

OSCARCON 2024

Reimagining OSCAR EMR in a Shifting Landscape

June 1 2024

SFU Burnaby, BC

Getting to know your EMR Database.

Earl Wertheimer



www.oscarbc.ca



info@oscarbc.ca



[@OSCARBCemr](https://twitter.com/OSCARBCemr)



[/OSCARBCcommunity](https://www.facebook.com/OSCARBCcommunity)



[@oscarbc-connectingcare.cre2517](https://www.youtube.com/channel/UCoscarbc-connectingcare.cre2517)

Basic principles:

- All data (99.9%) is stored in a MySQL Database.
- If it's in MySQL, it can be queried.
- Query results can be exported out of Oscar and into other tools like Excel, MailChimp for further handling.

MySQL is a 'Relational Database'. There are MANY tables ;-)

- The general rule: No duplication of data. Patient address is in a single place, not duplicated in every appointment record.
- Each table has data related to a specific area.
- Sometimes a specific area (eg. demographic) can have multiple tables.
Eg. demographic, demographicExt, demographiccust
- **Warning: The tables and fields were named by programmers over many decades.**
demographic_no vs demographicNo, provider_no vs providerNo

Getting to your data

- Reports. Predefined reports that are not possible to edit.

- Query By Example
Admin, Reports, Query By Example
Ad Hoc SQL commands
READ ONLY

- Report By Template.
Admin, Reports, Report By Template
SQL scripts with user-fillable parameters.
eg. From / To Dates, For a specific (or all) Provider(s), For a specific medication,
For a specific Disease
READ ONLY

Why reinvent the wheel?

- Resources are available online on OscarGalaxy.org
<https://oscargalaxy.org/downloads/report-by-template-rbt/>

- Oscar Mailing Lists
<https://oscargalaxy.org/knowledge-base/oscar-mailing-lists/Lists>

bc-moa	Very quiet
bc-users	Main pan-Canada User List
advanced-users	Advanced user questions
devel	Developers. Bugs.

- Facebook Oscar Ontario
<https://www.facebook.com/groups/oscarontario/>

Tips:

Start simple. Make copies of every step.

Know where to start from? Driving analogy.

Limit responses whenever possible.

Table names ARE Case Sensitive.

SQL Commands are NOT case sensitive.

● Warnings:

If you ignore the tips, you can easily write a query that will bog down the server ;-(
Errors will show nothing ;-(

● Assumptions:

You have no access to the 'back-end' of the server.
Everything can be done by any user with 'Admin' rights.

Where's Waldo? / Breaking the Ice

Query By Template

Basic SQL Commands

```
SHOW TABLES ;
```

```
DESCRIBE <table> ;
```

Useful to find the Unique ID. (eg. Demographic_no, Provider_no, Document_no)
or a specific field. (eg. email, address, hin...)

```
SELECT COUNT(*) FROM <table> ;
```

```
SELECT * FROM <table> LIMIT 20 ;
```

Example

```
DESC demographic ;
```

```
SELECT count(*) FROM demographic ;
```

```
SELECT * FROM demographic LIMIT 20 ;
```

```
SELECT email FROM demographic LIMIT 20 ;
```

```
SELECT title, first_name, last_name, email, demographic_no FROM demographic LIMIT 20 ;
```

Adding criteria

- Patients (table = demographic) that belong to no provider.

```
SELECT provider_no, title, first_name, last_name, email, demographic_no FROM  
demographic LIMIT 20 ;
```

```
SELECT provider_no, title, first_name, last_name, email, demographic_no  
FROM demographic  
WHERE provider_no = " LIMIT 20 ; ( 2 apostrophes)
```

- Patients (table = demographic) that belong to a specific provider.

Need to find provider_no from Oscar Provider screen. (eg. 999998)

```
SELECT provider_no, title, first_name, last_name, email, demographic_no  
FROM demographic  
WHERE provider_no = 999998 LIMIT 20 ;
```


Joining Related tables (and using Aliases)

Patient to Provider because a provider_no is not user friendly.

```
SELECT * FROM provider ; ( I know there are very few providers...)
```

So the unique ID is provider_no in both the provider & demographic tables

```
SELECT  dem.provider_no,  dem.title,  dem.first_name,  dem.last_name,  dem.email,  
dem.demographic_no  
FROM demographic dem LIMIT 20 ;
```

```
SELECT  dem.provider_no,  pro.last_name,  dem.title,  dem.first_name,  dem.last_name,  
dem.email, dem.demographic_no  
FROM demographic dem, provider pro  
WHERE dem.provider_no = pro.provider_no  LIMIT 20 ;
```

```
SELECT  dem.provider_no,  pro.last_name,  dem.title,  dem.first_name,  dem.last_name,  
dem.email, dem.demographic_no  
FROM demographic dem  
LEFT JOIN provider pro ON dem.provider_no = pro.provider_no  
LIMIT 20 ;
```

Exporting data from Oscar

- Query By Example results can be exported in some forks.
If no export, use mouse to select block then Copy, Paste or use Generic Query RbT.

- Report By Template always allow saving results as .CSV or .XLS
CSV Comma Seperated Values
XLS Excel Spreadsheet Format (old)

- Generic Query Wrapper (RbT)
<report title="Generic Query Wrapper" description="Generic Query Wrapper for Ad-Hoc SQL queries" active="1">
<!-- put SQL command between 'query' and '/query' tags, below -->
 <query>
 select * from demographic LIMIT 20 ;
 </query>
</report>

Importing data into Oscar

- If you don't have access to the server, you can only use the existing tools allowed by Oscar.
- Admin, Data Management, Import New Demographic.
Data format depends on the version of Oscar. CDS, EMR DM 5.0
Mandatory for Ontario EMR certification
<https://www.ontariomd.ca/emr-certification/emr-certification>

Plan B: Reformat your data to 'look like' the CDS XML format.

"The great thing about standards, is that there are so many to pick from". paraphrased
from Hopper or Tanenbaum 1981
- If you do have access, a good introduction is this page on oscargalaxy.org
https://oscargalaxy.org/knowledge-base/database-migration/#articleTOC_7

Special Conference Discount!

If you have a query you want to use and have not found it, write an email to the advanced-users mailing list.

or

If you want to modify an existing query, submit your requirement to the advanced-users mailing list.

Thanks to OscarBC for making this conference possible

and to David Chan for putting Oscar into the public domain.



Questions?



Thank You to Our Generous Sponsors



CONTACT US



www.oscarbc.ca



info@oscarbc.ca



[@OSCARBCemr](https://twitter.com/OSCARBCemr)



[/OSCARBCcommunity](https://www.facebook.com/OSCARBCcommunity)



[@oscarbc-connectingcare.cre2517](https://www.youtube.com/channel/UCoscarbc-connectingcare.cre2517)