

**Medical Informatics and E learning Week**

**5-6 Dec 2018**

King Saud University  
College of Medicine



# Dental Informatics

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# Dental Informatics

- Dental informatics is the application of computer and information science to improve dental practice, research, education and management.
- A sub-discipline of biomedical informatics

# Dental Informatics Applications



Administrative	Clinical	Educational	Research
<ul style="list-style-type: none"> <li>•Practice Management</li> <li>•Medical Dental interface</li> </ul>	<ul style="list-style-type: none"> <li>•Electronic Oral health records (EOHR)</li> </ul>	<ul style="list-style-type: none"> <li>•Preclinical</li> <li>•Haptic feedback</li> <li>• simulation training</li> </ul>	<ul style="list-style-type: none"> <li>•Database</li> <li>•Registries</li> </ul>
<ul style="list-style-type: none"> <li>•Computerized billing</li> <li>•Insurance form generation and claims processing</li> </ul>	<ul style="list-style-type: none"> <li>•Manufacturing</li> </ul>	<ul style="list-style-type: none"> <li>•Bibliographic</li> <li>•Video lib</li> </ul>	<ul style="list-style-type: none"> <li>•Terminology and nomenclature standards</li> <li>•Voice Recognition</li> </ul>
<ul style="list-style-type: none"> <li>•Labs</li> <li>•E-prescribing</li> </ul>	<ul style="list-style-type: none"> <li>•Intra-oral cameras and imaging</li> <li>•3-D image modeler &amp;Diagnostic predictive modeling</li> </ul>	<ul style="list-style-type: none"> <li>•Patient education &amp; decision aids</li> </ul>	<ul style="list-style-type: none"> <li>•Patient Risk Profiling &amp; assesment</li> </ul>
<ul style="list-style-type: none"> <li>•Pre visit preparation</li> <li>•Alerts and reminders</li> <li>•Secure messaging</li> <li>•Recall tracking</li> </ul>	<ul style="list-style-type: none"> <li>•Radiography</li> <li>•Digital radiography</li> <li>•Intelligent time series comparative X-ray analysis</li> </ul>	<ul style="list-style-type: none"> <li>•Web Portal &amp; blogs</li> </ul>	<ul style="list-style-type: none"> <li>•Outcomes Databases</li> </ul>
<ul style="list-style-type: none"> <li>•Patient registration and scheduling</li> <li>•After visit summaries</li> <li>•Connectivity to patients</li> <li>•Online ongoing care relationship</li> </ul>	<ul style="list-style-type: none"> <li>•Decision support</li> <li>•Evidence-based Treatment Planning</li> </ul>		<ul style="list-style-type: none"> <li>•Nano-robotics</li> </ul>
	<ul style="list-style-type: none"> <li>•Tele-consultation &amp; referral</li> </ul>		



# Applications in Dental Management

# Electronic Dental Record (EDR) Electronic Oral Health Record (EOHR)

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## EMR

- Reimbursement
  - Diagnosis codes (ICD-9) & procedure codes (CPT 4).
- Documentation :
  - Finding → Location
  - Text
  - Holistic
- Treatment:
  - Roadmap for patient to follow

## EDR

- Dental reimbursement:
  - Procedure codes only.
- Documentation :
  - Location → Finding
  - Graphics, templates
  - Sequence
- Treatment:
  - Procedure implies pathology present.
  - Roadmap for dentist



# Standard Clinical Terminology

- **Systematized Nomenclature of Dentistry (SNODENT).**
  - An official subset of SNOMED CT
  - Provide standardized terms for describing dental disease
  - Capture clinical detail and patient characteristics
    - Many oral anatomical sites, oral health conditions, findings, and other clinical concepts unique to the concerns of dentistry may be found only within the SNODENT lexicon.
  - Permit analysis of patient care services and outcomes
  - To be interoperable with Electronic Health Records (EHR) and Electronic Dental Records (EDR)



# Features of EDR

- EDR, Practice management, Imaging should be in one system
  - Inventory control, CSSD, MiniPacs
- Exams, procedures, treatment plans and images should be one click away
- More exact charting, more graphic representation
- Treatment preference generation
- Instantaneous production of treatment plan (charges, insurance estimates and claims, deposits)



# Implementation

- Beginning 2015, Medicare eligible dentists who do not successfully demonstrate meaningful use will be subject to a payment adjustment of 1% that will increase annually to a maximum of 5%.
- Although not required to have digital radiographs, safety requires dosage to be as low as permissible
- Medicaid EHR incentive program for adoption, implementation, upgrade and meaningful use of certified EHR technology as appropriate
- More patient acceptance
- Faster Insurance acceptance and reimbursement of claims




Demo Database (Admin) - Smith, John - 15 DentOffice

Log Off File Setup Lists Reports Tools Help

Select Patient Commlog E-mail Letter To Task List Label Popups

Family Members: Add Delete Set Guarantor Move Add Insurance



Family

Account

Treat Plan

Chart

Images

Manage

Op 1

Op 2

Op 3

PtReady

Ph Asst

Family Members							Recall		
Name	Position	Gender	Status	Age	Recall Due	Type	Due Date	Sched Date	
Smith, John	Married	Male	Patient	31	09/30/2009	Prophy	09/30/2009		
Smith, Jane	Married	Female	Patient	34	09/30/2009				
Smith, Junior	Child	Male	Patient	8	09/30/2009				
Smith, Sis	Child	Female	Patient	2	09/30/2009				

Patient Information		Insurance Plans	
Last	Smith	Subscriber	John Smith
First	John	Subscriber ID	352664588
Middle		Rel'ship to Sub	Self
Preferred		Patient ID	
Title		Pending	
Salutation		Employer	REI Distribution
Status	Patient	Carrier	Metlife
Gender	Male	Group Name	REI
Position	Married	Group Number	G189614
Birthdate	06/23/1979	Type	Category Percentage
Age	31	Fee Schedule	
SSN	352-66-4588	Benefit Period	Calendar Year
<b>Address</b>	<b>125 Satin Heights</b>	Diagnostic %	100%
Address2		Preventive %	100%
City	San Jose	Restorative %	80%
State	CA	Endo %	80%
Zip	05698	Oral Surgery %	80%
<b>Hm Phone</b>	<b>(536)624-5871</b>	Crowns %	50%
Wk Phone	(536)265-8587	Prosth %	50%
Wireless Ph	(536)987-5621	Perio %	80%
E-mail	johns@hotmail.com	Ins Plan Note	
Contact Method	None	Subscriber Note	
ABC0			
Billing Type	Standard Account		
Primary Provider	DOC1 - Albert, Brian		
Sec. Provider	None		
Language			
Referrals	None		
Addr/Ph Note			

MiPACS Dental Enterprise Viewer 3.1.1404 [DENTAL, JANE 123456789]

File Patient Edit Image Tools System Window Help

Icons: - BW 2, IDLE, IDLE

Series View

Series	Date/Time	Images
PA 5	9/25/2012 1:25:49 PM	5 img
Lateral Cephalometric	6/12/2009 9:15:53 AM	1 img
Panoramic	6/12/2009 9:15:14 AM	1 img
FMX 18	12/12/2008 8:10:45 AM	18 img
BW 2	12/12/2008 8:10:45 AM	2 img
BW 4	4/19/2007 4:10:42 PM	4 img
BW 4 (D)	4/19/2007 4:10:42 PM	4 img
FMX20	7/17/2006 2:36:00 AM	20 img

FMX 18

Series Local view Templates

6, 12/12/2008 8:14:54 AM 3, 12/12/2008 8:16:10 AM 17, 12/12/2008 8:17:48 AM 8, 12/12/2008 8:18:32 AM 14, 12/12/2008 8:19:16 AM 11, 12/12/2008 8:37:24 AM 5, 12/12/2008 8:35:46 AM 18, 12/12/2008 8:47:48 AM 9, 12/12/2008 8:48:32 AM 10, 12/12/2008 8:46:41 AM 2, 12/12/2008 8:46:32 AM 7, 12/12/2008 8:47:48 AM 4, 12/12/2008 8:48:32 AM 1, 12/12/2008 8:49:16 AM 13, 12/12/2008 8:26:38 AM 12, 12/12/2008 8:33:36 AM 15, 12/12/2008 8:23:55 AM 16, 12/12/2008 8:22:46 AM

Properties

Study

- Study ID: Zant FMX 18
- Date: 12/12/2008 8:10:45 AM
- Referrer: scott
- Description: Zant FMX 18
- Study UID: 1.2.840.114257.1.163484174740020374738996469544

Series

- Description: FMX 18
- Modality: IO
- Date: 12/12/2008 8:10:45 AM
- Series UID: 1.2.840.114257.1.163484174740053378012624491144

Workstation: SCOTTMAC, user: scott (Msint. client)

Go back to:

3D

# Patient Overview

Updated Today (April 28, 2010)



Sarah Williams

Age 43, Born October 4th, 1964

Gender Female

Ethnicity African American

Info Likes to go camping in the forest with her husband. She is planning a big trip to Yosemite.

Family Ty Williams, Spouse  
Last Visit Apr. 3, 08



## Insurance

Provider DentalInsurance

Type DHMO

Code 4565 - 456 - 4595

## Chief Complaint

Has not been to dentist in 4 years and wants to get her teeth "fixed."

## Medical History

### Medical Alerts

Severe Penicillin Allergy

Type 2 Diabetes

### Risk Factors

Patient has a number of asthma related issues. She is taking a number of medications as a result.

### General Health

Moderately obese BP 123/82 pulse rate 92 per minute, regular (taken today)

### Medications

50MCG Fluticasone (2 years)

14.2GM Cromolyn (2 months)

14GM Pirbuterol (2 years)

[Look Up Medications](#)

## Last Progress Note

Oct 2nd, 2004

Bilateral rough pebbly appearance of the buccal mucosa. Patient admits chewing red gum. Advised to discontinue.

Class II amalgam restoration completed on tooth 2.

## Dental History

Patient's last visit was 4 years ago. Previous treatments included restorations, extractions and routine cleaning.

### Today

#### Scheduled Procedures

No scheduled procedures

#### Procedures in Progress

No procedures in progress

#### Radiographs

A full series of radiographs were taken today.



#### Photos

A complete set of photos were taken today.



#### Examination

A perio and hard tissue examination were completed.

Sarah Williams

Radiographs

Hard Tissue

Perio

Photos

3D

View by Tooth

Treatment Plan

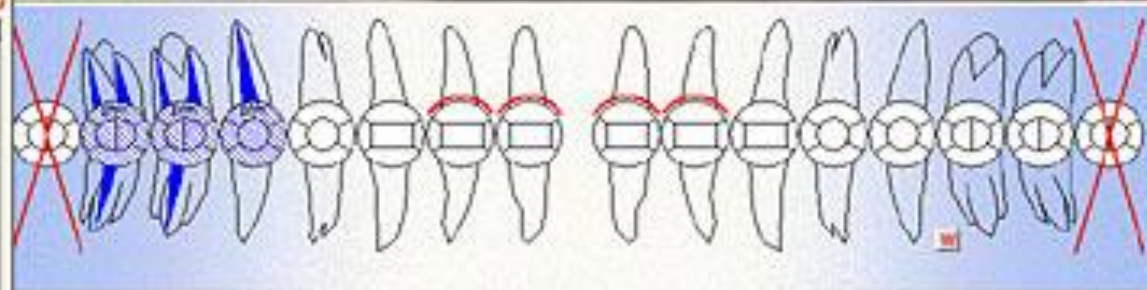
Progress Notes

Go to Schedule



Chart for (17105) Abbey, Joanne - Full Mouth, Chart TP Treatment Plan Chart

Parent/Abbey, Joanne

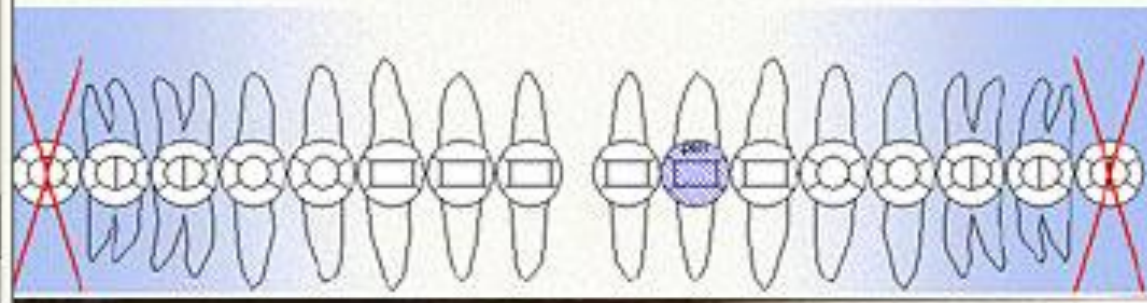


1 2 3 4/A 5/B 6/C 7/D 8/E 9/F 10/G 11/H 12/I 13/J 14 15 16

RIGHT

LEFT

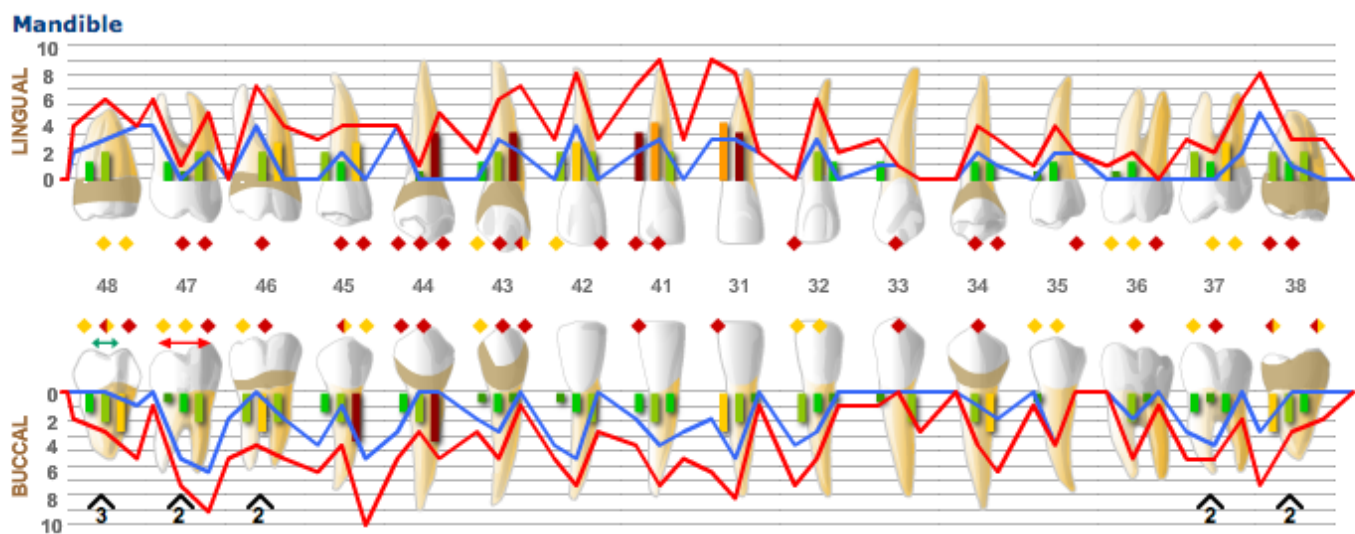
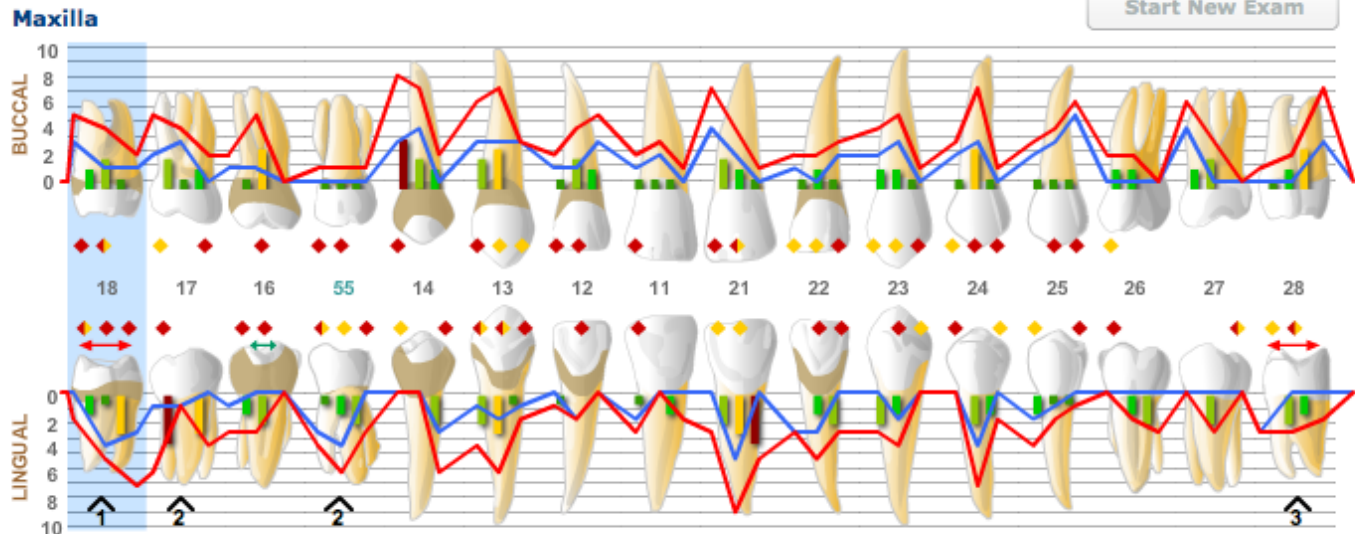
32 31 30 29/T 28/S 27/R 26/O 25/P 24/D 23/N 22/M 21/L 20/K 19 18 17




Periodontal Charts

Start New Exam

Exams list **2011, May 01**



Exam notes

<< **Tooth 18** >>

#### Buccal

	D	C	M
Probing Depth	2	3	1
Recession	3	1	1
Bleeding	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Suppuration	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Loss of Attachment	5	4	2
Plaque(TQHPI)	2		

#### Lingual

	D	C	M
Probing Depth	2	1	4
Recession	0	4	3
Bleeding	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Suppuration	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Loss of Attachment	2	5	7
Plaque(TQHPI)	2		

Furcation

Mobility

**Tooth notes**

Exam Sequence  ALL  PD  PDR  PDFM  PBS

Movement

Close Save



# Treatment Planning for Dentistry

- Phase I
  - Intraoral and extraoral examination
  - Radiological examination
    - Intraoral radiographs in clinic
    - Submit request for panoramic xray, cephalometric, or cone beam
  - Take Pictures
    - Specific trackers and digital points
  - Take impressions- digital or otherwise
    - Requests Virtual or physical casts
  - Prepare digital wax ups or mock ups
  - Show patient enhanced imagery of final result



Demo Database (Admin) - Smith, John - 15

Log Off File Setup Lists Reports Tools Help

Select Patient Commlog E-mail Letter To Task List Label Popups

PreAuthorization Update Fees Save TP Print TP Email TP Sign TP

### Treatment Plans

Date	Heading	Signed
	Default	
11/17/2005	Proposed Treatment Plan	
01/06/2008	Proposed Treatment Plan	

Show

- Graphical Completed Tx
- Use Ins Max and Deduct
- Fees
  - Insurance Estimates
  - Discount (PPO)
  - Subtotals
  - Totals

### Pre Authorizations

Date Sent	Carrier	Status

### Procedures

Done	Priority	Tth	Surf	Code	Description	Fee	Pri Ins	Sec Ins	Pat
	1	21	DL	D2331	Composite 2 surf, Anterior Pri Deduct Applied: 25.00	155.00	99.00	0.00	56.00
					<b>Subtotal</b>	<b>155.00</b>	<b>99.00</b>	<b>0.00</b>	<b>56.00</b>
	2	28		D2950	Buildup	200.00	160.00	0.00	40.00
	2	28		D3320	Root Canal - Premolar	645.00	516.00	0.00	129.00
					<b>Subtotal</b>	<b>845.00</b>	<b>676.00</b>	<b>0.00</b>	<b>169.00</b>
	Declines	28		D2750	PFM Crown	830.00	415.00	0.00	415.00
	Declines	28		N4118	PFM Seat	0.00	0.00	0.00	0.00
					Subtotal	830.00	415.00	0.00	415.00
					<b>Total</b>	<b>1830.00</b>	<b>1190.00</b>	<b>0.00</b>	<b>640.00</b>

Set Priority

no priority

1

2

3

4

5

6

7

8

Low

Recomend

Declines

Wat

?

	Insurance	
	Primary	Secondary
Annual Max	1500.00	
Deductible	25.00	
Ded Remain	25.00	
Ins Used	0.00	
Pending	0.00	
Remaining	1500.00	

Please read this carefully:  
 if you have insurance, THIS IS AN ESTIMATE ONLY. Insurance might not pay what we expect.  
 Even if you pay your estimate ahead of time, you will still be responsible for any portion that insurance does not pay.



DENTAL TREATMENT PLAN					1. CONSULTATION DESIRED <input type="checkbox"/> YES <input type="checkbox"/> NO <i>(If yes, complete Section III, on reverse side)</i>	
For use of this form, see TB MED 250; proponent agency is Office of TSG.						
SECTION I - PLANNED TREATMENT AND SEQUENCE OF ACCOMPLISHMENT						
Check items in Column c to indicate treatment planned. If sequence of treatment is other than that printed in column b, use numbers (1 thru 10) in column c to show desired order.						
L I N E	C O D E	TYPE TREATMENT b	PLANNED SE- QUENCE c	ACCOM- PLISHED d	CHART	
					Chart ONLY existing teeth and TREATMENT TO BE ACCOMPLISHED. Do NOT chart existing Pathology or Restorations. e	
3	A	URGENT				
4	B	PERIODONTAL	3c,4,6			
4	C	PROPHYLAXIS <input type="checkbox"/> 5wF2 PASTE				
5	D	TOPICAL 5wF2 REPEAT AFTER _____ MONTHS				
6	E	COUNSELING IN SELF CARE	3a,3c			
7	F	OCCUSION	4f, 5			
8	G	SURGERY				
9	H	RESTORATIONS	5b,c			
10	I	PROSTHESES	4f 5b,c,e			
11	J	OTHER spec(s)				
12. REMARKS OR INSTRUCTIONS Use this space for additional clarification of recommended treatment or for describing treatment which does not lend itself to charting. Indicate nature of treatment and teeth or other tissues involved. Identify entry by code letter (Column a, above).						
1. <b>Urgent:</b> None						
2. <b>Systemic:</b> Uncontrolled Stage 1 Hypertension (medical referral); smoking cessation (referral to cessation clinic)						
3. <b>Preparatory:</b>						
a. Comprehensive Exam, Dx waxup, Tx plan presentation						
b. Anderson Medical Model - RMGI Restorations #'s 3,4,5,6,7,8,9,10,14,21,28,31; Sealants, 0.12% CHX rinse; Fl varnish						
c. Initial non surgical periodontal therapy; OHI; NaF rinse (home); Xylitol gum						
4. <b>Decision Point:</b> Perio re-eval (≥85% plaque free surfaces) - (open flap debridement for PDs >5mm) & Bacteriologic testing						
e. Endo Retreatment #9; Amal rest #'s 3,4,5,14,21,28,31						
f. Fixed Ortho Appliances Mx/ Md arch (Correct OB/OJ, Intrude #14, Close Md diastemas) for 12-18 months						
↳ 1-stage implant - Md arch opposing tooth #14 - ortho anchorage (if required) & RDP Locator abutment						
g. Clinical Crown Lengthening (#'s 6-11,14, 21, 28)						
5. <b>Corrective:</b>						
a. Cast Post/Core #9						
b. PFM #'s 3,6,7,8,9,10; Surveyed PFMs #'s 21 /28						
c. PFM FDP #'s 11-14; #'s 22&27 incisal composite						
d. Locator Abutment placement on Md implant = final impression for Md RDP						
e. Implant-supported Mandibular-Kennedy-Class-III-RDP						
f. Nocturnal Bruxism appliance						
6. <b>Maintenance:</b> Perio - 3 mos for 1 yr, 6 mos thereafter; Prosth - 6 mos, then yearly; Endo - yearly						
13. DATE		14. TREATMENT FACILITY			15. SIGNATURE OF DENTIST RECORDING TREATMENT PLAN	
SECTION II - PATIENT IDENTIFICATION						
16. SEX		17. RACE	18. GRADE	19. ORGANIZATION		
20. PATIENT'S LAST NAME - FIRST NAME - MIDDLE INITIAL				21. DATE OF BIRTH		22. IDENTIFICATION NUMBER



# How can Informatics Assist us in Patient Care?

- Improve patient awareness and acceptance of treatment plans and options
- Improve Clinical and administrative workflow
- Improve communication to secondary providers (Lab, Hygienist)
- Provide remote dental care (teledentistry)
- Provide faster and more convenient options
- Improve dental education through simulation
- Improve follow up care



## Enhancing Patient Acceptance of Treatment Plan







## Diastema closure



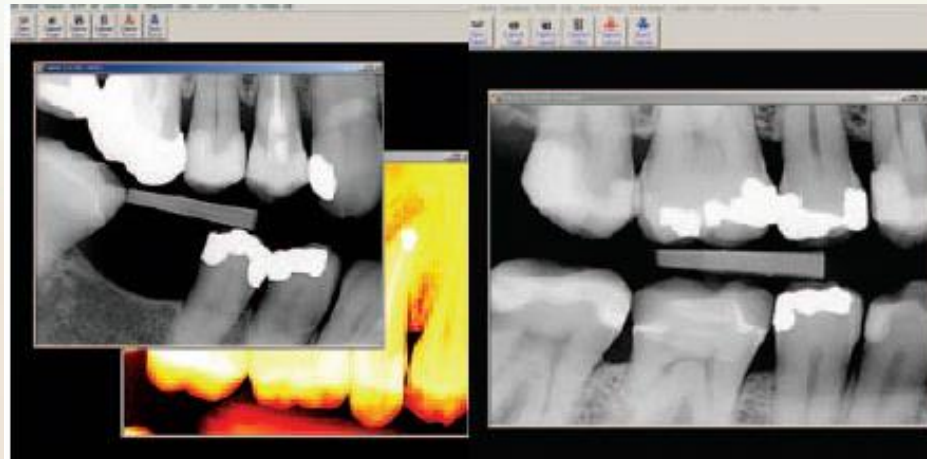


### Orthognathic Surgery Prognosis



# Endodontics

- Digital radiography
- 3D-Time Series Analysis
  - Image segmentation, rigid registration and a voxel based non-rigid registration as well as 3D visualization, allows a time series analysis based on DICOM CT images.
  - Endodontics, surgery, orthodontics

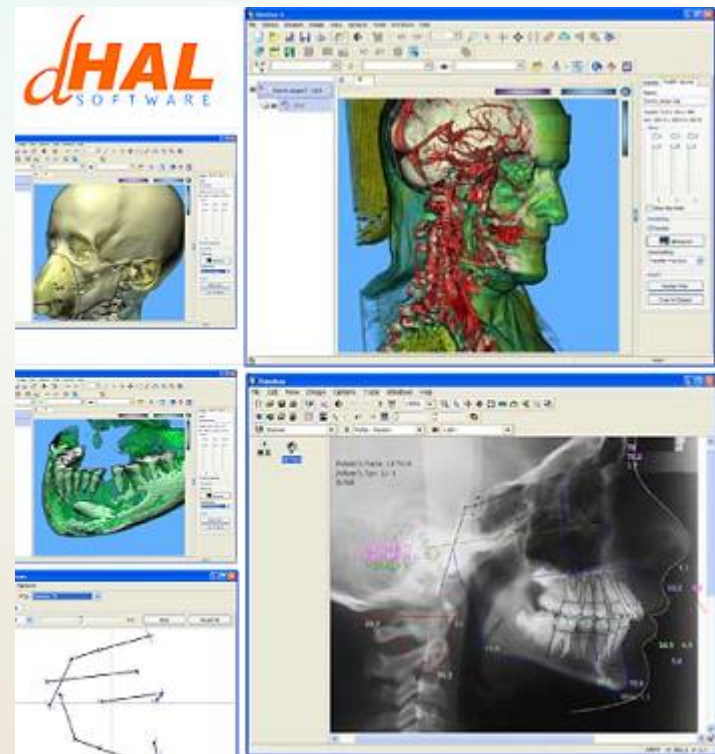


**Figure 1: Digital image seen on the computer screen**



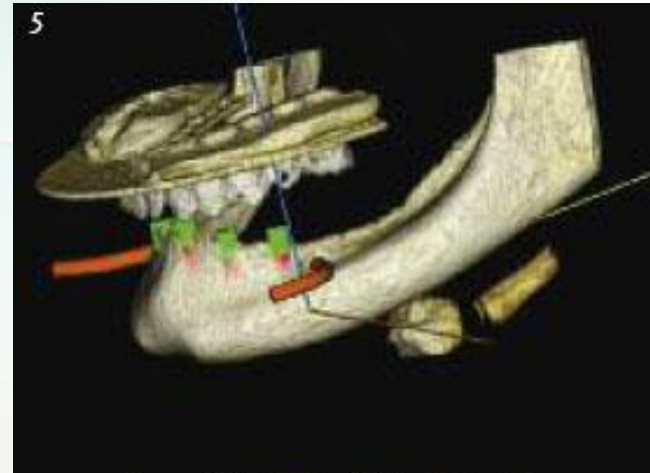
# Orthodontics

- Viewbox is advanced software for cephalometric analysis.
- Points, measurements and analyses are not 'hard-wired', enabling you to go beyond the confines of cephalometric radiographs and perform measurements on any kind of radiograph, photograph or other two-dimensional or 3-D image.
- Furthermore, sophisticated algorithms are included for image enhancement, facilitation of point identification and morphometric analysis

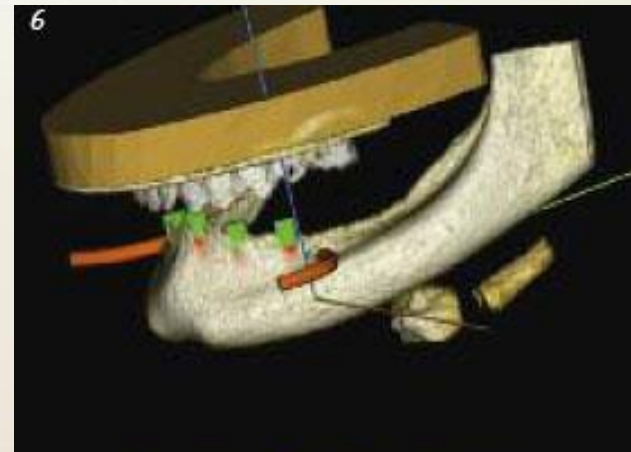


# Image-guided dental implantology

- 3D view of the patient's anatomy, as a basis for evaluation and functional and aesthetic implant planning.
- Secure planning and reducing all uncertainties during surgery.



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Copyright © Dr. Michele Jacotti



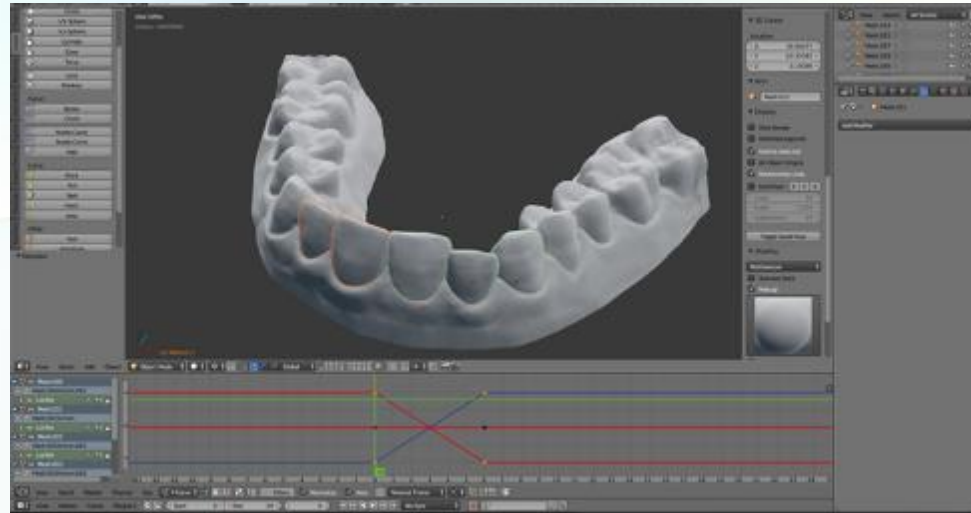
# 3-D Scanning & Milling

26

- Chair side dental CAD/CAM systems
- Dental Laboratory CAD/CAM systems
- 3D Scanner technologies to capture the 3D surface of a dental preparation (either *in vivo* or *in vitro*), in order to produce a restoration digitally using CAD software and ultimately produce the final restoration using a CAM technology (such as a CNC milling machine, or 3D printer)



CAESY<sup>®</sup>  
Education Systems  
From Patterson



3D Printed In-house orthodontic aligners



# Laboratory Management

- Easily refer cases to dental labs affiliated with your dental clinic

- Case management
- Payment
- Tracking
- Scans
- Special requests
- Reworks
- Technician training

**Contents of Live Jobs**

Order	Patient
A006887	MR SIMON H
A006883	MR ROBERT I
A006882	CHANTEL R G
A006881	KATHRYN SPI
A006880	MR ROY TYDI
A006879	MR STEPHEN
A006878	WILLIAM RO
A006877	ANGELA EDW
▶ A006875	C GARDINER
A006874	MR SHAUN D
A006873	MR R AINSW
A006872	P REYNOLDS
A006869	THOMAS DO
A006867	SHEILA MAR
A006866	AVRIL JOYCE
A006865	MISS ELIZAB
A006863	MRS N HAYLE
A006858	C PRITCHARD
A006850	MRS S SMITH
A006846	LYNN WALL
A006845	MRS JEAN BU
A006843	H FERRIER
A006842	MRS B TAYLOR
A006840	MR MALCOLM

**Details** | Notepad [Empty] | Prescription | Images | Surgeon Notes

Order Code: **A006875** Patient: C GARDINER

Warning Bin: P674 Age: 32 Sex:

Waiting for Order Shade: D3 Stump Shade:  Mould:

Status: **Launched**

Original Date: 29-Jan-2013 Tue In Surgery: 29-Jan-2013 Tue

Received: 10-Jan-2013 Thu Due Date: 28-Jan-2013 Mon

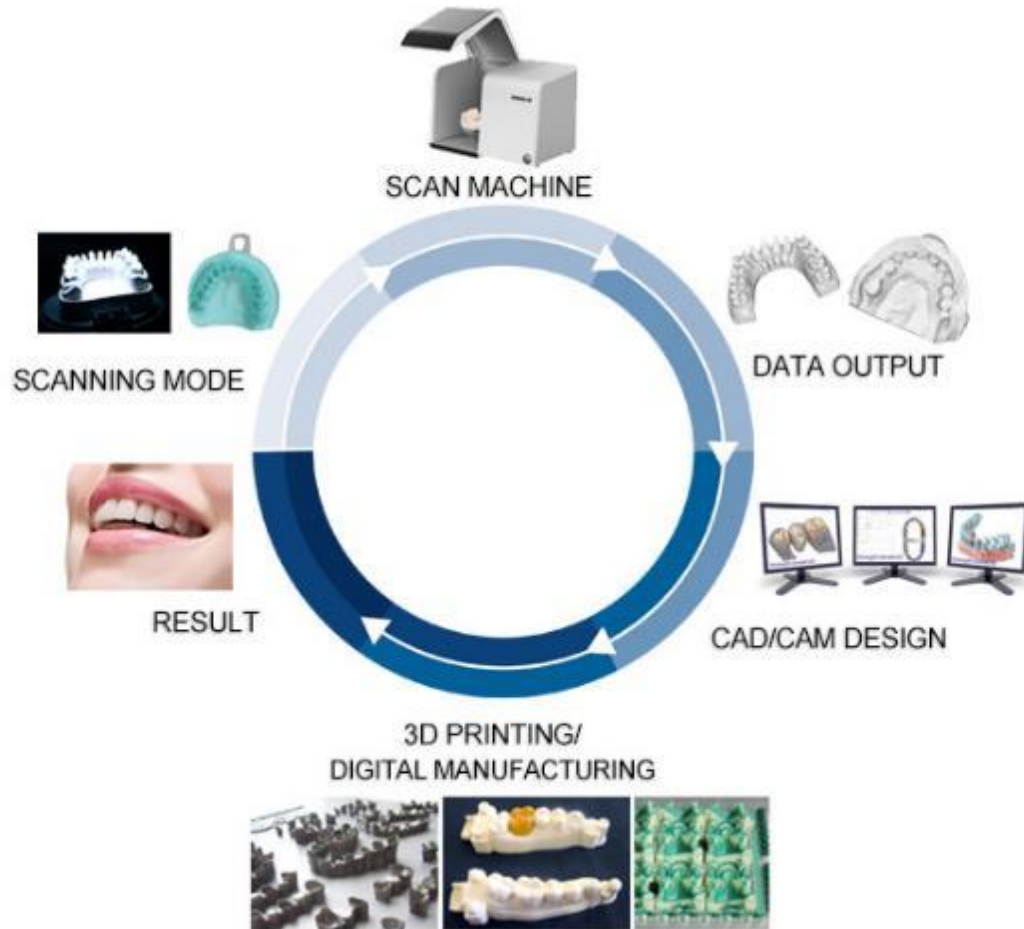
Stage 1

\* Stage F5 \* Casting F6 \* Product F7 \* **Material F8** Task F10 ▶ La

Cast	Description	Qty	Price
<input checked="" type="checkbox"/>	NP125 Non Precious Bonded Crown It5	1	43.00

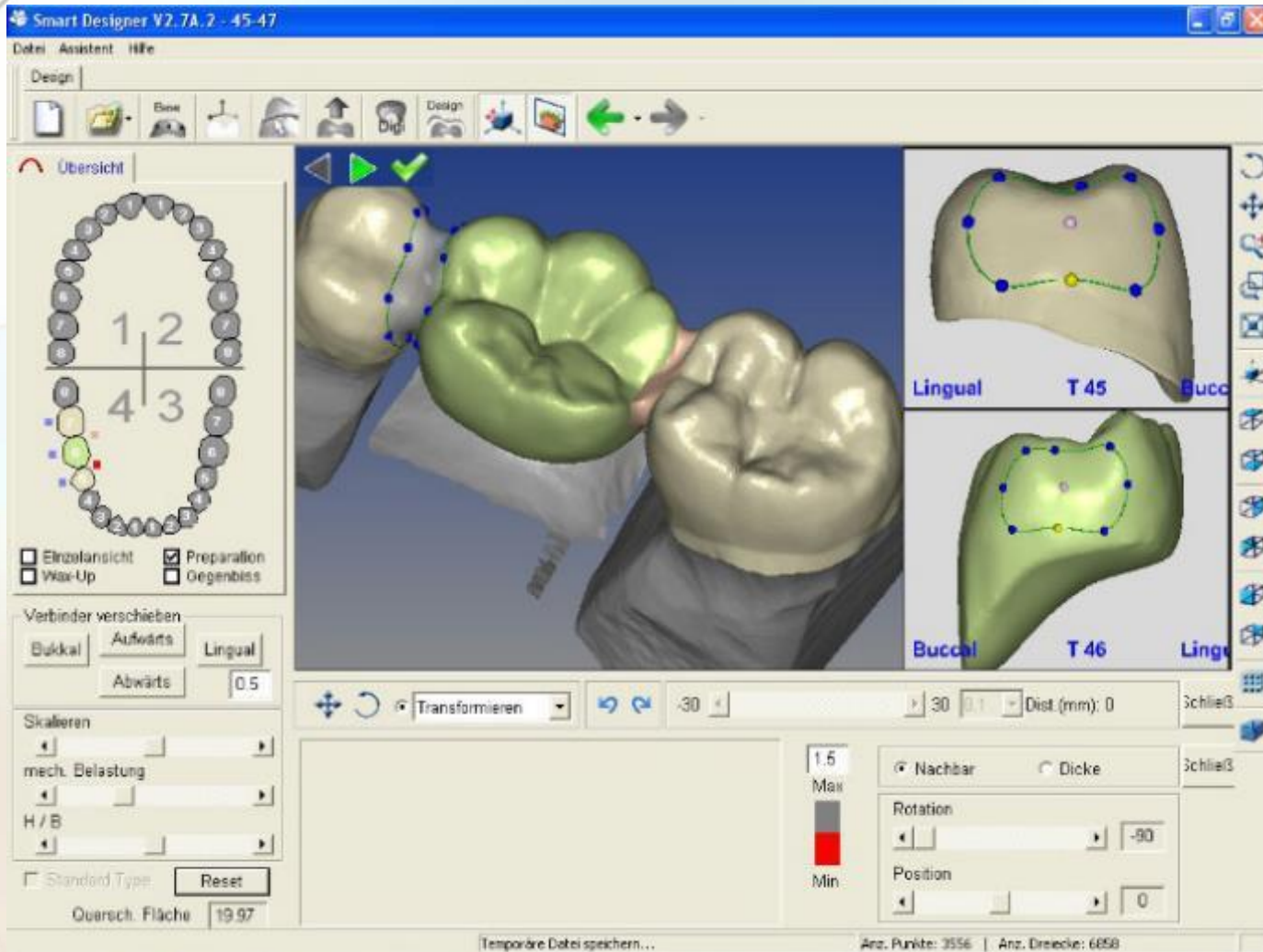
Out at Surge

# 3D Digital Dental Solution











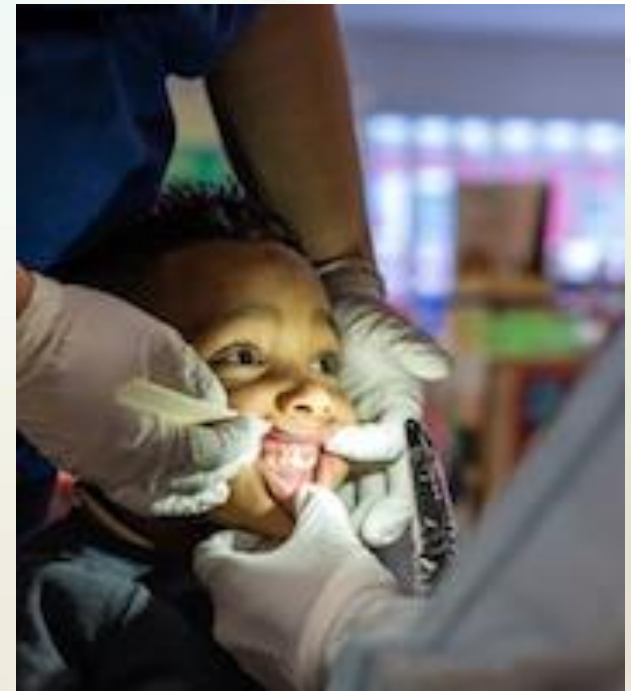
# Teledentistry

- Traditionally limited to conditions that only visual inspection or history is needed for interpretation
  - Oral medicine
  - Chronic Facial Pain
- Assisting patients with concerns:
  - Trauma
  - Finding a dentist
- Specific organizations with urban and rural centers:
  - MOH, KFSH, MOD, ect



# New Teledentistry Ventures

- Teledentistry-assisted, affiliated practice dental hygiene model
  - digitally acquire and transmit diagnostic data to a distant dentist for triage, diagnosis, and patient referral in addition to providing preventive services permitted within the dental hygiene scope of practice.



[video](#)





# Dental Education

- Integration of Learning management System (Virtual learning environments) with EHR's for scenario based learning.
- Visualization (constructivism & 3D Modeling)
- Learn & Recall
- Simulation
- Haptic devices



# Dental Informatics

**As a career**



# What do Dental Informaticians do?

- *Developing theoretical models* – designed to improve dental research.
- *Developing and setting up computer applications* – that make patient information and medical records more accessible
- *Design and install information systems* – that are easy for dentists, dental hygienists, and administrative assistants to use.
- *Analyze dental information systems* – to ensure they function properly and are useful resources, improve patient care, and eliminate costs.



# Where do Dental Informaticians work?

- Information technology companies
- Government agencies
- Dental schools, and universities and colleges.
- Large Dental Group Practices



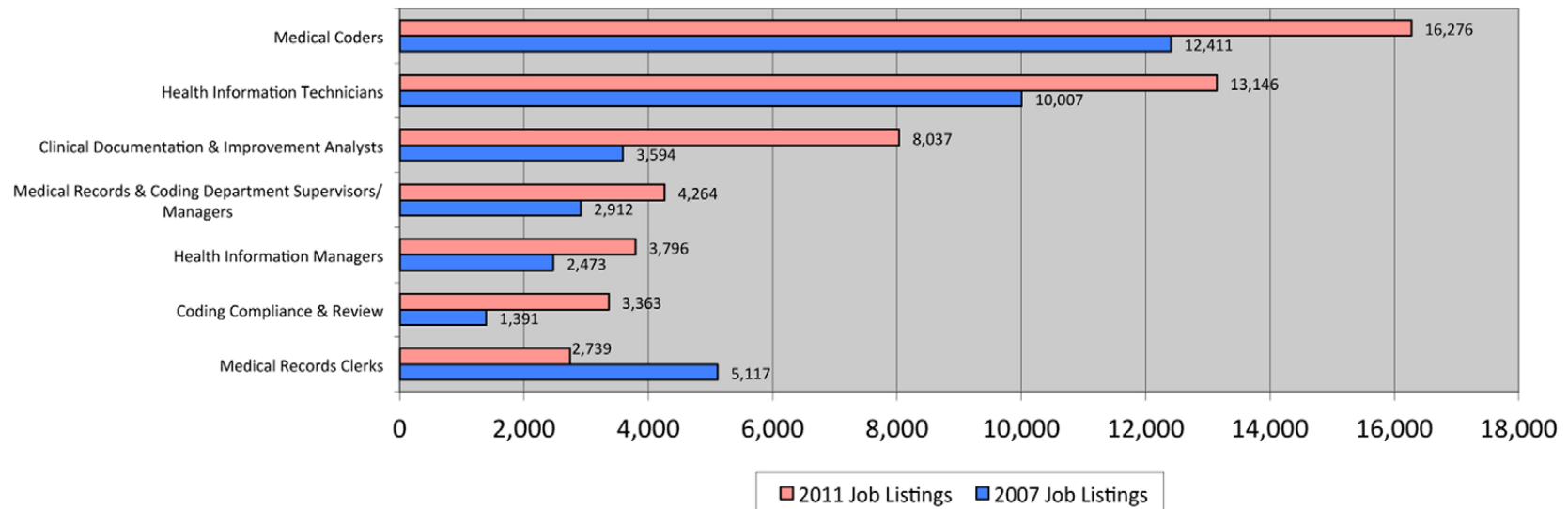
## Who do dental informaticians work with?

- They typically collaborate with dental care providers, technicians, and researchers.
- They're often assigned to research projects requiring precise observations, patience, and extensive technical knowledge.
- They must stay up to date about technological developments in information and computer science, engineering, and telecommunications.
- They must have a basic understanding of various dental practices and procedures.



# Growth of Informatics jobs

**Growth of Health Informatics Jobs by Type: 2007 v. 2011**





## Institutions that provide specialty training programs in dental informatics

- Most opportunities to pursue a degree is through a medical informatics degree with coupled with a background (bachelor's degree) in dentistry or dental hygiene.
- Most programs in medical informatics will allow a formal track in dental informatics, or projects can be aligned with the dental specialty.
- Specific dental programs have existed, but they are not permanent, as it is more cost effective to be a track within an existing health informatics degree.
- The National Institute of Dental and Craniofacial Research (NIDCR) has established a fellowship for oral health informatics: <https://www.nidcr.nih.gov/careers-training/dentists-physicians/fellowship-oral-health-informatics>



# Organizations that recognize and develop bylaws for dental informatics

- The American Dental Association (ADA) Center for Informatics and Standards: The Center for Informatics and Standards is a part of the ADA Practice Institute that provides subject matter expertise for policy development, [formal comments to federal agencies on proposed new regulations](#), [educational outreach](#), [publications](#), [dental informatics standards development activities](#), and advocacy. ADA Center for Informatics and Standards expertise encompasses topics like
  - EHRs
  - Regulatory requirements of the [Health Insurance Portability and Accountability Act \(HIPAA\)](#)
  - Electronic [transactions standards](#)
  - [Dental information technology standards](#)
  - Terminology standards development
  - Security of health information
  - Dental information systems
  - Digital imaging standards
  - Health information exchange
  - Other Federal HIT regulatory policy
  - <https://www.ada.org/en/member-center/member-benefits/practice-resources/dental-informatics>
- The American Medical Informatics Association (AMIA)- Dental Informatics Working Group (DI-WG): The mission of the Dental Informatics Working Group is to serve as the focus for individuals and organizations with interest or involvement in health informatics with an emphasis on dental informatics. The groups emphasis is on the sharing of expertise and experiences in the use of dental information systems, computer technology, and communications to improve patient care, research, and education.
  - <https://www.amia.org/programs/working-groups/dental-informatics>





# Research & publications in dental informatics

- Many institutions conduct several types of research within dental informatics, the most prominent center is in Pittsburg:
- <http://www.dental.pitt.edu/research/center-informatics-oral-health-translational-research-ciohtr>
- <http://www.dental.pitt.edu/dental-informatics-research>
- <http://www.dental.pitt.edu/research/dental-registry-and-dna-repository>



## Job offerings and job descriptions for dental informaticians (Sample real online postings):

- **Dental Informatics Administrative / Project Coordinator**
- Provides administrative support for the day-to-day operations of Dental Informatics: assertively informing lead team members of priorities, manages departmental calendars. Interprets, monitors and analyzes information regarding operating policies and procedures. Provides input for continuous improvement. Coordinate hiring, on and off boarding processes.
- Project Management: tracking of major program operations to support meeting deadlines, responding to customer requests, reporting obligations, and continuous improvement efforts. Facilitate select departmental projects to assure commitments are met, communication plans are in place, project status is known, and otherwise help shepherd projects through delivery to completion.
- Budgeting and Purchasing: Assist in preparation of budgets, managing and reconciling expenses. Maintains life cycles documents for the various technologies and manages all purchasing.
  
- **Director of Clinical informatics and technology (in a dental hospital/ clinic or school)**
- The overall responsibilities of the DCIT will be to develop strategies and integrate optimized clinical informatics and technology essential to achieving the vision and objectives stipulated in the Strategic Plan, thereby addressing the mission of the Dental Center. These strategies and the responsibilities will affect every aspect of the Dental Center's operations including operations, EHR, patient experiences, billing, collections and finances, compliance, and branding and marketing. The DCIT will set short-term and long-term strategy for informatics and technology and undertake the implementation of these strategies to deliver on the its goals, that involve collaborations throughout the center and community.
  
- **Clinical Informatics Operations Manager**
- Responsible for managing clinical informatics processes, priorities, and use of current and future business intelligence tools, clinical data and operational reporting business needs for the Population Health Department, with integration across the organization; utilizes outstanding interpersonal, communication, negotiation, and problem solving skills to build strong relationships with all levels of staff and management; and carries out all duties while maintaining compliance and confidentiality and promoting the mission and philosophy of the organization.

I CAN'T READ YOUR HANDWRITING, DOCTOR.  
DOES OUR PATIENT HAVE PLAQUE  
OR THE PLAGUE?

