2015 National Medicaid and CHIP Oral Health Symposium

Session #5

Dental Diagnostic Terminologies – from science into practice

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Washington Marriott Wardman Park
Monday, June 1st, 2015
Learning Objective(s)

Participants will gain knowledge in:

• The role of dental diagnoses in reaching the Triple Aim
• Historical overview of terminologies
• How to build program integrity by documenting diagnoses
• How to develop health outcomes using diagnoses in order to win State Contracts
• The power of a flexible interface terminology
Disclosure and Conflict of Interest Declaration

- I declare that neither I nor any member of my family have a financial arrangement or affiliation with any corporate organization offering financial support or grant monies for this continuing dental education program, nor do I have a financial interest in any commercial product(s) or service(s) I will discuss in the presentation.
Dentistry is an Important Partner

Based on Bellin Health
QI: Reaching the Triple Aim

- Health of a Population
  - Reporting data consistently
  - Determining cost-effectiveness of treatments
- Per Capita Cost
  - Administrative efficiencies
  - Tailoring care to diagnoses
- Experience of Care
  - Enhanced communication
- Evidence-based care
  - Understanding how patient is doing with respect to population with same diagnosis

Courtesy R. Ramoni Source: IHI
History of DX Terminologies
History of DX Terminologies

1893 Bertillon
1900 ICD 1
1975 ICD 9
1994 ICD 10
2020 ICD 11
History of DX Terminologies

- 1893: Bertillon
- 1900: ICD 1
- 1975: ICD 9
- 1994: ICD 10
- 2020: ICD 11
History of DX Terminologies

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- 1900 ICD 1
- 1975 ICD 9
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- 2020 ICD 11

1965 SNOP
1999 SNOMED CT
2012 SNODENT II

Ref Set?
History of DX Terminologies

- 1893: Bertillon
- 1900: ICD 1
- 1975: ICD 9
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- 2020: ICD 11
- 1965: SNOP
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- 2012: SNODENT II

Ref Set?
Quality Outcomes

Guidelines

DDS Dental Diagnostic System

Research

Audits
Dental Diagnostic System (DDS)

- Developed by dentists, informatics experts, researchers and academics
- $7+ million US government funds – properly developed and validated
- Disseminated to US dental schools & private dental offices, Europe, Caribbean, China
A severe gangrenous process

Synonym: Cancrum oris

ICD 9: 528.1; ICD 10: A69.0

Prevalence: Rare

DD: Lethal midline granuloma; malignant tumors; leukemia; agranulocytosis

Tx: Supportive

Other: Occurs mainly in malnourished children
• Available **without** charge
• Easily implemented in an EHR
• Constantly revised and updated
  – Feedback from users
  – Interactive webpage
Distribution of DDS 2014 Sources

- Overlap Z code & Specific ICD 9/10 (139, 9%)
- Oral Health Related ICD 9/10 (479, 31%)
- DDS specific (315, 21%)
- ABE Diagnoses (30, 2%)
- AAP Diagnoses (75, 5%)
- ICDAS (19, 1%)
- Z codes (611, 40%)
Unique Diagnostic Term Use

Academic sites (2012)
Of 1,284 Dx Terms
Unused 82%
Used 18%

LDG (2013)
Of 1,291 Dx Terms
Unused 65%
Used 35%
First Findings

We now know:

1) What are the most commonly diagnosed dental conditions at these three sites?

2) Are patients with a specific diagnosis being treated according to specified guidelines?
What are the most commonly diagnosed conditions 2011-2013?
2) Quality Outcomes Question

Are patients with a documented diagnosis of *Chronic Moderate Periodontitis* being treated according to current guidelines?
Tx for Generalized Chronic Moderate Periodontitis

- Prophy: 13%
- Perio Maint.: 4%
- Prophy & Maint.: 3%
- SR/P: 28%
- SR/P & Maint.: 15%
- SR/P & Prophy: 11%
- SR/P & PM & Prophy: 18%
- No Treatment: 18%
Example – Health Outcome Metrics

• How many of my patients with white lesions received sealants vs preventive resin restorations? Did they receive oral hygiene instructions?
  – DDS977804 (Active initial superficial enamel caries) – D1330 (OH instructions) and D1351 (Sealant) or D1352 (Preventive resin restoration)

• How many of my patients with arrested caries received fluoride varnish? Preventive fillings? Did they receive OH Instructions?
  – DDS 942692 (Primary non-active moderate dentin caries outer 1/3 of dentin) – D1206 (Fluoride) and D1352 (Preventive resin) and – D1330 (OH instructions)

• How many of my patients with caries into the pulp received extractions? Endo or pulp debridement? How does this breakdown by geographic areas? Age? Etc.?
  – DDS 977231 (Primary active extensive dentin caries to the pulp) – D3330 (Endo) or D7140 (Extraction) or D3221 (Pulp debridement)

• How many of my patients with high caries risk are being treated according to CAMBRA guidelines (Fluoride varnish, nutritional counseling, etc.)? Are they becoming lower caries risk over time?
  – DDS596479 – D1310 (nutritional counseling) and D1330 (OH instructions) and D1206 (Fluoride) and D0603 (caries risk assessment)
  – DDS596479(caries risk high) becomes DDS 391460 (caries risk low)
DDS diagnostic terms are mapped to ICD 9/10 codes for Medical and Dental Insurance billing
Example – EHR Interface: DDS mapped to CDT
Example – EHR Interface
Diagnostic Centric

- Dentists are in the habit of identifying a treatment and then a diagnosis.
- This is backwards.
- Diagnosis should drive treatment.
- A large dental group in the Pacific Northwest has used their EHR to make “diagnose then treat” the easiest for the dentist.
- This has created high compliance with dentists.
Example #19-DO
Tx first prompts pop up
Diagnosis first prompts the most popular treatments for #19-DO
EHR makes it easier to diagnose first, then treat.
Challenges

• Adopting any dental diagnostic terminology requires a culture change – from a treatment-based system to a diagnostic-centered approach
• Non-friendly EHR user-interface
• Will the terminology become outmoded?
• Not required for insurance reimbursement
• Unclear utility - how will it improve my practice?
• Fear of a loss of autonomy – Insurance oversight
Realities

- Yes this is a culture change – it is hard
- Yes, we will need the EHR vendors’ buy-in
- The DDS terminology will not become outmoded
- Medicaid is already doing Rec. Audits
- Utility is achieved with improved communication
- You can manage loss of autonomy by knowing the quality of care in your practice
Opportunities

• Adopting an interface terminology (i.e. DDS) provides the dentist with a practical terminology:
  – Assertional knowledge tool provides diagnostic information
  – Mapping to ICD for fast adjudication of claims
  – Mapping to CDT for health outcomes metrics

• Adopting the DDS will build Program Integrity
  – Pass Rec Audits with flying colors

• Adopting the DDS assures improved communication between providers and patient
Conclusions

• The DDS is easy to use for the dentist, chair-side

• The DDS does not compete with other terminologies, it strives to complete them

• The consistent documentation of diagnoses using the DDS will facilitate health outcome metrics development, Program Integrity, and the attainment of Recovery Audits in dentistry
Who would like to sign up to be a pilot site?
References

• Greenhalgh. How to Spread Good Ideas. A systematic review of the literature on diffusion, dissemination and sustainability of innovations in health service delivery and organization
• Walji, M.F., et al., Detection and characterization of usability problems in structured data entry interfaces in dentistry. International Journal of Medical Informatics, (o)
• Ramoni RB et al., Attitudes and beliefs toward the use of a dental diagnostic terminology A survey of dental providers in a dental practice, JADA 2015 in Press
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- 1983 – DDS (Rijks Universiteit Groningen, The Netherlands)
- 1986 – Residency in Oral and Maxillofacial Surgery (Boston University)
- 1989 – MPH (Harvard School of Public Health)
- 2007 – Assistant Dean of Clinical Affairs (HSDM)
- 2010 – Assistant Professor (HSDM)
- 2011 – Chair, Oral Health Policy and Epidemiology (HSDM)
- 2011 – Chief of Quality, Harvard Dental Center
- 2012 – Associate Professor (HSDM)
- 2013 – PhD (University of Amsterdam)
- 2014 – Extraordinary Professor (U of Pretoria)
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Session # 5

Information Systems and the Electronic Health Record – Challenges for Dental Integration

Nate Nelson

Washington Marriott Wardman Park
Tuesday, June 2nd, 2015
Learning Objective(s)

Participants will gain knowledge in:

• Current market trends facing dental care
• Challenges associated with medical and dental software integration
Overview

• Who We Are and What We Do
• Current Industry Trends
• Integration
• Erie Family Health Center
• What’s Coming
Who We Are and What We Do

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DENTRIX ENTERPRISE
Current Industry Trends

Private Group Practices

• In a 2-year period, **25-30%** growth
• **75 new offices** are added to a PGP every quarter
• DTXE customers expect to increase size/locations by **15%** in 2016
• PGP continue to grow at **9%**
Current Industry Trends

Public Health Practices

• In 2012, 219 new health center service locations were added
• 55% growth since 2000
• 80% of Public Health Organizations have dental onsite
• In 2015, 30-40 million patients served
• All new FQHC’s are required to have dental onsite
Current Industry Trends

Other Based Dental Clinics

• As of 2011, 25% of U.S. counties does not have a health center available
• These populations have to get care from somewhere else
• Increase in dental emergency room visits from 1.1 million in 2000 to 2.1 million in 2010
Effects of EHR Incentive Program

- Originally no dental-specific meaningful use criteria, now two clinical quality measures
- Hoped for an increase in openness for sharing patient information
- Significant increase adoption of electronic health record
Pairing Off
Effects of EHR Incentive Program

Software and Licensing

2007 2008 2009 2010 2011 2012 2013 2014
Value of Integration

- Increase efficiencies
- Improve economies of scale
- Provide patient convenience
- Improve quality of care
- Pairing off – dealing with one vendor
Challenges of Integration

• If you’ve seen one integrated medical and dental solution...you’ve seen one integrated medical and dental solution

• Medical and dental require very different functionality and the workflow is very different
  – Multiple codes

• Pairing off

• IT “Experts” – Internal/External
Challenges of Integration

• “Standards”
  – Health Level Seven (HL7)
    • Great in theory – difficult in practice
    • Pros and Cons
  – Fast Healthcare Interoperability Resource (FHIR)
  – Integrating Healthcare Enterprise (IHE) Cross Community Access (XCA)
Challenges of Integration
Challenges of Integration

Erie Family Health Center

• Founded in 1957
• 1983 – One of the first FQHCs in Illinois
• Serve more than 62,000 medical and 9,500 dental patients
• 13 health centers spanning west side of Chicago
• Utilize GE Centricity for EHR System
• Starting including dental care in 2004 with Dentrix Enterprise
Challenges of Integration

Erie Family Health Center

• Motivators
  – Improve economies of scale
  – Provide convenience for their patients with one front desk

• Started preparing May 2013 by researching different solutions

• Actual integration took about 3 months – Visualutions

• Went live April 1, 2014 – encountered many challenges
Challenges of Integration

Erie Family Health Center

• Next 8 months were very difficult
  – AR problems where charges were still going to DTXE in error
  – Volume reconciliation – reports from DTXE and CPS didn’t reconcile
  – Vendors were difficult to reach – particularly DTXE

• Solutions
  – Identified an internal improvement team
  – Connected with “consultant” to help resolve outstanding issues

• Operating in a “stable” environment for the last 5 months
Challenges of Integration

Erie Family Health Center

• Lessons Learned
  – Integration is a marathon not a sprint.
  – If you run into a roadblock, ask for help!
  – If your vendors aren’t helping...there are alternatives.
  – Integration is worth it.
  – Prepared for MU attestation
What’s in Store

• 21st Century Cures Bill
  – Mandate for interoperability by the end of 2017 or face penalties

• Third Party Integrator Expansion
  – Common Well Alliance
    • Expecting 5,000 provider locations by March 2016 – currently at 60
What’s in Store

• Project Argonaut
  – Health Level Seven (HL7)
  – Development of the necessary standards and data services needed for health IT interoperability

• FHIR Standards
  – Much like developer platforms such as Apple and Android
Thank You!

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