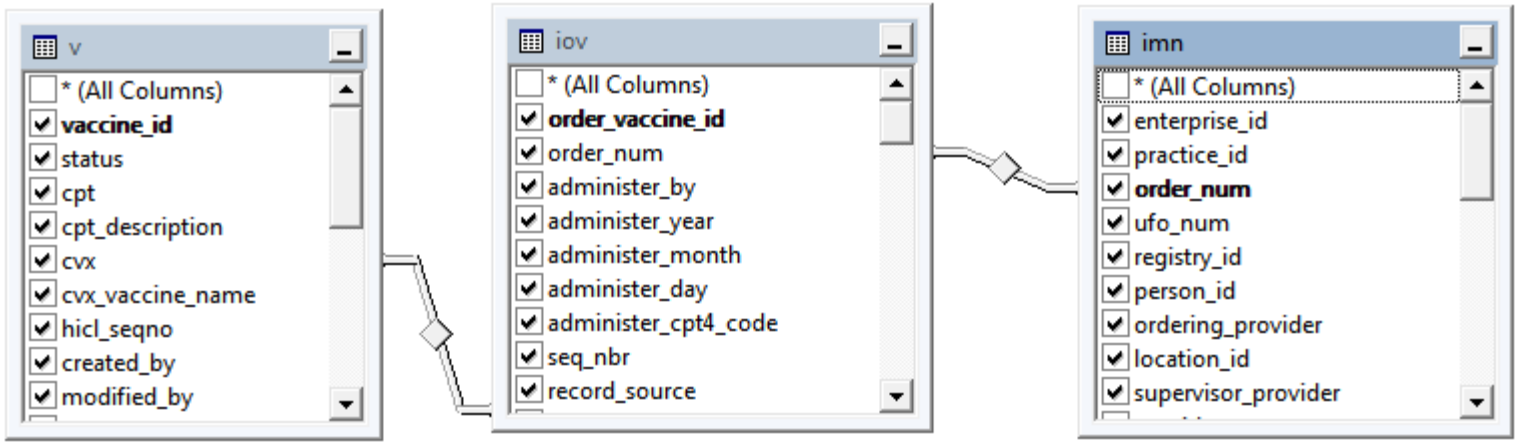


Immunizations

TABLE	USE	FK FIELD	FK TABLE
IMM_NOR	holds immunization orders data	ORDER_NUM	IOV
IMM_ORDER_VACCINES	holds ordered vaccines data	CVX_CODE	V
VACCINES	List of vaccines available for users to create orders with	CVX	IOV

Immunizations

```
   IMM_ORDER_VACCINES iov
INNER JOIN VACCINES v
   ON iov.cvx_code=v.cvx
INNER JOIN IMM_NOR imn
   ON iov.order_num=imn.order_num
```



```
--IMMUNIZATIONS COMPLETED
 SELECT DISTINCT
 v.display_name, v.cvx_vaccine_name, iov.vaccine_status,
 iov.administer_month, iov.administer_day,
 iov.administer_year, iov.vaccine_desc, iov.brand_name,
 imn.person_id, iov.order_vaccine_id, imn.delete_ind,
 iov.error_ind, imn.ngn_status, imn.practice_id,
 imn.enterprise_id

   FROM  imm_order_vaccines iov
      INNER JOIN vaccines v
         ON iov.cvx_code=v.cvx
      INNER JOIN imm_nor imn
         ON iov.order_num=imn.order_num

WHERE  imn.ngn_status<>'Cancelled'
AND iov.error_ind<>'Y'
AND imn.delete_ind='N'
AND imn.person_id='FB765CA6-CA0E-4C1E-B697-C801F84E2264'
AND iov.vaccine_status='Completed'
```

Example Query Results

Results | Messages

	display_name	cvx_vaccine_name	vaccine_status	administer_month	administer_day	administer_year
1	HIB	Haemophilus influenzae type b vaccine, HbOC conj...	Completed	1	16	2014
2	Influenza	influenza virus vaccine, split virus (incl. purified surfa...	Completed	2	18	2014

vaccine_desc	brand_name	delete_ind	error_ind	ngn_status
Hib (HbOC)	NULL	N	N	Completed
flu (split) preservative free, 3 yrs or older	NULL	N	N	Completed

Vaccine Group	Dose	Vaccine Status	Date Administered	Vaccine Name	Vaccine Brand
HIB	1	Completed	01/16/2014	Hib(HbOC)	
Influenza	1	Completed	02/18/2014	flu(split) preservative free, 3yrs or older	

Check-out

- Transactions
- Charges
- Aging reports

Where to Begin?

- Use existing reports in **EPM**
- Use **SQL Profiler**
- Use internal **EPM SQL logging**

EPM Reports

1. **Turn on EPM SQL Logging**
2. **Run** Report
3. **View** SQL log
4. **Review CREATE/INSERT/UPDATE**
5. **Modify** as needed

Charges and Transactions

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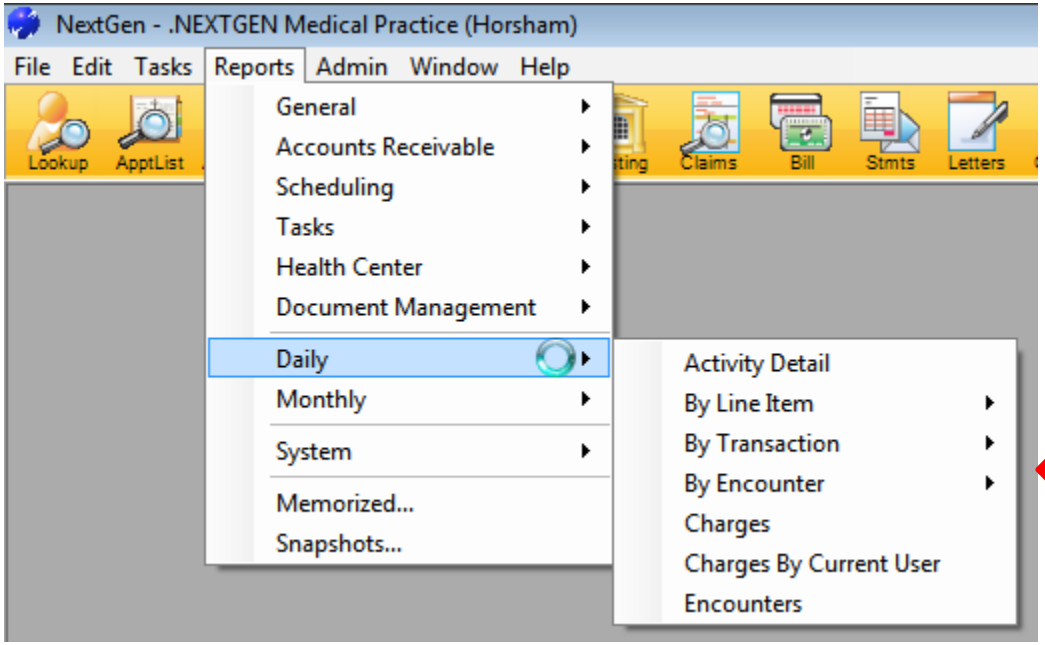
Charges/Transactions

- What is the interval? Daily/Monthly/Yearly
- Which types to include?
- Where to start?

EPM: Running a Report



Select a report

- Select report columns
- Select filter parameters
- Select any other report options

Log File Analysis

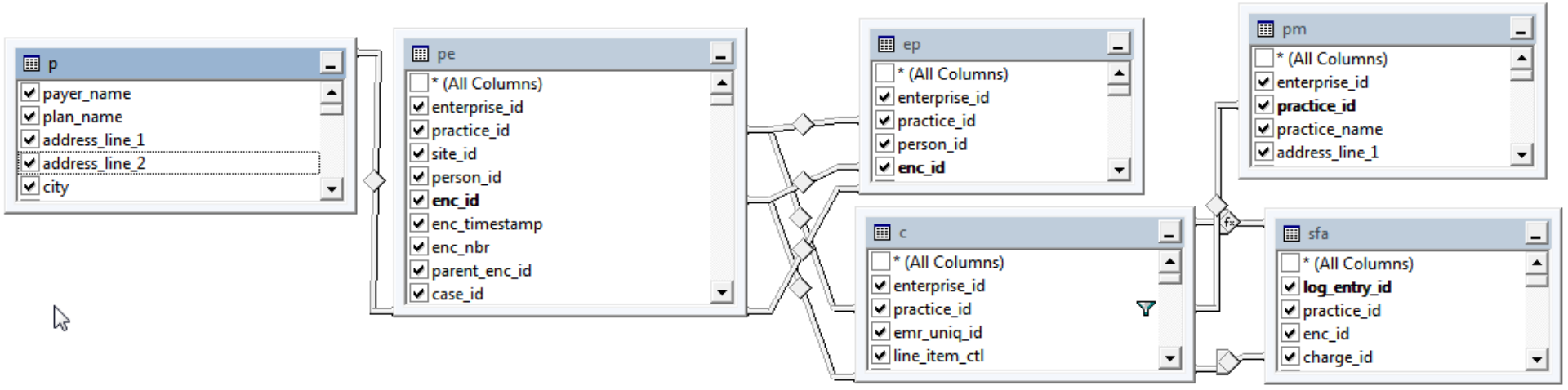
- **Read** the log file
- Parse it out into **CREATE/INSERT/UPDATE** statements
- **Modify** as needed
- Very important to know how to reverse engineer

Log File Analysis

- Involves **breaking** the process down
- Create **TEMP** table to hold final data
- **INSERT** with individual **UPDATE**s along the way

Basic Charge Information

```
charges c LEFT OUTER JOIN sliding_fee_adjustment_log sfa
    ON c.charge_id = sfa.charge_id AND sfa.sliding_fee_action = 'O',
        patient_encounter pe,
        payer_mstr p,
        practice pm,
        encounter_payer ep
```



SQL Example Breakdown: Charges

```
    charges c LEFT OUTER JOIN sliding_fee_adjustment_log sfa
ON c.charge_id = sfa.charge_id AND sfa.sliding_fee_action = 'O',
    patient_encounter pe,
    payer_mstr p,
    practice pm,
    encounter_payer ep

WHERE c.practice_id = pm.practice_id
    AND pe.cob1_payer_id = p.payer_id
    AND pe.practice_id = c.practice_id
    AND pe.enc_id = c.source_id A
    AND c.source_type = 'V'
    AND pe.practice_id = ep.practice_id
    AND pe.enc_id = ep.enc_id
    AND pe.cob1_person_payer_id = ep.person_payer_id
    AND c.create_timestamp >= '20100101'
    AND c.create_timestamp < '20101020'
    AND c.source_type in ('V','I')
    AND c.practice_id = '0001'
```

Charges: Additional Table Relationships

TABLE	USE	FK
charges	There can only be one charge record per procedure	charge_id
patient_encounter	Encounter information	pe.enc_id = c.source_id
payer_mstr	Payer information	pe.cob1_payer_id = p.payer_id
practice	Practice info	practice_id
encounter_payer	Insurance information	pe.cob1_person_payer_id
person/patient	Person/patient information	person_id
invoices	Invoice information	i.invoice_id = c.source_id
accounts	Practice billing accounts for every person that is a guarantor	i.invoice_id = a.acct_id
person_payer	Payers associates with each person	person_payer_id

Charges: Additional Table Relationships

TABLE	USE	FK
mstr_lists	Xref for financial class	pm.financial_classmstr_list_item_id
provider_mstr	Provider Information	pe.rendering_provider_id = prm.provider_id
user_mstr	Users of NG information	pe.created_by = um.user_id
service_item_mstr	Library of customized procedure codes selected from cpt4_code_mstr	c.ervice_item_id = sim.service_id
patient_status	The category that a patient belongs to. Each practice can assign a patient to a different category.	ps.person_id = pe.person_id
location_mstr	Location information	pe.location_id = lm.location_id
marketing_mstr	Marketing plan information	pe.mrkt_plan_id = mm.plan_id
sliding_fee_adjustment_log	Sliding fee information by enc_id	c.charge_id = sfa.charge_id
diagnosis_code_mstr	Library of customized diagnosis codes from ICD9CM_CODE_MSTR	c.icd9cm_code_id = dcm.diagnosis_code_id

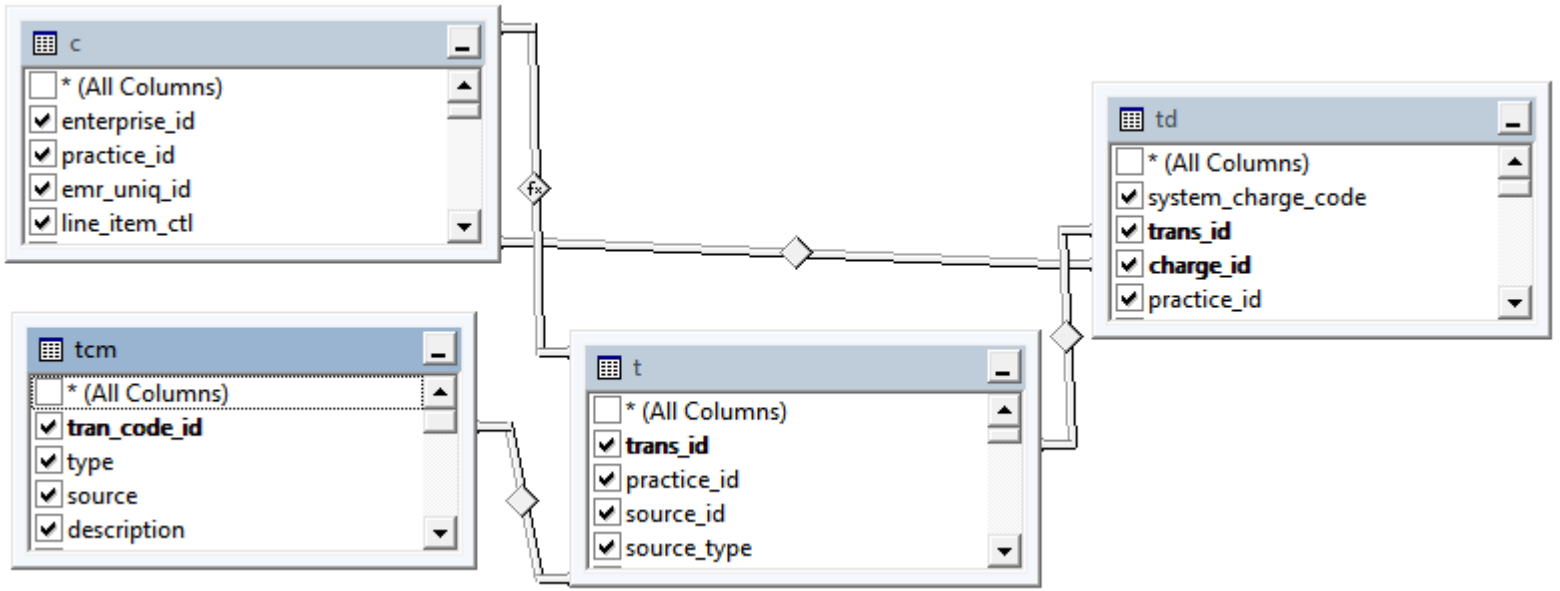
Charges: Additional Table Relationships

TABLE	USE	FK
cpt4_code_mstr	Medical Procedure Codes	c.cpt4_code_id = cpt.cpt4_code_id
employer_mstr	External Employer information	a.guar_id = emp.employer_id
practice_misc	Misc. practice information	pe.practice_id = pm.practice_id
icd_xref_mstr	ICD code and category xref	dcm.diagnosis_code_id = x.diagnosis_code_id
icd_category_mstr	ICD categories	icd.icd_category_id = x.icd_category_id
icd9cm_code_mstr	ICD9 code master	icd.icd9cm_code_id = dcm.icd9cm_code_id

- Main tables gather information
- Other tables gather ancillary xref information

Basic Transaction Information

```
    charges c
JOIN trans_detail td
    ON td.charge_id = c.charge_id
JOIN transactions t
    ON td.trans_id = t.trans_id
    AND t.payer_id IS NULL
JOIN tran_code_mstr tcm
    ON tcm.tran_code_id = t.tran_code_id
```



Transactions: Add't Table Relationships

TABLE	USE	FK
transactions	Total payment received from patient/payer. Payments in EPM. Drives financial reports	Primary table
trans_detail	How a payment is spread to each charge, Ledger portion of EPM	td.trans_id = t.trans_id
charges	There can only be one charge record per procedure	td.charge_id = c.charge_id
patient_encounter	Encounter information	pe.enc_id = c.source_id
payer_mstr	Payer information	pe.cob1_payer_id = p.payer_id
practice	Practice info	practice_id
tran_code_mstr	List of all transaction codes	t.tran_code_id = tr.tran_code_id
person/patient	Person/patient information	person_id
code_tables	Holds system and user defined values for all code tables in the system	t.type = ct.code

Transactions: Add't Table Relationships

TABLE	USE	FK
employer_mstr	External Employer information	a.guar_id = emp.employer_id
invoices	Invoice information	i.invoice_id = t.source_id
location_mstr	Location information	pe.location_id = lm.location_id
provider_mstr	Provider Information	pe.rendering_provider_id = prm.provider_id
service_item_mstr	Library of customized procedure codes selected from cpt4_code_mstr	c.service_item_lib_id = sim.service_item_lib_id
accounts	Practice billing accounts for every person that is a guarantor	a.guar_id = p.person_id
employer_mstr	External Employer information	a.guar_id = emp.employer_id
person_ud	Person data stored for the practice user-defined fields	pe.person_id = pud.person_id

Example Query Results

Transactions

Account	Charge Date	Transaction Date	Payments	Journal Code	Payment Type	type	source
000000000001	10/08/2009	10/10/2009	85.00	99214	CHC Medicare Encounter Rate Adjustment	Adjustment	3rd Party
000000000002	10/11/2009	10/11/2009	105.00	99214	CHC Medicaid Encounter Rate Adjustment	Adjustment	3rd Party
000000000002	10/11/2009	10/11/2009	30.00	80048	CHC Medicaid Encounter Rate Adjustment	Adjustment	3rd Party
000000000003	10/11/2009	10/11/2009	85.00	99214	CHC Medicare Encounter Rate Adjustment	Adjustment	3rd Party
000000000004	10/11/2009	10/11/2009	105.00	99214	CHC Medicaid Encounter Rate Adjustment	Adjustment	3rd Party
000000000004	10/11/2009	10/11/2009	30.00	80048	CHC Medicaid Encounter Rate Adjustment	Adjustment	3rd Party
NULL	NULL	04/30/2010	7.50	80048	Sliding Fee Payment	Payment	Patient
000000000005	NULL	10/11/2009	22.50	80048	Sliding Fee Adjustment	Adjustment	Patient

Charges

patient_refund_amt	source_nbr	visit unapplied	invoice unapplied	account unapplied	trans description
NULL	428	-20.00	NULL	NULL	Patient Payment Credit Card
NULL	428	20.00	NULL	NULL	ZApplied Encounter/Invoice Debit
NULL	461	-25.00	NULL	NULL	Copay Cash
NULL	461	25.00	NULL	NULL	ZApplied Encounter/Invoice Debit
NULL	117	-20.00	NULL	NULL	Copay Cash
NULL	117	20.00	NULL	NULL	ZApplied Encounter/Invoice Debit
NULL	402	-10.00	NULL	NULL	Patient Payment Cash
NULL	402	10.00	NULL	NULL	ZTransfer Credit To Account

Aging Report

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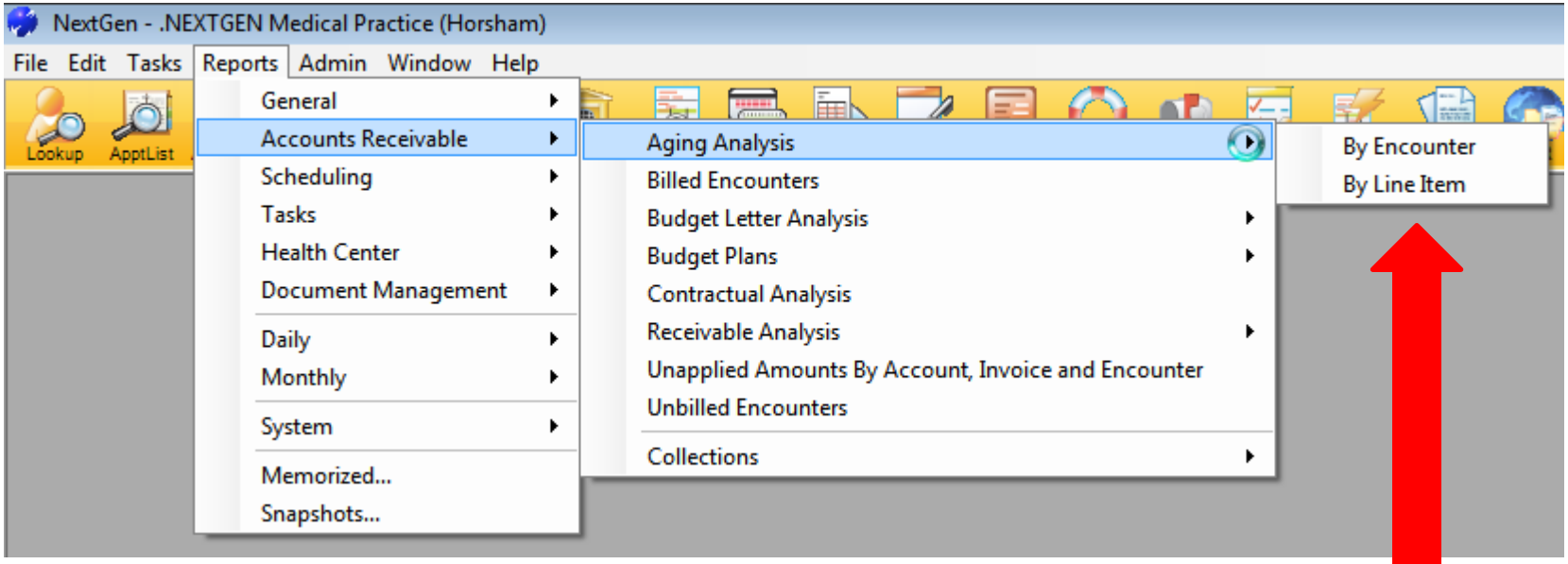
EPM: Running a Report



- Select report columns
- Select filter parameters
- Select any other report options

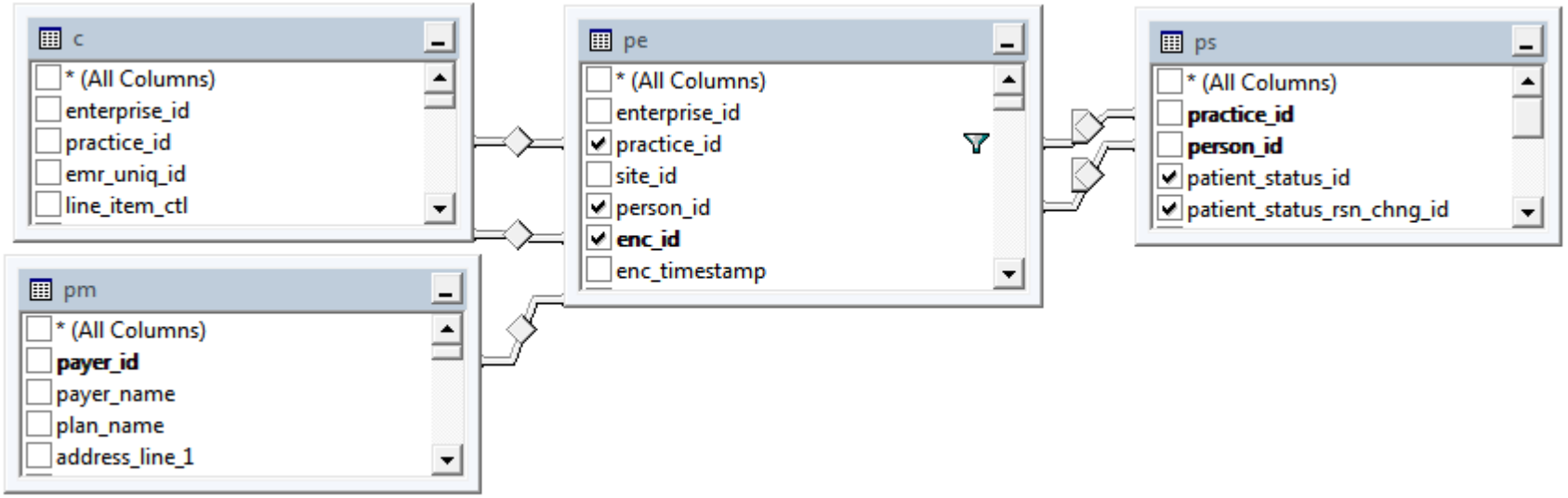
Select a report

Log File Analysis

- **Read** the log file
- Parse it out into **CREATE/INSERT/UPDATE** statements
- **Modify** as needed

Basic Aging Information

```
charges c,
patient_encounter pe left outer join
patient_status ps
ON (pe.practice_id = ps.practice_id and pe.person_id = ps.person_id),
payer_mstr pm (nolock)
WHERE (pe.practice_id = c.practice_id
AND pe.enc_id = c.source_id)
AND c.source_type = 'V'
AND pe.cob1_payer_id = pm.payer_id
AND ( ( ISNULL(closing_date, '') = '')  or closing_date <=  '20151019' )
AND pe.enc_status in ('B','R','U')
AND pe.practice_id = '0001'
```



Aging: Add't Table Relationships

TABLE	USE	FK
charges	There can only be one charge record per procedure	td.charge_id = c.charge_id
patient_encounter	Encounter information	pe.enc_id = c.source_id
patient_status	The category that a patient belongs to. Each practice can assign a patient to a different category.	ps.person_id = pe.person_id
payer_mstr	Payer information	pe.cob1_payer_id = p.payer_id
invoices	Invoice information	i.invoice_id = t.source_id
accounts	Practice billing accounts for every person that is a guarantor	a.guar_id = p.person_id
trans_detail	How a payment is spread to each charge, Ledger portion of EPM	td.trans_id = t.trans_id
transactions	Total payment received from patient/payer. Payments in EPM. Drives financial reports	Primary table

Aging: Add't Table Relationships

TABLE	USE	FK
person/patient	Person/patient information	person_id
employer_mstr	External Employer information	a.guar_id = emp.employer_id
payer_mstr	Payer information	pe.cob1_payer_id = p.payer_id
Practice	Practice info	practice_id
location_mstr	Location information	pe.location_id = lm.location_id
provider_mstr	Provider Information	pe.rendering_provider_id = prm.provider_id

- Main tables gather information
- Other tables gather ancillary xref information

Example Query Results

Account aging by closing date

Results | Messages

	patient	Acct	Classification	current	31-60	61-90	91-120	120+	AcctBal	PatBal	UPay
1	Acct: Baez, William B			-40.00	0.00	0.00	0.00	0.00	-40.00	0.00	0.00
2	Acct: Baez, William B			40.00	0.00	0.00	0.00	0.00	40.00	0.00	0.00
3	Acct: Beechy, Trudy			-200.00	0.00	0.00	0.00	0.00	-200.00	0.00	0.00
4	Acct: Beechy, Trudy			200.00	0.00	0.00	0.00	0.00	200.00	0.00	0.00
5	Acct: Martin, Martha (Lab)			-20.00	0.00	0.00	0.00	0.00	-20.00	0.00	0.00
6	Acct: Test, Mother			-10.00	0.00	0.00	0.00	0.00	-10.00	0.00	0.00
7	Intel			0.00	0.00	0.00	0.00	100.00	100.00	100.00	0.00
8	Perry Medic Law Offices			0.00	0.00	0.00	0.00	50.00	50.00	50.00	0.00
9	Perry Medic Law Offices			0.00	0.00	0.00	0.00	50.00	50.00	50.00	0.00
10	Medical Records			0.00	0.00	0.00	0.00	20.00	20.00	20.00	0.00
11	NEXTGEN Healthcare Information Systems			0.00	0.00	0.00	0.00	40.00	40.00	40.00	0.00

Getting the Results to a User

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Now what do You do?

- Discussed basics of SQL query:
  - Construction
  - Relationships
  - Structures
  - Keys
  - Examples

- What do **You** do with all of those **SELECT** statements?

Reporting Tools (common options)

- SQL Server Reporting Services (SSRS)
- Crystal Reports (getting phased out)
- Microsoft Excel (for data manipulation)
- Other ODBC compatible report making tools

- All queries should be **READ-ONLY**

- **NEVER (OK for temp tables):**
  - **INSERT**
  - **UPDATE**
  - **DELETE**

- Write and test queries against **NON-PRODUCTION** environments

Additional Training Opportunities

SEMINAR: KBM Database Essentials – 3 Day

- Proper development cycle methodologies
- Development considerations
- KBM Framework and Architecture review and analysis
- Performance tuning and logging
- Data Mapping
- Hands-on Development Cycle via a Virtual Machine (KBM Data Dictionary)

More Information Available: www.NCSLive.com/TT

KBM Database Essentials

Training Schedule 2016

Location	Dates
Atlanta	March 8-10
Horsham	May 17-19
TBD	September TBD

More information and registration:

https://knowledge.nextgen.com/pe/action/km/viewelement?id=10209302

Additional Training Opportunities

SEMINAR: NextGen Database Reporting Essentials – 3 Day

- Identify table relationships
- Identify and break down important data sets (demographics, clinicals, financials)
- Break down common clinical data frameworks within modules
- Dissect EPM report SQL tracing and other methods
- Hands-on report creation project using SSRS

More Information Available: www.NCSLive.com/TT

NextGen Database Reporting Essentials

Training Schedule 2016

Location	Dates
Horsham	February 2-4
Horsham	July TBD

More information and registration:

https://knowledge.nextgen.com/pe/action/km/viewelement?id=10361755

Additional Training Opportunities

- 1-on-1 sessions available for **CUSTOM** queries/training
- Provided as a “learning to fish” experience
- Any topic within EPM/EHR/KBM
- Billable service

More Info: **www.NCSLive.com/TT**

1. TOP Clause
2. Subqueries
3. Correlated subqueries
4. Views
5. Temp Tables
6. CASE and IF
7. Controlling Flow
8. Coding Shortcuts
9. Dynamic T-SQL

FOR MORE INFORMATION:
http://www.sqlservercentral.com/stairway/104497/

Session Agenda

- YES! …gh level concepts needed to u…stand t… **basics** of identifying **data elem…** and **data sets**
- YES! …thods for uncov… …g… …h… **QL code** … create **custom r…port** log…
- YES! …derstan…ng the inner w…ings of how to **audit template wo…fl…** and **usage activity**

Session Survey

Please take a moment to complete a brief survey regarding this session.

1. Open your ONE UGM Mobile App (please note: you must have already logged in and accepted the “Terms of Use” to access this feature)
2. Click the **Navigation Button** at the top left of the screen
3. Select “**Sessions**”
4. **Search** for **Introduction to NextGen Database Reporting**
5. From the sessions details screen, select “**Survey**” at the bottom right of the screen
6. Remember to hit “**Save**” at the bottom of the survey once you have answered the questions

Any Questions?

jvasquez@nextgen.com

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