

# Importance of registries and databases in clinical practice and research

## *McGill Maxillofacial Oncology Registry*

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McGill University Health Centre



# Paradigm Shift in Health Care Delivery



Rising Costs

Budgetary  
Constraints

Aging  
Population and  
chronic  
diseases

Reduction of  
Available  
Resources

Rising Costs

Budgetary  
Constraints

Aging  
Population and  
chronic  
diseases

Reduction of  
Available  
Resources

# Academic/Hospital Dentistry

Rising Costs

Budgetary  
Constraints

Aging  
Population and  
chronic  
diseases

Reduction of  
Available  
Resources

# Academic/Hospital Dentistry

Education

Quality Care

Quality  
Assurance

Scientific  
Contribution





**McGill**  
Maxillofacial Oncology and  
Reconstructive Surgery

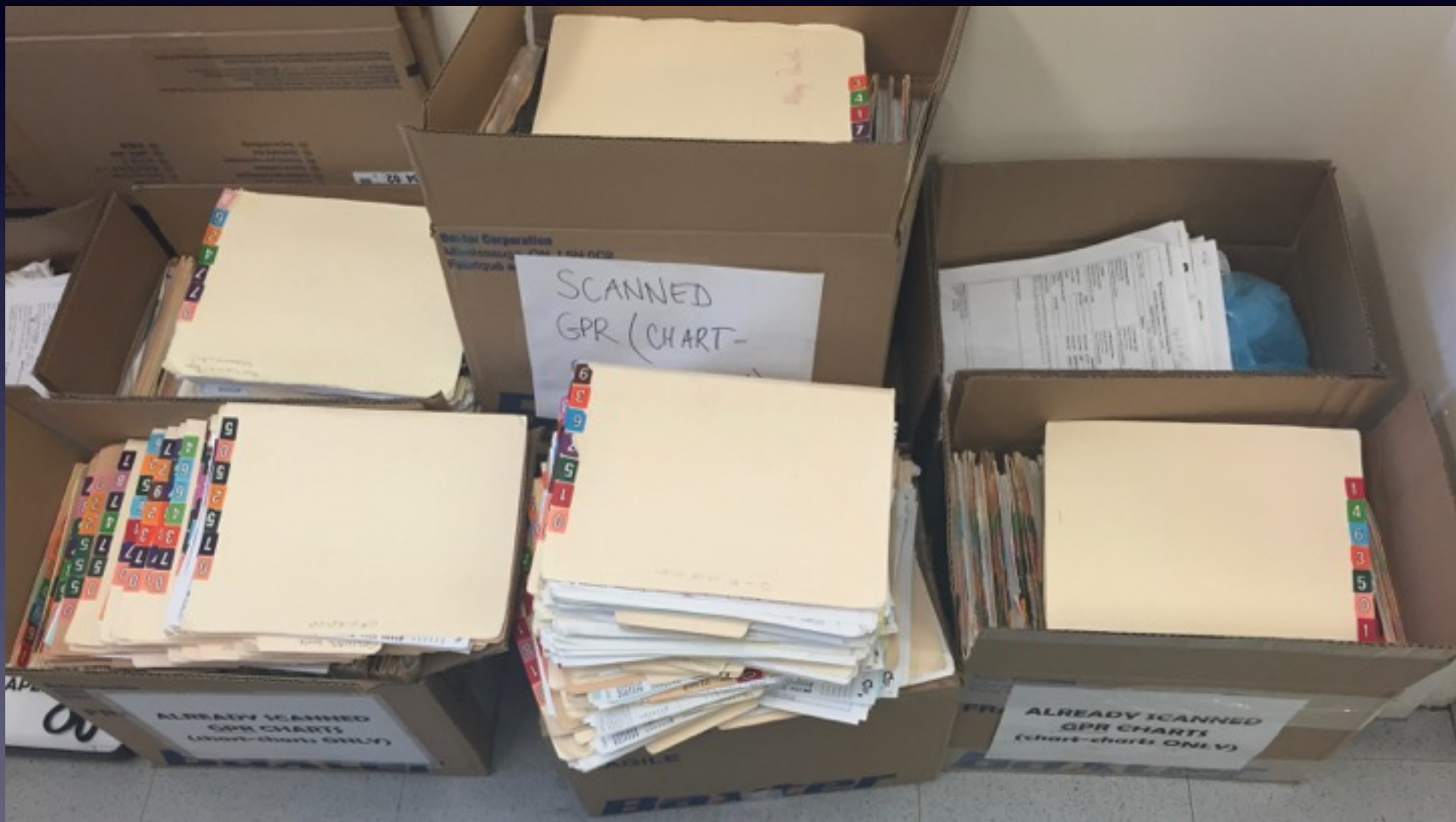
# McGill Maxillofacial Oncology Registry

- Purpose:
  - *To create a standardized high quality hospital based cancer registry for all patients with oral and maxillofacial cancers treated in our department.*

Quality  
Assurance

Scientific  
Contribution

# Data!!!!!!





Patient Data

# 1. Data collection and Sorting



Patient Data

# 1. Data collection and Sorting





Patient Data



High Quality  
Standardized  
Data

1. Data collection and Sorting

2. Standardized prospective and retrospective data entry

```
graph TD; A[Patient Data] --> B{High Quality Standardized Data}; B --> C[Data Registry];
```

Patient Data

High Quality  
Standardized  
Data

Data Registry

1. Data collection and Sorting
2. Standardized prospective and retrospective data entry
3. Creation of a web-based (HTML) database to collect and store data



```
graph TD; A[Patient Data] --> B{High Quality Standardized Data}; B --> C[Data Registry]; C --> D{{Data Analysis}}
```

Patient Data

High Quality  
Standardized  
Data

Data Registry

Data  
Analysis

1. Data collection and Sorting
2. Standardized prospective and retrospective data entry
3. Creation of a web-based (HTML) database to collect and store data
4. Data entry, validation and statistical analysis

## Patient Data

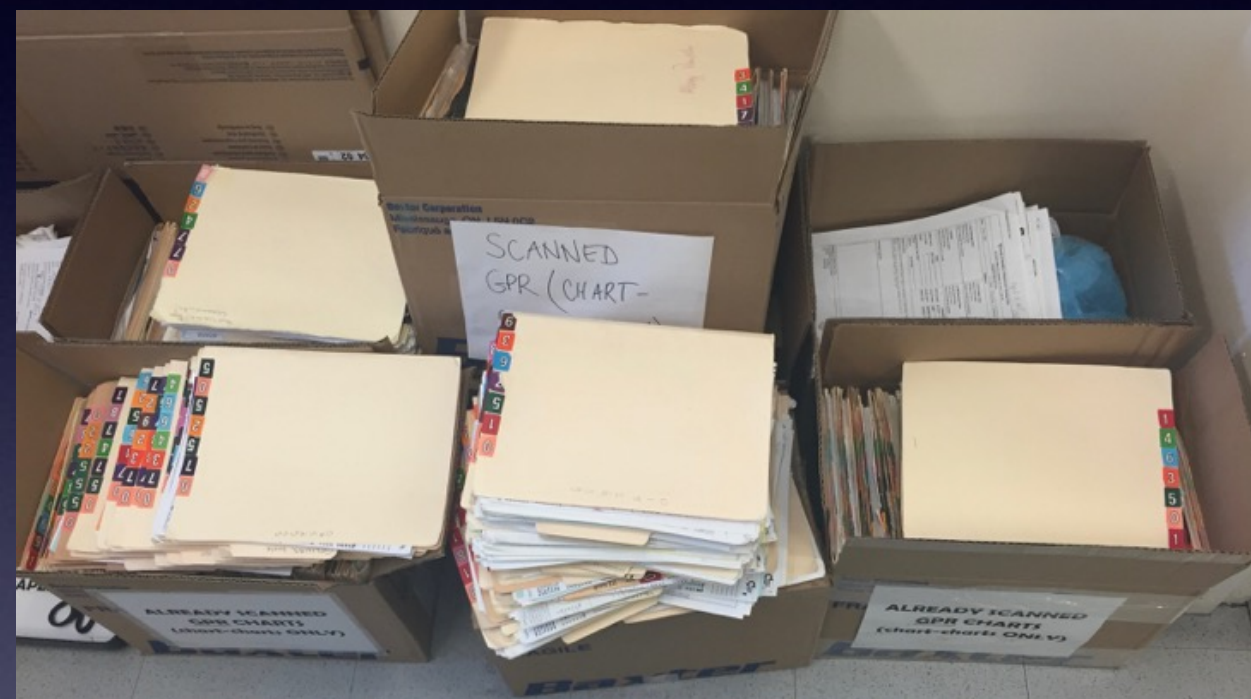
1. Tertiary Care Centre (Major referral Centre)

2. Out-Patient visits: >2000/year

- New Patient Assessment: >250/year
- Patient Follow Ups: >1750/year
- New Cancer Assessment: 50-70/year
- Major Cancer Surgery: 40-60/year
- Major Microvascular Surgery: 40-50/year



# Patient Data



# Patient Data

Nicholas Makhouli Agenda Mail (122) Print Patients Management InVigilance Results Search for a patient

RAMQ

Viewer

Medical questionnaires

Attached files

Forms

Personalized Forms

Notes

Appointments

Billing

Obstetrical

Prescriptions

Results

Labels

Pictures

Treatment Plans

INR

Date: May 10, 2016

Referring professional Dr. Hugues Verreault

**Procedure**

[X] Patient presented for: Extraction of All Third molars

**Preparation**

[X] Consent obtained

[X] Review of Radiographs

[X] Pre-op medication: No

**Procedure**

[X] Procedure performed under: L.A

[X] Local Anesthetic: 2% Lidocaine 1:100K Epinephrine, [X] Number of carpules: 6 - Mx infiltration + B/L IAN + Long Buc

[X] Procedure note:

16, 26: FTMPP raised to expose bone/teeth  
Simple elevator extraction of teeth: 16, 26

36: FTMPP raised with Distal release, Buccal Trough Osteotomy, Elevated and Delivered tooth

46: FTMPP raised with Distal release, Buccal Trough Osteotomy, odontectomy, Elevated and Delivered all tooth fragments.

Curettage, bone file, copious irrigation.  
Closure with 3.0 Gut. Gelfoam in 36.  
Good Hemostasis Achieved

**Post-operative and discharge**

[X] Finding: Non significant - no sinus communication, No IAN exposure

Pt Discharged in good condition - Post op instructions given

[X] Complication/s: None

While administering IAN block, pt was diaphoretic, mild pallor. Placed in Trendelenberg position with cold compress. Vitals Normal: HR: 74, BP: 106/56, Sat 100%. Pt elected to continue procedure

[X] Discharge Stable

Note



MEDESYNC DME

TELUS | SANTÉ

High Quality  
Standardized  
Data

TREATMENT & CLINIC RECORD		STAMP PATIENT'S CARD
<p>4/30/17</p>		<p>370407 F</p>
DATE	COMPLETE TREATMENT DETAILS	
YYYY/MM/DD	Include tooth number, area, anesthetic, medications, materials used, cavity depth, details encountered, & if treatments is completed or in progress Also please include the supervising DDS and resident name	
MAY 15 2015	<p>ID 77 y.o. ♀</p> <p>RFC: Flap failure.</p> <p>HPI: Pt was diagnosed with Cancer 6 years ago. Had surgery resection &amp; PCap. recurrence 4 times.</p> <p>Last surgery was March 9th, 2015.</p> <p>PMH:</p> <p>Med:</p> <p>All: ♂ NKDA.</p> <p>Pst: 4 Surgeries resection.</p> <p>Social: ♂ Smoking, ETOH ♂</p>	



# High Quality Standardized Data

4<sup>th</sup> version



## MGH ORAL AND MAXILLOFACIAL SURGERY MAXILLOFACIAL ONCOLOGY CONSULT FORM

patient's contact #

**Date:** \_\_\_\_\_  
**Age:** \_\_\_\_\_ Sex: ☐ M ☐ F  
**Referral:** ☐ General Dentist: \_\_\_\_\_ ☐ OMFS: \_\_\_\_\_ ☐ Others: \_\_\_\_\_  
**Reason for Referral:** \_\_\_\_\_  
**Patient's complaint and History of present illness:**  
 Date symptoms started/Lesion noticed for first time: \_\_\_\_\_  
 Date of First time patient sought medical consultation: \_\_\_\_\_ Consult done by: \_\_\_\_\_  
 If patient notified about the diagnosis, give date: \_\_\_\_\_  
 Other pertinent history: \_\_\_\_\_

### Constitutional Symptoms:

Loss of Appetite: ☐ No ☐ Yes Change of weight: ☐ No ☐ Yes  
 Nausea/Vomiting: ☐ No ☐ Yes Night Sweats: ☐ No ☐ Yes  
 Other symptoms: ☐ No ☐ Yes:  
 If yes, ☐ Pain ☐ Paresthesia ☐ Dyspnea ☐ Dysphasia ☐ Difficulty chewing  
☐ Other : \_\_\_\_\_

### Medical History:

☐ CVS: \_\_\_\_\_ ☐ Gastro: \_\_\_\_\_  
☐ Respiratory: \_\_\_\_\_ ☐ Neurology: \_\_\_\_\_  
☐ Endocrinology: \_\_\_\_\_ ☐ Other: \_\_\_\_\_

**Medications:** ☐ None ☐ List Attached B-Blocker: ☐ No ☐ Yes

List: \_\_\_\_\_

**Allergies:** ☐ None(NKDA) ☐ Yes: \_\_\_\_\_

**Surgical History:** \_\_\_\_\_

### Social History:

**Smoker:** ☐ No ☐ Yes: Number of years: \_\_\_\_\_ Type: \_\_\_\_\_ Amount(Cig)/day \_\_\_\_\_  
☐ Former smoker: Year of quitting: \_\_\_\_\_ Type: \_\_\_\_\_ Amount(Cig)/day \_\_\_\_\_  
**Alcohol use:** ☐ No ☐ Yes (if yes then): ☐ Social ☐ Habitual(>= 4glasses/day)  
 If Habitual: ☐ Amount/day: \_\_\_\_\_ Type ☐ Beer ☐ Wine ☐ Hard Liquor (select all that apply)  
**Sexual activity:** ☐ Current ☐ Previous ☐ Unknown  
**History of Oral sex:** ☐ No ☐ Yes  
**Marital status:** ☐ Single ☐ Married ☐ Others: \_\_\_\_\_

**Family History of Cancer:** ☐ No ☐ Yes

If yes, details: \_\_\_\_\_

### Clinical Examination:

**General Appearance:** \_\_\_\_\_

**Head:** \_\_\_\_\_

**Neck:** \_\_\_\_\_

**Intraoral (lips, tongue, FOM, pharynx, buccal/alveolar mucosa, dentition, saliva):** \_\_\_\_\_

**Flex scope:** ☐ Not Indicated ☐ Done, findings: \_\_\_\_\_

**Imaging (including panoramic radiographs, periapical radiographs, CT, MRI):** \_\_\_\_\_

**Impression (summary includes age, short description of the lesion, problem):** \_\_\_\_\_

**Differential Diagnosis:** \_\_\_\_\_

### Plan:

☐ Biopsy (incisional, excisional, FNA): \_\_\_\_\_

☐ Biopsy completed, diagnosis: \_\_\_\_\_

☐ Imaging (specify): \_\_\_\_\_

☐ Blood test (specify): \_\_\_\_\_

☐ Medications prescribed

☐ Medical work-up needed

☐ Booking for OR (pre-op sheets, consent)

☐ Other: \_\_\_\_\_

**Resident:** \_\_\_\_\_

**Staff:** \_\_\_\_\_





# High Quality Standardized Data

## 1. Defining a minimum data set

- Investigate available data sets
- Consider the need for specific additions
  - Level 1: General Demographics
  - Level 2: General Health Items
  - Level 3: General Cancer Items
  - Level 4: Specific Cancer Items
  - Level 5: Follow up (Survival)

4<sup>th</sup> version

**McGill**  
 Maxillofacial Oncology and  
 Reconstructive Surgery  
 Chirurgie Oncologique et  
 Reconstruction Maxillo-Faciale

**MGH ORAL AND MAXILLOFACIAL SURGERY  
MAXILLOFACIAL ONCOLOGY CONSULT FORM**

Date: \_\_\_\_\_

Age: \_\_\_\_\_ Sex: ☐ M ☐ F

Referral: ☐ General Dentist; \_\_\_\_\_ ☐ OMFS; \_\_\_\_\_ ☐ Others; \_\_\_\_\_

Reason for Referral: \_\_\_\_\_

**Patient's complaint and History of present illness:**  
 Date symptoms started/Lesion noticed for first time: \_\_\_\_\_  
 Date of First time patient sought medical consultation: \_\_\_\_\_ Consult done by: \_\_\_\_\_  
 If patient notified about the diagnosis, give date: \_\_\_\_\_  
 Other pertinent history: \_\_\_\_\_

**Constitutional Symptoms:**  
 Loss of Appetite: ☐ No ☐ Yes Change of weight: ☐ No ☐ Yes  
 Nausea/Vomiting: ☐ No ☐ Yes Night Sweats: ☐ No ☐ Yes  
 Other symptoms: ☐ No ☐ Yes:  
 If yes, ☐ Pain ☐ Paresthesia ☐ Dyspnea ☐ Dysphasia ☐ Difficulty chewing  
☐ Other : \_\_\_\_\_

**Medical History:**  
☐ CVS: \_\_\_\_\_ ☐ Gastro: \_\_\_\_\_  
☐ Respiratory: \_\_\_\_\_ ☐ Neurology: \_\_\_\_\_  
☐ Endocrinology: \_\_\_\_\_ ☐ Other: \_\_\_\_\_

**Medications:** ☐ None ☐ List Attached B-Blocker: ☐ No ☐ Yes  
 List: \_\_\_\_\_

**Allergies:** ☐ None(NKDA) ☐ Yes: \_\_\_\_\_

**Surgical History:** \_\_\_\_\_

**Social History:**  
 Smoker: ☐ No ☐ Yes: Number of years: \_\_\_\_\_ Type: \_\_\_\_\_ Amount(Cig)/day \_\_\_\_\_  
☐ Former smoker: Year of quitting: \_\_\_\_\_ Type: \_\_\_\_\_ Amount(Cig)/day \_\_\_\_\_  
 Alcohol use: ☐ No ☐ Yes (if yes then): ☐ Social ☐ Habitual(>= 4glasses/day)  
 If Habitual: ☐ Amount/day: \_\_\_\_\_ Type ☐ Beer ☐ Wine ☐ Hard Liquor (select all that apply)  
 Sexual activity: ☐ Current ☐ Previous ☐ Unknown  
 History of Oral sex: ☐ No ☐ Yes  
 Marital status: ☐ Single ☐ Married ☐ Others: \_\_\_\_\_

## Data Registry



- REDCap (Research Electronic Data Capture) is a web-based application used to create forms and manage databases in order to support data capture and surveys for research studies.



## Data Registry

- Authenticated access
- Secure hosting, back ups and maintenance automatic
- Allows multi-site access (Multi-Centred Studies)
- Can share projects with other institutions
- Research teams can input data simultaneously, data can be collected at one site.
- Branching logic is supported



## Data Registry

- Databases or surveys can be built rapidly
- Form creation and data entry are easy in the web interface





<b>Field Type:</b>	Text Box (Short Text)
<b>Field Label</b>	---- Select a Type of Field ----
First Name	Text Box (Short Text)
	Notes Box (Paragraph Text)
	Calculated Field
	Multiple Choice - Radio Buttons (Only One Answer)
	Multiple Choice - Drop-down List (Only One Answer)
	Checkboxes (Check All That Apply)
	Yes - No
	True - False
	Slider / Visual Analog Scale
	File Upload (for users to upload files)
	Descriptive Text (with optional Image/File Attachment)
	Begin New Section (Section Header with Descriptive Text)
	Dynamic Query (SQL)



# Data Registry





Current instrument: **Demographics** [Preview instrument](#)

[Add Field Here](#)

    Variable: study\_id





**Study ID**


[Add Field Here](#)

    Variable: consent





**Has the subject been consented?** ☐ Yes ☐ No [reset value](#)

[Add Field Here](#)

    Variable: date\_consented





**Date Consented**   [Today](#)

[Add Field Here](#)

    Variable: date\_consented\_was

**Days since consented:**  [View equation](#) [Disclaimer](#)


[Add Field Here](#)

    Variable: consent\_form [Branching logic exists]

**Please upload the consent form:** [Upload document](#)

[Add Field Here](#)

# Data Registry



Logged in as **oalghamdi** | [Log out](#)

My Projects

Project Home

Project Setup

Project status: **Production**

Data Collection

Scheduling

Record Status Dashboard

Add / Edit Records

Patient IDID du patient **218**  
[Select other record](#)

Event: **Initial Visit**

Data Collection Instruments:

Patient Registration Details

Referral Tumor Event Details

Surgery And Post Surgery Pathology Details

Radiotherapy Details

Chemotherapy

Applications

Calendar

Data Exports, Reports, and Stats

Data Comparison Tool

Logging

Field Comment Log

File Repository

E-signature and Locking Mgmt

Data Quality

Research Institute of the McGill University Health Centre

Reports

[Edit reports](#)

1) Abstract OMFS research day

2) Non Tis

3) Female Non-smokers Tongue SCCa

4) Brachy

5) tongue depth of invasion

6) Before Changes - Biopsy

Maxillofacial Oncology and Reconstruction Registry

[VIDEO: Basic data entry](#)

Actions: [Download PDF of instrument\(s\)](#)

Patient Registration Details

Adding new Patient IDID du patient **218**

Event Name: **Initial Visit**

Patient ID  
ID du patient

218

Capture Type  
Type de collecte

☒ Prospective

☐ Retrospective

\* must provide value

reset

DEMOGRAPHICS

Date of birth  
Date de naissance

31

Today

D-M-Y

\* must provide value

DD-MM-YYYY

Gender  
Sexe

☐ Male

☐ Female

\* must provide value

reset

Marital status at diagnosis  
Statut marital au diagnostic

☐ Single / Divorced / Separated / Widowed

☐ Married / Re-married / Common law

☐ Unknown / Not Reported

\* must provide value

reset

Race (Check all that apply)  
Race (plusieurs reponses possibles)

☐ White

☐ Black or African American

☐ Asian

☐ Other, Specify

☐ Unknown / Not Reported

\* must provide value

SUBSTANCE USE: TOBACCO

History of tobacco use  
Historique tabagique

☐ Non-Smoker

☐ Smoker

☐ Former Smoker

☐ Unknown / Not Reported

\* must provide value

reset

Former Smoker = has stopped for at least 6 months

Status of tobacco use at time of diagnosis  
Statut tabagique au moment du diagnostic

☐ Non-Smoker

☐ Smoker

☐ Former Smoker

☐ Unknown / Not Reported

\* must provide value

reset

Former Smoker = has stopped for at least 6 months

Data Registry

## *Longitudinal Prospective Oral Oncology Registry*

Patient  
Intake

Patient consented  
Given Study ID  
Std. Intake Sheet

Surgery

Operative Report  
Final Pathology

Adjunct  
Tx

Details on Chemo  
and/or Radiation

Follow  
Up

5 year Follow Up  
Data entered 2x/Year



# Data Registry


- Data collection (2013)
- De-Identified Data Set
- Approximately 300 patients
- Each patient ~250 data points
- Follow up for up to 5 years

[illegible]



# Data Registry

- Time 0
  - 5 data sheets
- Follow Up
  - One data sheet
- If recurrence or new primary
  - New full set of data



Logged in as **oalghamdi** | [Log out](#)


**My Projects**

**Project Home**

**Project Setup**

Project status: **Production**

## Maxillofacial Oncology and Reconstruction Registry

 **Event Grid**

The grid below displays the form-by-form progress of data entered into the project for one particular Patient ID<br><i>ID du patient for all defined events. You may click on the colored buttons to access that form for that event. If you wish, you may modify the events below by navigating to the [Define My Events](#) page.

**Legend for status icons:**

● Incomplete    ● Incomplete (no data saved) ?


● Unverified


● Complete


Patient ID<br><i>ID du patient **1**

Data Collection Instrument	Initial Visit (1)	Follow-Up #1 (2)	Follow-Up #2 (3)	Follow-Up #3 (4)	Follow-Up #4 (5)	Follow-Up #5 (6)	Follow-Up #6 (7)	Follow-Up #7 (8)	Follow-Up #8 (9)	Follow-Up #9 (10)	Follow-Up #10 (11)	Follow-Up #11 (12)
Patient Registration Details	<span style="color: yellow;">●</span>											
Referral Tumor Event Details	<span style="color: yellow;">●</span>											
Surgery And Post Surgery Pathology Details	<span style="color: yellow;">●</span>											
Radiotherapy Details	<span style="color: yellow;">●</span>											
Chemotherapy	<span style="color: yellow;">●</span>											
Status		<span style="color: yellow;">●</span>	<span style="color: yellow;">●</span>	<span style="color: gray;">●</span>	<span style="color: gray;">●</span>	<span style="color: gray;">●</span>	<span style="color: gray;">●</span>	<span style="color: gray;">●</span>	<span style="color: gray;">●</span>	<span style="color: gray;">●</span>	<span style="color: gray;">●</span>	<span style="color: gray;">●</span>
Recurrence Or New Primary Tumor Referral		<span style="color: gray;">●</span>	<span style="color: gray;">●</span>	<span style="color: gray;">●</span>	<span style="color: gray;">●</span>	<span style="color: gray;">●</span>	<span style="color: gray;">●</span>	<span style="color: gray;">●</span>	<span style="color: gray;">●</span>	<span style="color: gray;">●</span>	<span style="color: gray;">●</span>	<span style="color: gray;">●</span>
Recurrence Or New Primary Surgery Details		<span style="color: gray;">●</span>	<span style="color: gray;">●</span>	<span style="color: gray;">●</span>	<span style="color: gray;">●</span>	<span style="color: gray;">●</span>	<span style="color: gray;">●</span>	<span style="color: gray;">●</span>	<span style="color: gray;">●</span>	<span style="color: gray;">●</span>	<span style="color: gray;">●</span>	<span style="color: gray;">●</span>


**Data Collection**

 Scheduling

 Record Status Dashboard


 Add / Edit Records


---


 Patient IDID du patient **1**


[Select other record](#)


**Applications**


 Calendar


 Data Exports, Reports, and Stats


 Data Comparison Tool


 Logging

 Field Comment Log

 File Repository

 E-signature and Locking Mgmt

 Data Quality

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**Reports** [Edit reports](#)

1) Abstract OMFS research day

2) Non Tis



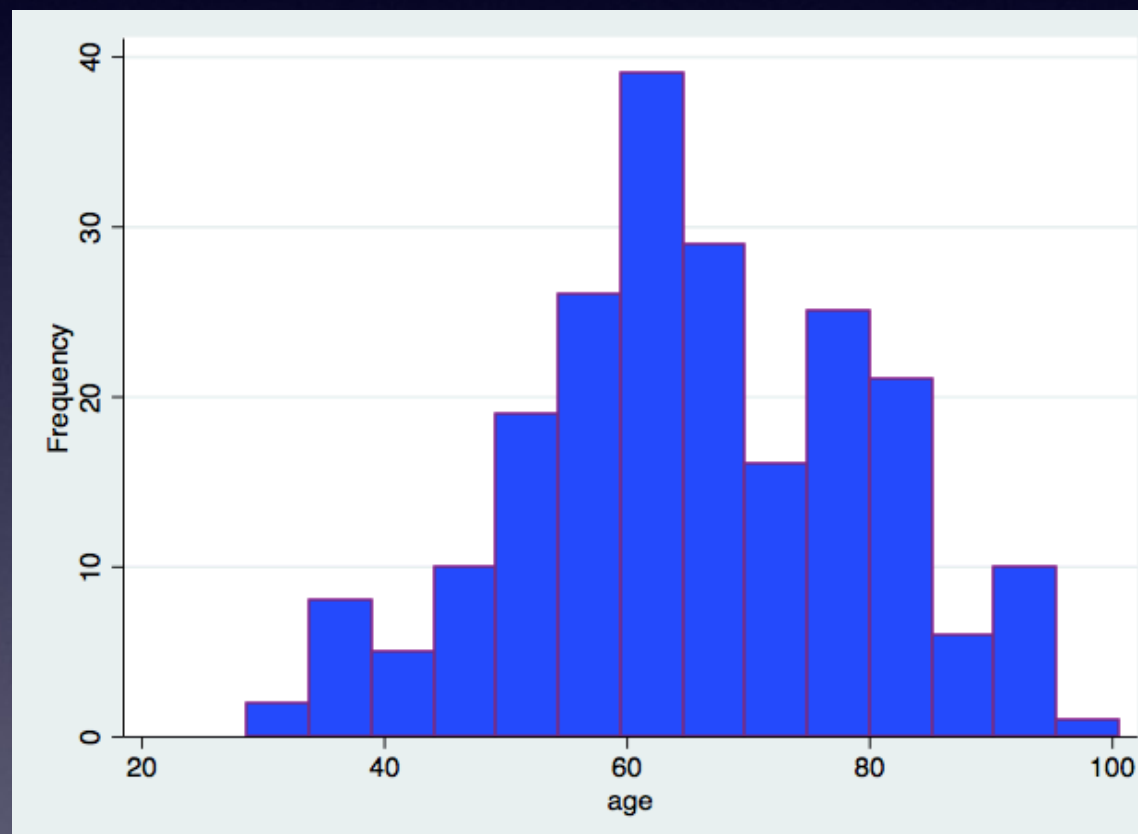
## Data Analysis

- Data Comparison Tool
  - Used to compare two records in a project
- Data Quality Tool
  - Missing Values
  - Validation Errors (incorrect or out of range)
  - Outliers
  - Hidden fields with values
  - Multiple choice fields with invalid data



- Double Data Entry
  - Two persons perform data entry
  - Assigned to different individuals
  - A reviewer reconciles differences
- Export data to a variety of statistical analysis packages
- Exports are customizable, including all or some of the data forms and fields

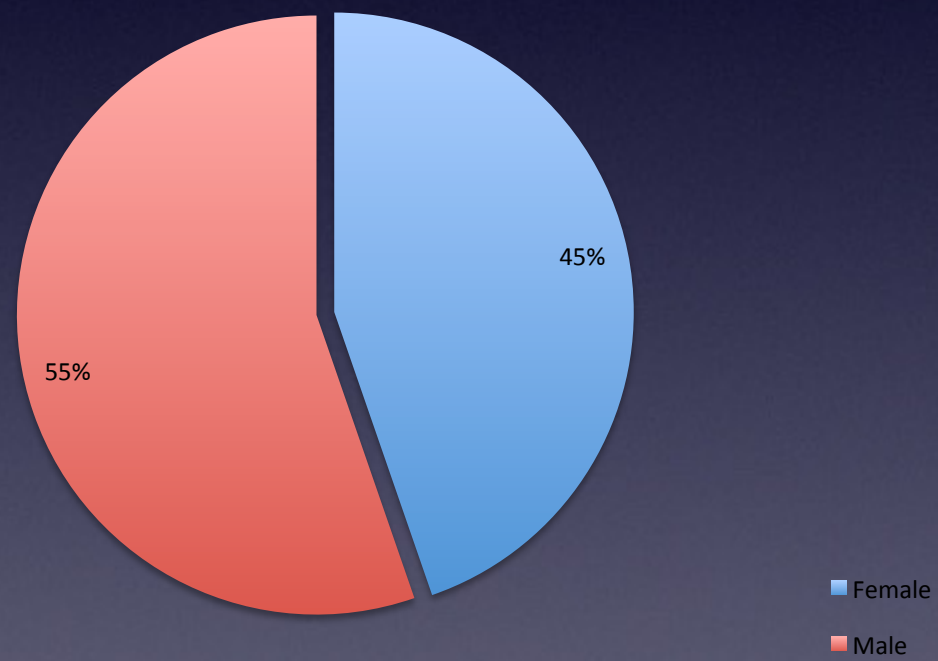
# Data Analysis





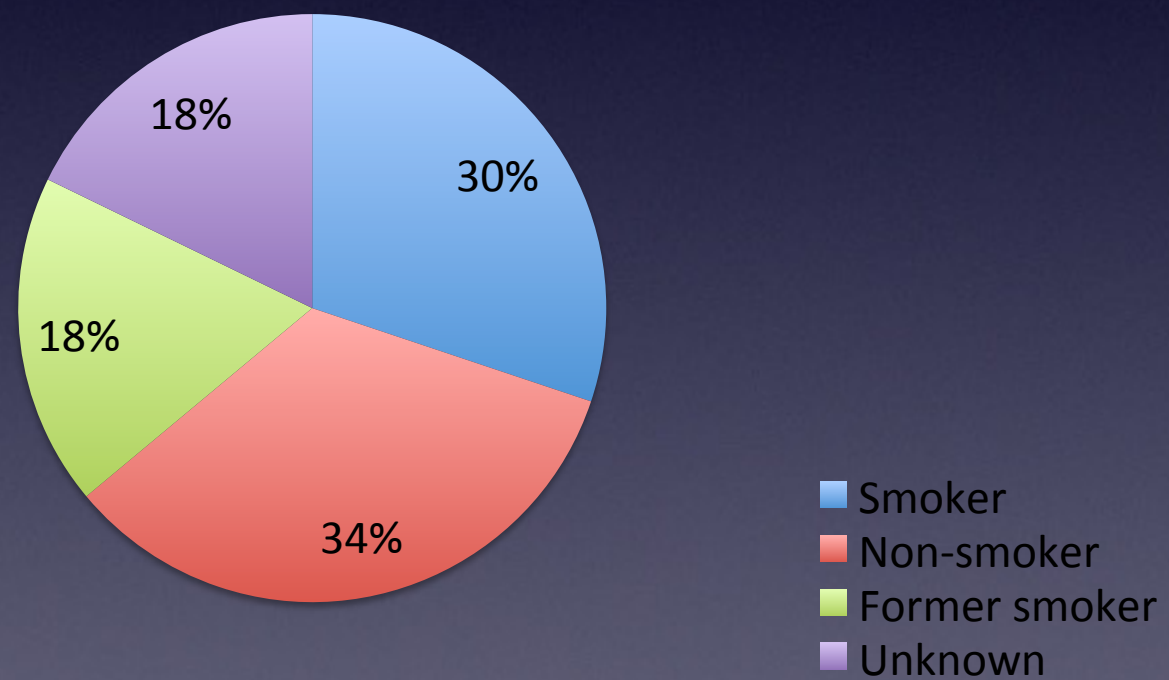
# Data Analysis

Gender



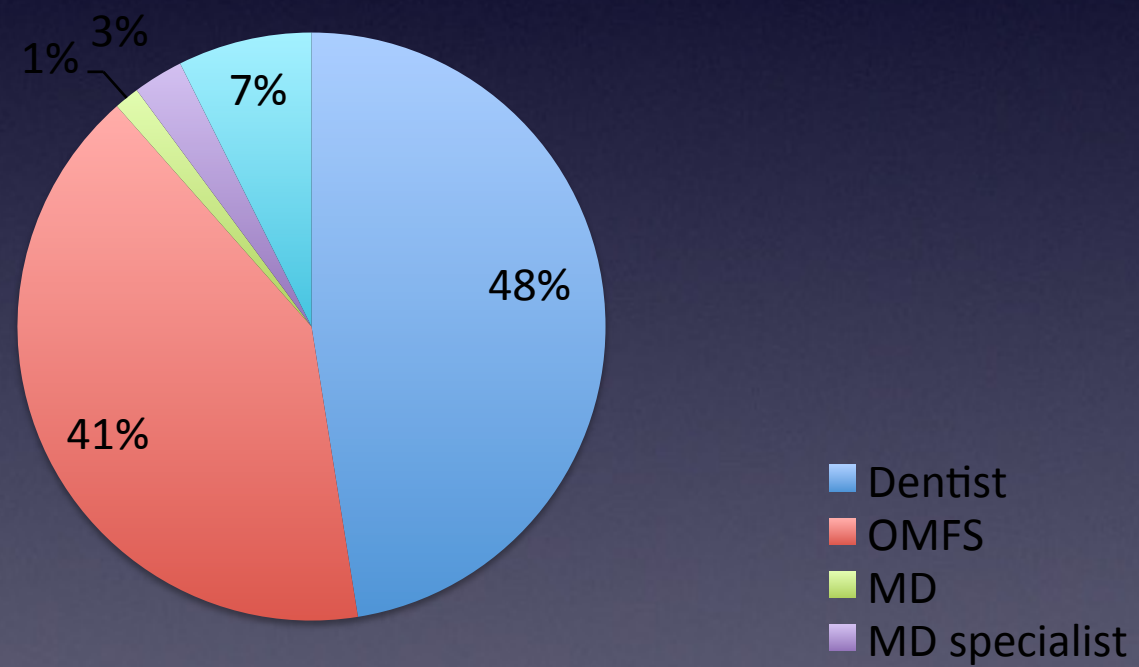
# Data Analysis

## Smoking History




# Data Analysis

## Referral



# Data Analysis

## STEP 1

 **User Access:** Choose who sees this report on their left-hand project menu [?](#)

☒ **All users** – OR – ☐ **Custom user access** (Choose specific users, roles, or data access groups who will have access)

## STEP 2

 **Fields to include in report**

[+ Quick Add](#)

Add all fields from selected instrument: -- choose instrument --

Field 1	studyid "Patient ID <i>ID du patient"	Instrument: Patient Registration Details	✕
Field 2	Type variable name or field label		

## STEP 3

☒ **Show data for all events for each record returned** [?](#)

[How to use filters and AND/OR logic](#)

 **Filters (optional)**

**Operator / Value**

Filter 1

Type variable name or field label

in All events

=

 Switch format: [Use advanced logic](#)

 **Additional Filters (optional)**

(Records belonging only to ALL selections below will appear in the report)

Filter by event(s):

Initial Visit  
Follow-Up #1  
Follow-Up #2  
Follow-Up #3  
Follow-Up #4  
Follow-Up #5

## STEP 4

 **Order the Results (optional)**

First by	studyid "Patient ID <i>ID du patient"	Ascending order
Then by	Type variable name or field label	Ascending order
Then by	Type variable name or field label	Ascending order



# Data Analysis

My Reports & Exports						
	Report name	View/Export Options			Management Options	
	<b>All data (all records and fields)</b>	View Report	Export Data	Stats & Charts		
	<b>Selected instruments and/or events (all records)</b>	Make custom selections				
1	Abstract OMFS research day	View Report	Export Data	Stats & Charts	Edit	Copy  Delete
2	Non Tis	View Report	Export Data	Stats & Charts	Edit	Copy  Delete
3	SCCa	View Report	Export Data	Stats & Charts	Edit	Copy  Delete
4	Brachy	View Report	Export Data	Stats & Charts	Edit	Copy  Delete
5	tongue depth of invasion	View Report	Export Data	Stats & Charts	Edit	Copy  Delete
6	Before Changes - Biopsy (Mucoepidermoid Carcinoma)	View Report	Export Data	Stats & Charts	Edit	Copy  Delete
7	Before Changes - Biopsy (Adenoid Cystic Carcinoma)	View Report	Export Data	Stats & Charts	Edit	Copy  Delete
8	Before Changes - Biopsy (Polymorphous Low Grade Adenocarcin)	View Report	Export Data	Stats & Charts	Edit	Copy  Delete
9	Before Changes - Margins Path	View Report	Export Data	Stats & Charts	Edit	Copy  Delete
10	Before Changes - Radio Stages CXR	View Report	Export Data	Stats & Charts	Edit	Copy  Delete
11	Brachy research	View Report	Export Data	Stats & Charts	Edit	Copy  Delete
12	FVFF + radiation	View Report	Export Data	Stats & Charts	Edit	Copy  Delete
13	Before Changes - Biopsy (Mucoepidermoid Carcinoma) - FU	View Report	Export Data	Stats & Charts	Edit	Copy  Delete
14	Before Changes - Biopsy (Adenoid Cystic Carcinoma) - FU	View Report	Export Data	Stats & Charts	Edit	Copy  Delete
15	Before Changes - Biopsy (Polymorphous Low Grade Ad... - FU	View Report	Export Data	Stats & Charts	Edit	Copy  Delete
16	Before Changes - Margins Path - FU	View Report	Export Data	Stats & Charts	Edit	Copy  Delete
17	Before Changes - Radio Stages CXR - FU	View Report	Export Data	Stats & Charts	Edit	Copy  Delete
18	Biopsy - Histologic Diagnosis: Severe dysplasia and CIS	View Report	Export Data	Stats & Charts	Edit	Copy  Delete
19	Biopsy - Histologic Diagnosis: Severe dysplasia and CIS FU	View Report	Export Data	Stats & Charts	Edit	Copy  Delete
20	Biopsy - Histologic Diagnosis: Severe dysplasia and CIS / FU	View Report	Export Data	Stats & Charts	Edit	Copy  Delete
21	pre malignant lesions	View Report	Export Data	Stats & Charts	Edit	Copy  Delete
22	Before changes: Adenoid - Grade	View Report	Export Data	Stats & Charts	Edit	Copy  Delete
23	Before changes: Differentiation	View Report	Export Data	Stats & Charts	Edit	Copy  Delete
24	Delay	View Report	Export Data	Stats & Charts	Edit	Copy  Delete
25	Test Delay	View Report	Export Data	Stats & Charts	Edit	Copy  Delete
26	Treatment Delays Study	View Report	Export Data	Stats & Charts	Edit	Copy  Delete
27	Adjuvant Tx	View Report	Export Data	Stats & Charts	Edit	Copy  Delete
28	Symptoms Test	View Report	Export Data	Stats & Charts	Edit	Copy  Delete
29	Public Health	View Report	Export Data	Stats & Charts	Edit	Copy  Delete
30	Tx Delays Recurrence	View Report	Export Data	Stats & Charts	Edit	Copy  Delete
	<a href="#">+ Create New Report</a>					

# Conclusion

- Ultimately:
  - Improve quality of care, quality control and quality assurance
  - Adding more centres to our database
  - Establishing randomized clinical trials



The NEW ENGLAND  
JOURNAL of MEDICINE

## The Randomized Registry Trial — The Next Disruptive Technology in Clinical Research?

Michael S. Lauer, M.D., and Ralph B. D'Agostino, Sr., Ph.D.

Related article, p. 1587

- Observational registries
- High quality registries - standardized data
- Identify possible causal links between treatment and outcomes
- Pointed and effective way to structure a trial



Thank you



**McGill**  
Maxillofacial Oncology and  
Reconstructive Surgery



Centre universitaire de santé McGill  
McGill University Health Centre



Canadian Association  
of Hospital Dentists

