Advancing Oral Health Across the Lifespan
Session IV: Enhancing Oral Health Research and Innovation:
A Window into the Future

Transformative Role of 'Living' Evidence-Informed Guidelines in Clinical and Public Oral Health Systems

Alonso Carrasco-Labra DDS, MSc, PhD
Director, Cochrane Oral Health Center
Associate Professor, Center for Integrative Global Oral Health
University of Pennsylvania School of Dental Medicine
carrascl@upenn.edu

Outline

1. Review the **current landscape** of evidence-informed oral health guidelines.
2. Describe the three most common **misconceptions** about evidence-informed clinical and public health guidelines that prevent their establishment in the US oral health system.
3. Propose three concrete actions to establish evidence-informed clinical and public health **guidelines as critical levers* in medical and oral health learning systems.**

*Lever: A means of exerting pressure to accomplish something strategic; strategic aid.

Guidelines as essential levers of health systems

The need to create national policies and evidence-informed guidelines

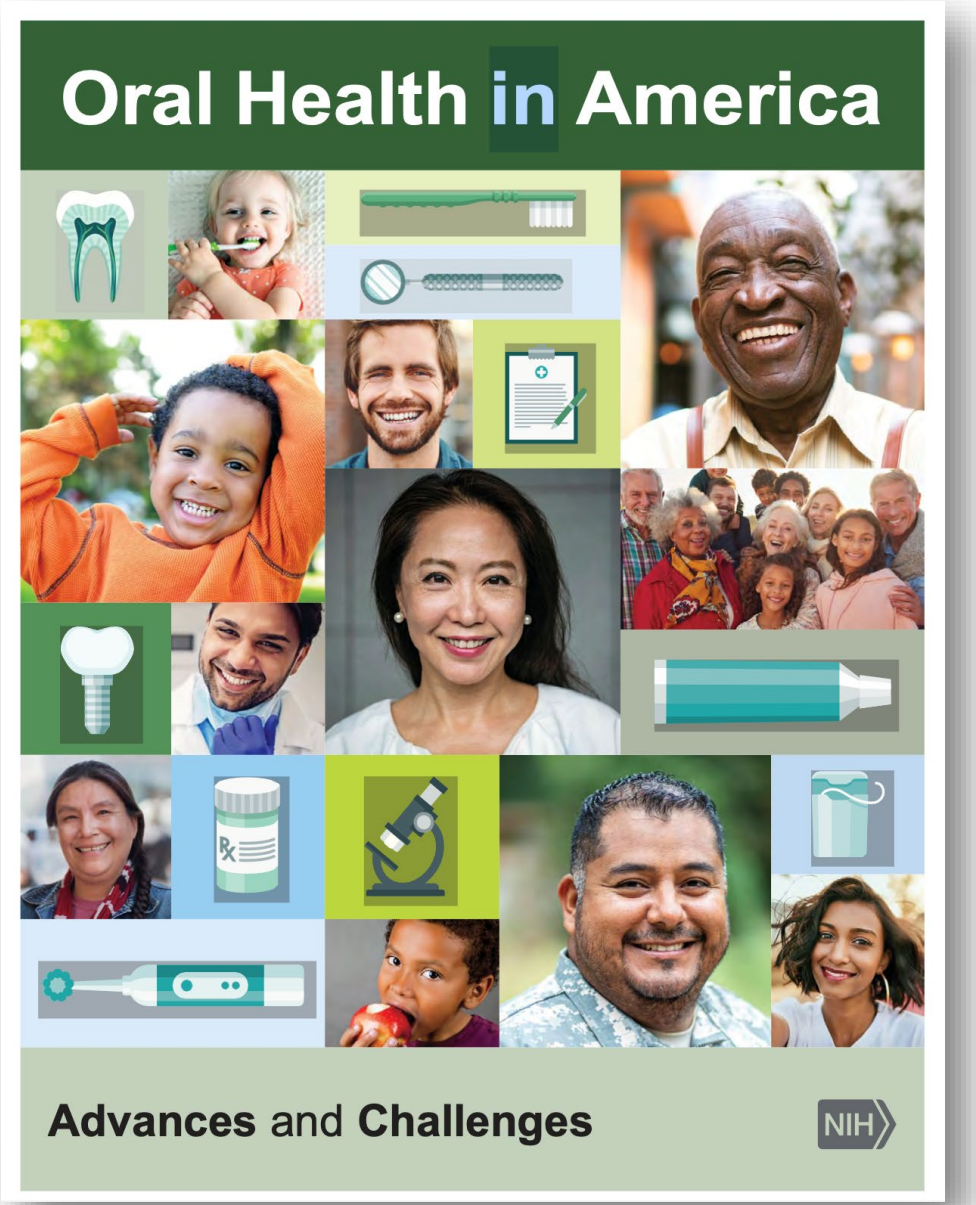
Global target 1.1: “By 2030, 80% of countries have an **operational national oral health policy**, **strategy or action plan** and dedicated staff for oral health at the Ministry of Health or other national governmental health agency.”

Global Target 6, action 91, highlights the need to “Develop country-specific, **evidence-based clinical practice guidelines**.”

Guidelines as essential levers of health systems

Professional Barriers

"These limits define the interprofessional practice relationships that allow the coordination of oral and medical care services. **The lack of clinical guidelines for treating oral health problems**, limitations on primary care providers' knowledge of oral health, and time to support integration activities are all challenges to professional integration."



Guidelines as essential levers of health systems

Organizational Barriers

"Organizational barriers to integration include the lack of agreements among professional organizations that promote integration, **shared governance over scope of practice and guidelines for care**, and lack of the accountability mechanisms needed to deliver comprehensive care to a defined population by a group of providers."

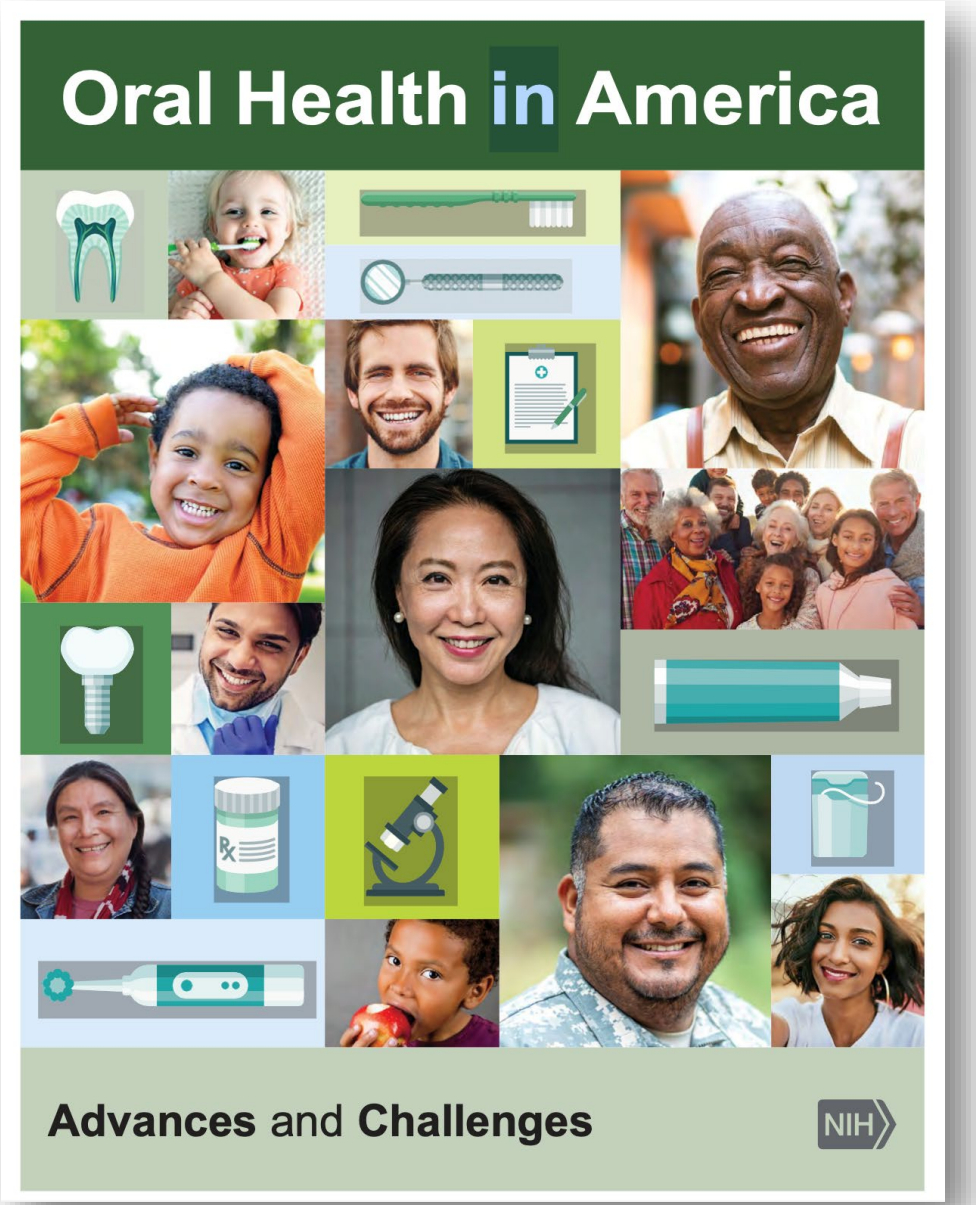
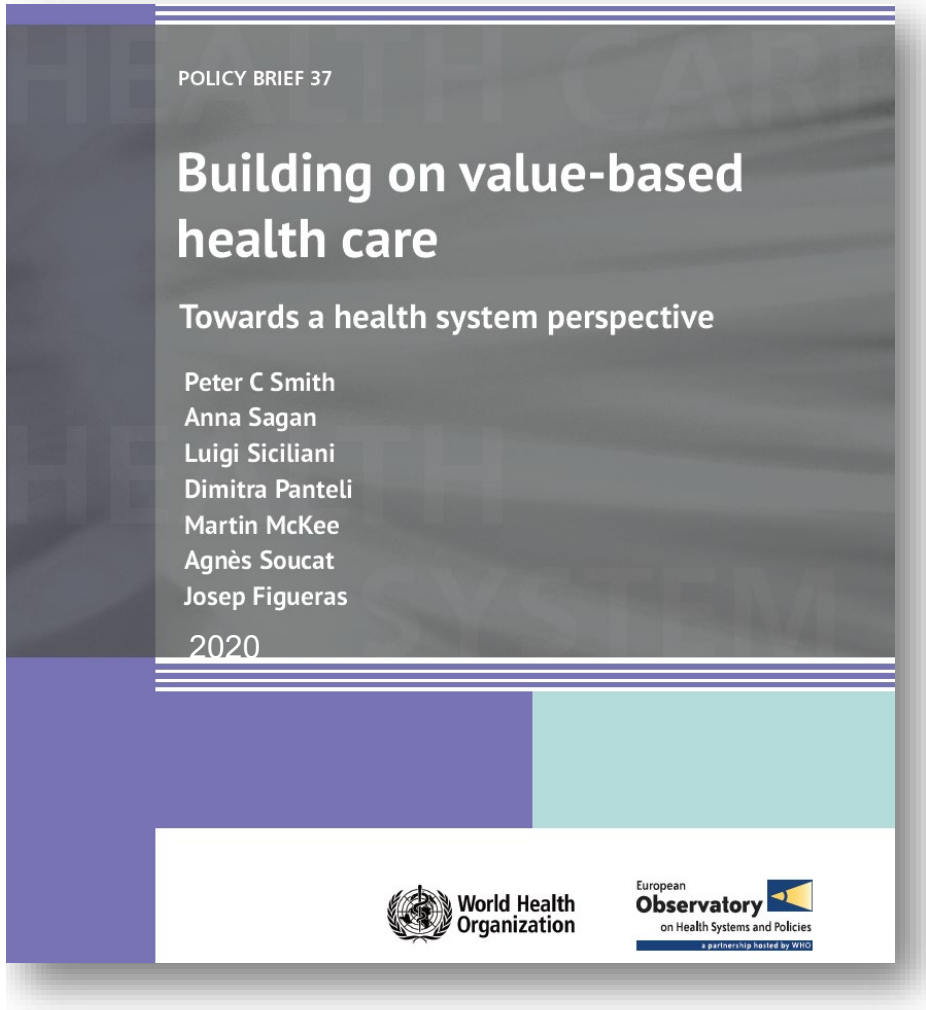


Table 1: Examples of policy levers to enhance health system value

	Health improvement	Responsiveness	Financial protection	Efficiency (min. waste)	Equity
National policymakers	HiAP initiatives; fiscal and regulatory measures for health promotion and disease prevention; behavioural interventions (nudging); strengthening PHC; promoting the use of evidence (e.g. via clinical guidelines); collection of digital data	Strengthening PHC	Funding sources; exemptions from user charges	Promoting the use of tools such as CEA, HTA, WHO CHOICE	Resource allocation; funding sources
Purchasers	Resource allocation (e.g. selection of health benefits package); strategic purchasing/payment mechanisms (e.g. to incentivize provision of health promotion and disease prevention)	Strategic purchasing (through e.g. better coordination, incentivising quality through P4P); personal budgets for patients and caregivers; integrating care services	Monitoring use of private sector	Strategic purchasing; payment mechanisms	Strategic purchasing; assuring access to services; local resource allocation
Provider organizations	Training; promoting adherence to clinical guidelines	Workforce development; adapting skill mix; supporting patient involvement; use of eHealth		Management processes; internal accounting; use of eHealth	
Practitioners	CPD; adherence to clinical guidelines	Training; use of eHealth		Adherence to economic guidelines; minimizing waste; use of eHealth	
Citizens and patients	Healthy living/avoiding risky behaviours; compliance with treatment regimens; involvement in decision-making (bodies) related to health; participation in treatment decisions	Exercising choice of provider; making preferences clear (e.g. via PREMs); use of eHealth	Assuring usefulness of purchased services	Exercising choice of provider; using resources appropriately; use of eHealth	Ensuring knowledge and exercise of entitlements

Notes: The darker shading indicates a greater contribution to the given dimension of value, while the lightest shading suggest smaller contribution. CEA = cost–effectiveness analysis; CHOICE = CHOosing Interventions that are Cost-Effective (a WHO initiative developed in 1998 with the objective of providing policy-makers with evidence for deciding on interventions and programmes which maximize health for the available resources); CPD = continuous professional development; HiAP = Health in All Policies; HTA = health technology assessment; PREMs = patient-reported experience measures; PHC = primary health care.

Source: Authors' own compilation.



"Advances in information technology can support evidence-based practice by simplifying evidence synthesis, endorsing adherence (e.g. decision support software) and improving the accessibility of evidence at the bedside."

Current landscape of evidence oral health guidelines

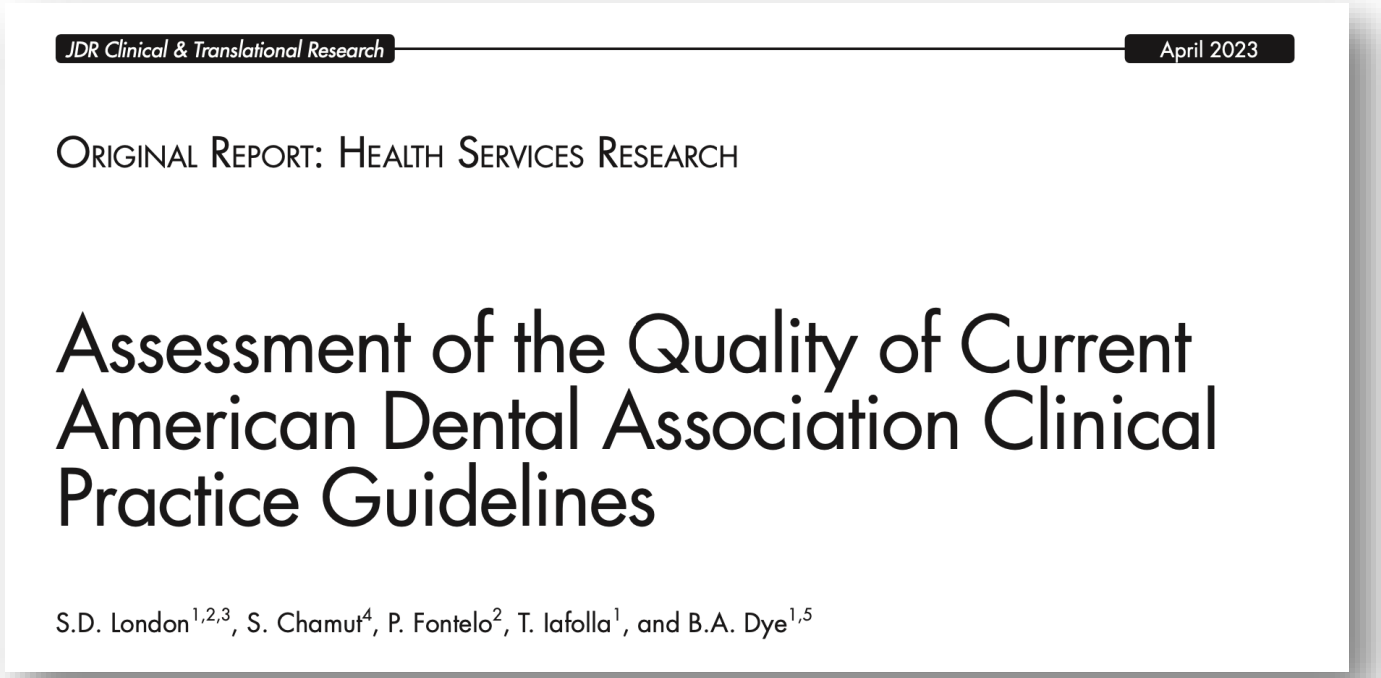
13
ADA
guidelines

6
Up-to-date
guidelines

Is this enough to cover all relevant clinical and public health questions?

Are we ready to elevate the standard for guideline development?

Quality of oral health guidelines in the US



JDR Clinical & Translational Research — April 2023

ORIGINAL REPORT: HEALTH SERVICES RESEARCH

Assessment of the Quality of Current American Dental Association Clinical Practice Guidelines

S.D. London[1,2,3], S. Chamut[4], P. Fontelo[2], T. Iafolla[1], and B.A. Dye[1,5]

Objective: to measure the methodological rigor and transparency of the ADA clinical practice guidelines.

Limitations: Editorial independence, stakeholder engagement, applicability (implementation).

"Overall, our review of the existing ADA CPGs collectively demonstrates a high level of quality and fidelity regarding methodology, reporting, and transparency."

London SD, Chamut S, Fontelo P, Iafolla T, Dye BA. Assessment of the Quality of Current American Dental Association Clinical Practice Guidelines. JDR Clin Trans Res. 2023 Apr;8(2):178-187.

Cover Story

Evidence-based clinical practice guideline for the pharmacologic management of acute dental pain in adolescents, adults, and older adults

A report from the American Dental Association Science and Research Institute, the University of Pittsburgh, and the University of Pennsylvania

Alonso Carrasco-Labra, DDS, MSc, PhD; Deborah E. Polk, PhD; Olivia Urquhart, MPH; Tara Aghaloo, DDS, MD, PhD; J. William Claytor, Jr., DDS, MAGD; Vineet Dhar, BDS, MDS, PhD; Raymond A. Dionne, DDS, MS, PhD; Lorena Espinoza, DDS, MPH; Sharon M. Gordon, DDS, MPH, PhD; Elliot V. Hersh, DMD, MS, PhD; Alan S. Law, DDS, PhD; Brian S.-K. Li; Paul J. Schwartz, DMD; Katie J. Suda, PharmD, MS; Michael A. Turturro, MD; Marjorie L. Wright, DMD, MPH; Tim Dawson, PhD; Anna Miroshnychenko, MSc; Sarah Pahlke, MS; Lauren Pilcher, MSPH; Michelle Shirey, MS; Malavika Tampi, MPH; Paul A. Moore, DMD, PhD, MPH

Supplemental material is available online.

This article has an accompanying online continuing education activity available at: http://jada.ada.org/ce/home.

ABSTRACT

Background. A panel convened by the American Dental Association Science and Research Institute, the University of Pittsburgh, and the University of Pennsylvania conducted systematic reviews and meta-analyses and formulated evidence-based recommendations for the pharmacologic management of acute dental pain after simple and surgical tooth extraction(s) and for the temporary management (ie, definitive dental treatment not immediately available) of toothache associated with pulp and periapical diseases in adolescents, adults, and older adults.

Types of Studies Reviewed. The panel conducted 4 systematic reviews to determine the effect of opioid and nonopioid analgesics, local anesthetics, corticosteroids, and topical anesthetics on acute dental pain. The panel used the Grading of Recommendations, Assessment, Development and Evaluation approach to assess the certainty of the evidence and the Grading of Recommendations, Assessment, Development and Evaluation Evidence-to-Decision Framework to formulate recommendations.

Results. The panel formulated recommendations and good practice statements using the best available evidence. There is a beneficial net balance favoring the use of nonopioid medications compared with opioid medications. In particular, nonsteroidal anti-inflammatory drugs alone or in combination with acetaminophen likely provide superior pain relief with a more favorable safety profile than opioids.

Conclusions and Practical Implications. Nonopioid medications are first-line therapy for managing acute dental pain after tooth extraction(s) and the temporary management of toothache. The use of opioids should be reserved for clinical situations when the first-line therapy is insufficient to reduce pain or there is contraindication of nonsteroidal anti-inflammatory drugs. Clinicians should avoid the routine use of just-in-case prescribing of opioids and should exert extreme caution when prescribing opioids to adolescents and young adults.

Key Words. Clinical practice guideline; acute dental pain; tooth extractions; toothache; analgesics; opioids.

Practice Guidelines

Evidence-based clinical practice guideline for the pharmacologic management of acute dental pain in children

A report from the American Dental Association Science and Research Institute, the University of Pittsburgh School of Dental Medicine, and the Center for Integrative Global Oral Health at the University of Pennsylvania

Alonso Carrasco-Labra, DDS, MSc, PhD; Deborah E. Polk, PhD; Olivia Urquhart, MPH; Tara Aghaloo, DDS, MD, PhD; J. William Claytor, Jr, DDS, MAGD; Vineet Dhar, BDS, MDS, PhD; Raymond A. Dionne, DDS, MS, PhD; Lorena Espinoza, DDS, MPH; Sharon M. Gordon, DDS, MPH, PhD; Elliot V. Hersh, DMD, MS, PhD; Alan S. Law, DDS, PhD; Brian S.-K. Li; Paul J. Schwartz, DMD; Katie J. Suda, PharmD, MS; Michael A. Turturro, MD, FACEP; Marjorie L. Wright, DMD, MPH; Tim Dawson, PhD; Anna Miroshnychenko, MSc; Sarah Pahlke, MS; Lauren Pilcher, MSPH; Michelle Shirey, MS; Malavika Tampi, MPH; Paul A. Moore, DMD, PhD, MPH

ABSTRACT

Background. A guideline panel convened by the American Dental Association Council on Scientific Affairs, American Dental Association Science and Research Institute, University of Pittsburgh School of Dental Medicine, and Center for Integrative Global Oral Health at the University of Pennsylvania conducted a systematic review and meta-analyses and formulated evidence-based recommendations for the pharmacologic management of acute dental pain after 1 or more simple and surgical tooth extractions and the temporary management of toothache (that is, when definitive dental treatment not immediately available) associated with pulp and furcation or periapical diseases in children (< 12 years).

Types of Studies Reviewed. The authors conducted a systematic review to determine the effect of analgesics and corticosteroids in managing acute dental pain. They used the Grading of Recommendations Assessment, Development and Evaluation approach to assess the certainty of the evidence and the Grading of Recommendations Assessment, Development and Evaluation Evidence to Decision framework to formulate recommendations.

Results. The panel formulated 7 recommendations and 5 good practice statements across conditions. There is a small beneficial net balance favoring the use of nonsteroidal anti-inflammatory drugs alone or in combination with acetaminophen compared with not providing analgesic therapy. There is no available evidence regarding the effect of corticosteroids on acute pain after surgical tooth extractions in children.

Conclusions and Practical Implications. Nonopioid medications, specifically nonsteroidal anti-inflammatory drugs like ibuprofen and naproxen alone or in combination with acetaminophen, are recommended for managing acute dental pain after 1 or more tooth extractions (that is, simple and surgical) and the temporary management of toothache in children (conditional recommendation, very low certainty). According to the US Food and Drug Administration, the use of codeine and tramadol in children for managing acute pain is contraindicated.

Original Contributions

Check for updates

ADA CE Program

Supplemental material is available online.

Evidence-based clinical pr
antibiotic use for the urg
pulpal- and periapical-rel
intraoral swelling

A report from the American De

Peter B. Lockhart, DDS; Malavika P. Tampi, MPH; Anita Aminoshariae, DDS, MS; Michael J. Durkin, Prerna Gopal, BDS, PhD; Benjamin W. Hatten, MD Erinne Kennedy, DMD, MPH, MMSc; Melanie S. L Thomas Paumier, DDS; Katie J. Suda, PharmD, MS Olivia Urquhart, MPH; Kelly K. O'Brien, MLIS; Alon

ABSTRACT

Background. An expert panel convened by the A entific Affairs and the Center for Evidence-Based formulated clinical recommendations for the urgent pitis with or without symptomatic apical periodon periodontitis, or pulp necrosis and localized acute api adjuncts to definitive, conservative dental treatment

Types of Studies Reviewed. The authors condu Embase, the Cochrane Library, and the Cumulative to retrieve evidence on benefits and harms associat Grading of Recommendations Assessment, Develop certainty in the evidence and the Evidence-to-Decis

Results. The panel formulated 5 clinical recommer specific to the target conditions, for settings in whic With likely negligible benefits and potentially large antibiotics in most clinical scenarios, irrespective o tibiotics in patients with systemic involvement (for conditions or when the risk of experiencing progression to systemic involvement is high.

Conclusion and Practical Implications. Evidence suggests that antibiotics for the target conditions may provide negligible benefits and probably contribute to large harms. The expert panel suggests that antibiotics for target conditions be used only when systemic involvement is present and that immediate DCDT should be prioritized in all cases.

American College of Emergency Physicians®

What are you looking for?

Sign In | Join/Renew

Topics | Practice | Education | Advocacy | About ACEP

American College of Emergency Physicians / Clinical Policies / Clinical Policies from Outside Organizations and Endorsed by ACEP

Clinical Policies from Outside Organizations and Endorsed by ACEP

SCAI SHOCK Stage Classification Expert Consensus Update: A Review and Incorporation of Validation Studies

Endorsed by ACEP, November 15, 2021
View Page

Surviving Sepsis Campaign: International Guidelines for Management of Sepsis and Septic Shock 2021

Endorsed by ACEP, February 4, 2021
View Page

Evidence-Based Clinical Practice Guideline on Antibiotic Use for the Urgent Management of Pulpal- and Periapical-Related Dental Pain and Intraoral Swelling: A Report from the American Dental Association

Endorsed by ACEP, April 14, 2020
View Page

Evidence-Based Clinical Practice Guideline on Antibiotic Use for the Urgent Management of Pulpal- and Periapical-Related Dental Pain and Intraoral Swelling: A Report from the American Dental Association

Summary of clinical recommendations for urgent situations in dental settings where definitive, conservative dental treatment[1] is **immediately available**

GRADE Certainty of the Evidence

High	We are very confident that the true effect lies close to that of the estimate of the effect.
Moderate	We are moderately confident in the effect estimate. The true effect is likely to be close to the estimate of the effect.
Low	Our confidence in the effect estimate is limited.
Very Low	We have very little confidence in the effect estimate.

GRADE Interpretation of Strength of Recommendations

Implications	Strong Recommendations	Conditional Recommendations
For Patients	Most individuals in this situation would want the recommended course of action and only a small proportion would not.	The majority of individuals in this situation would want the suggested course of action, but many would not.
For Clinicians	Most individuals should receive the intervention.	Recognize that different choices will be appropriate for individual patients and that you must help each patient arrive at a management decision consistent with his or her values and preferences.
For Policy Makers	The recommendation can be adapted as policy in most situations.	Policy making will require substantial debate and involvement of various stakeholders.

Expert Panel Recommendations and Good Practice Statement	Certainty of the Evidence	Strength of Recommendation
The expert panel suggests dentists ***do not prescribe*** oral systemic antibiotics as an adjunct to definitive, conservative dental treatment[1] for immunocompetent[2] adults with **symptomatic irreversible pulpitis[3] with or without symptomatic apical periodontitis.[3]**	**Very Low**	**Conditional**
The expert panel recommends dentists ***do not prescribe*** oral systemic antibiotics as an adjunct to definitive, conservative dental treatment[1] for immunocompetent[2] adults with **pulp necrosis and symptomatic apical periodontitis[3] or localized acute apical abscess.[3]**	**Very Low**	**Strong**

Good practice statement: The expert panel suggests dentists **perform urgent, definitive, conservative dental treatment[1] in conjunction with prescribing** oral amoxicillin (500 mg, 3 times per day, 3–7 d) or oral penicillin V potassium (500 mg, 4 times per day, 3–7 d)[4,5,6] for immunocompetent[2] adults with **pulp necrosis and acute apical abscess with systemic involvement.[3]** If the clinical condition worsens or if there is concern for deeper space infection or immediate threat to life, refer for urgent evaluation.[7]

1 Definitive, conservative dental treatment refers to pulpotomy, pulpectomy, nonsurgical root canal treatment, or incision for drainage of abscess. Extractions are not within the scope of this guideline. Only clinicians who are authorized or trained to perform the specified treatments should do so.

2 Immunocompetent is defined as the ability of the body to mount an appropriate immune response to an infection. Immunocompromised patients do not meet the criteria for this recommendation, and they can include, but are not limited to, patients with HIV with an AIDS-defining opportunistic illness, cancer, organ or stem cell transplants, and autoimmune conditions on immunosuppressive drugs.

3 For a description of the target pulpal and periapical conditions, refer to the associated clinical practice guideline.

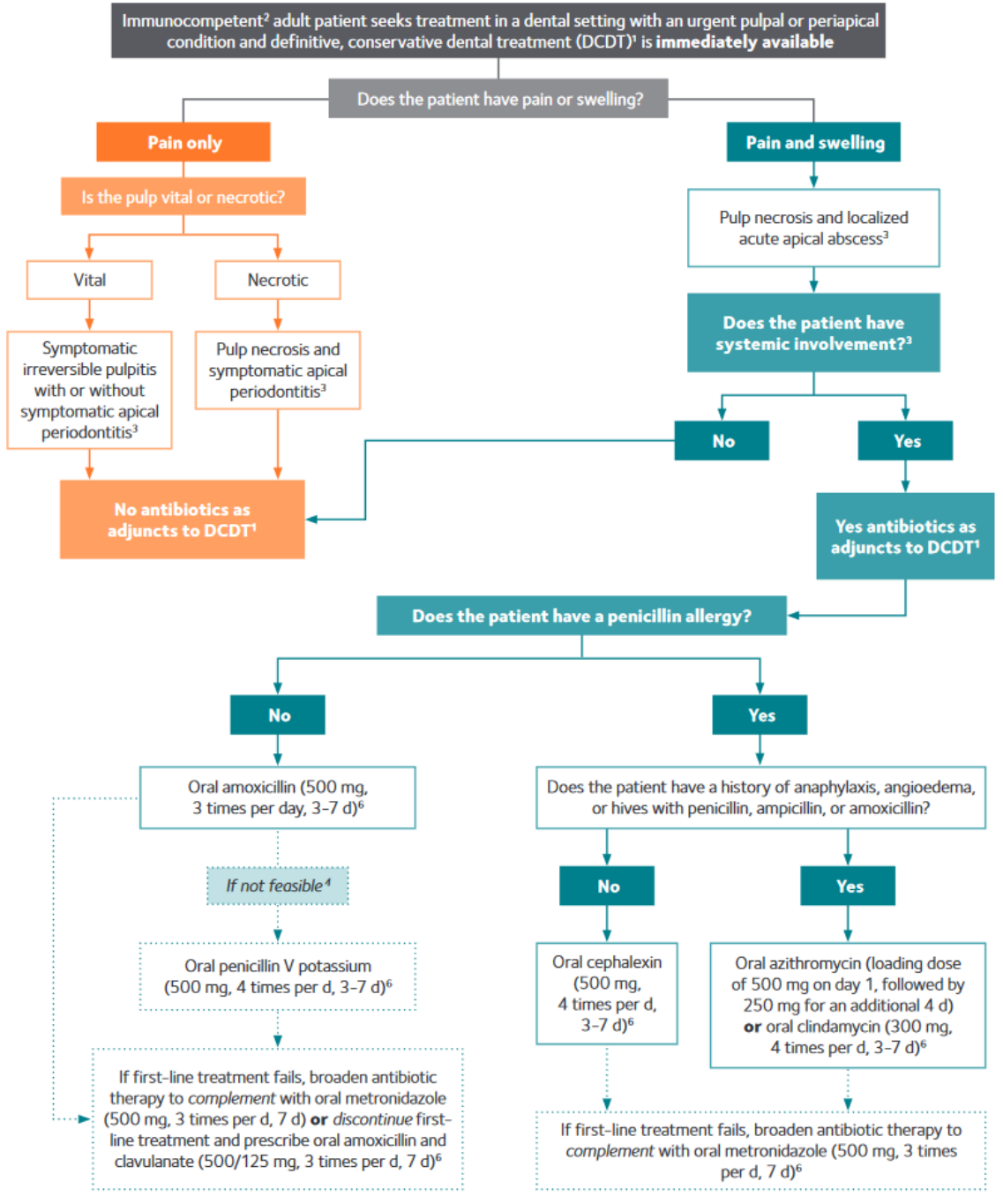
4 Although the expert panel recommends both amoxicillin and penicillin V potassium as first-line treatments, amoxicillin is preferred over penicillin V potassium because it is more effective against various gram-negative anaerobes and is associated with lower incidence of gastrointestinal adverse effects.

5 Refer to the opposite side of this chairside guide and the associated clinical practice guideline for additional considerations when choosing the appropriate antibiotic for your patient. An antibiotic with a similar spectrum of activity to those recommended above can be continued if the antibiotic was initiated before the patient sought treatment. As with any antibiotic use, the patient should be informed about symptoms that may indicate lack of antibiotic efficacy and adverse drug events.

6 Clinicians should reevaluate patient within 3 d (for example, in-person visit or phone call). Dentists should instruct patient to discontinue antibiotics 24 h after patient's symptoms resolve, irrespective of reevaluation after 3 d.

7 Urgent evaluation will most likely be conducted in an urgent care setting or an emergency department.

ADA Center for Evidence-Based Dentistry™



See footnotes on opposite side.

Evidence-Based Clinical Practice Guideline on Antibiotic Use for the Urgent Management of Pulpal- and Periapical-Related Dental Pain and Intraoral Swelling: A Report from the American Dental Association

Summary of clinical recommendations for urgent situations in dental settings where definitive, conservative dental treatment[1] is **not immediately available**

GRADE Certainty of the Evidence

High	We are very confident that the true effect lies close to that of the estimate of the effect.
Moderate	We are moderately confident in the effect estimate. The true effect is likely to be close to the estimate of the effect.
Low	Our confidence in the effect estimate is limited.
Very Low	We have very little confidence in the effect estimate.

GRADE Interpretation of Strength of Recommendations

Implications	Strong Recommendations	Conditional Recommendations
For Patients	Most individuals in this situation would want the recommended course of action and only a small proportion would not.	The majority of individuals in this situation would want the suggested course of action, but many would not.
For Clinicians	Most individuals should receive the intervention.	Recognize that different choices will be appropriate for individual patients and that you must help each patient arrive at a management decision consistent with his or her values and preferences.
For Policy Makers	The recommendation can be adapted as policy in most situations.	Policy making will require substantial debate and involvement of various stakeholders.

Expert Panel Recommendations and Good Practice Statement	Certainty of the Evidence	Strength of Recommendation
The expert panel recommends dentists ***do not prescribe*** oral systemic antibiotics for immunocompetent[2] adults with **symptomatic irreversible pulpitis[3] with or without symptomatic apical periodontitis.[3]** Clinicians should refer[4] patients for definitive, conservative dental treatment[1] while providing interim monitoring.[5]	**Low**	**Strong**
The expert panel suggests dentists ***do not prescribe*** oral systemic antibiotics for immunocompetent[2] adults with **pulp necrosis and symptomatic apical periodontitis.[3]** Clinicians should refer[4] patients for definitive, conservative dental treatment[1] while providing interim monitoring.[5] If definitive, conservative dental treatment is not feasible, a delayed prescription[6] for oral amoxicillin (500 mg, 3 times per d, 3–7 d) or oral penicillin V potassium (500 mg, 4 times per d, 3–7 d)[7,8,9] should be provided.	**Very Low**	**Conditional**
The expert panel suggests dentists **prescribe** oral amoxicillin (500 mg, 3 times per d, 3–7 d) or oral penicillin V potassium (500 mg, 4 times per d, 3–7 d)[7,8,9] for immunocompetent[2] adults with **pulp necrosis and localized acute apical abscess.[3]** Clinicians also should provide urgent referral[4] as definitive, conservative dental treatment[1] should not be delayed.[5]	**Very Low**	**Conditional**
Good practice statement: The expert panel suggests dentists **prescribe** oral amoxicillin (500 mg, 3 times per d, 3–7 d) or oral penicillin V potassium (500 mg, 4 times per d, 3–7 d)[7,8,9] for immunocompetent[2] adults with **pulp necrosis and acute apical abscess with systemic involvement.[3]** Clinicians also should provide urgent referral[5] as definitive, conservative dental treatment[1] should not be delayed.[5] If the clinical condition worsens or if there is concern for deeper space infection or immediate threat to life, refer patient for urgent evaluation.[10]		

1 Definitive, conservative dental treatment refers to pulpotomy, pulpectomy, nonsurgical root canal treatment, or incision for drainage of abscess. Extractions are not within the scope of this guideline. Only clinicians who are authorized or trained to perform the specified treatments should do so.

2 Immunocompetent is defined as the ability of the body to mount an appropriate immune response to an infection. Immunocompromised patients do not meet the criteria for this recommendation, and they can include, but are not limited to, patients with HIV with an AIDS-defining opportunistic illness, cancer, organ or stem cell transplants, and autoimmune conditions on immunosuppressive drugs.

3 For a description of the target pulpal and periapical conditions, refer to the associated clinical practice guideline.

4 Clinicians including dentists, dental hygienists, and other members of the dental care team may refer patients to an endodontist, oral and maxillofacial surgeon, or general dentist who is trained to perform definitive, conservative dental treatment.

5 Patients should be instructed to call if their condition deteriorates (progression of disease to a more severe state) or if the referral to receive definitive, conservative dental treatment within 1–2 d is not possible. Evidence suggests that nonsteroidal anti-inflammatory drugs and acetaminophen (specifically, 400–600 mg ibuprofen plus 1,000 mg acetaminophen) may be effective in managing dental pain.

6 Dentists should communicate to the patient that *if* their symptoms worsen and they experience swelling or pus formation, the delayed prescription should be filled. Delayed prescribing is defined by the Centers for Disease Control and Prevention as a prescription that is used for patients with conditions that usually resolve without treatment but who can benefit from antibiotics if the conditions do not improve.

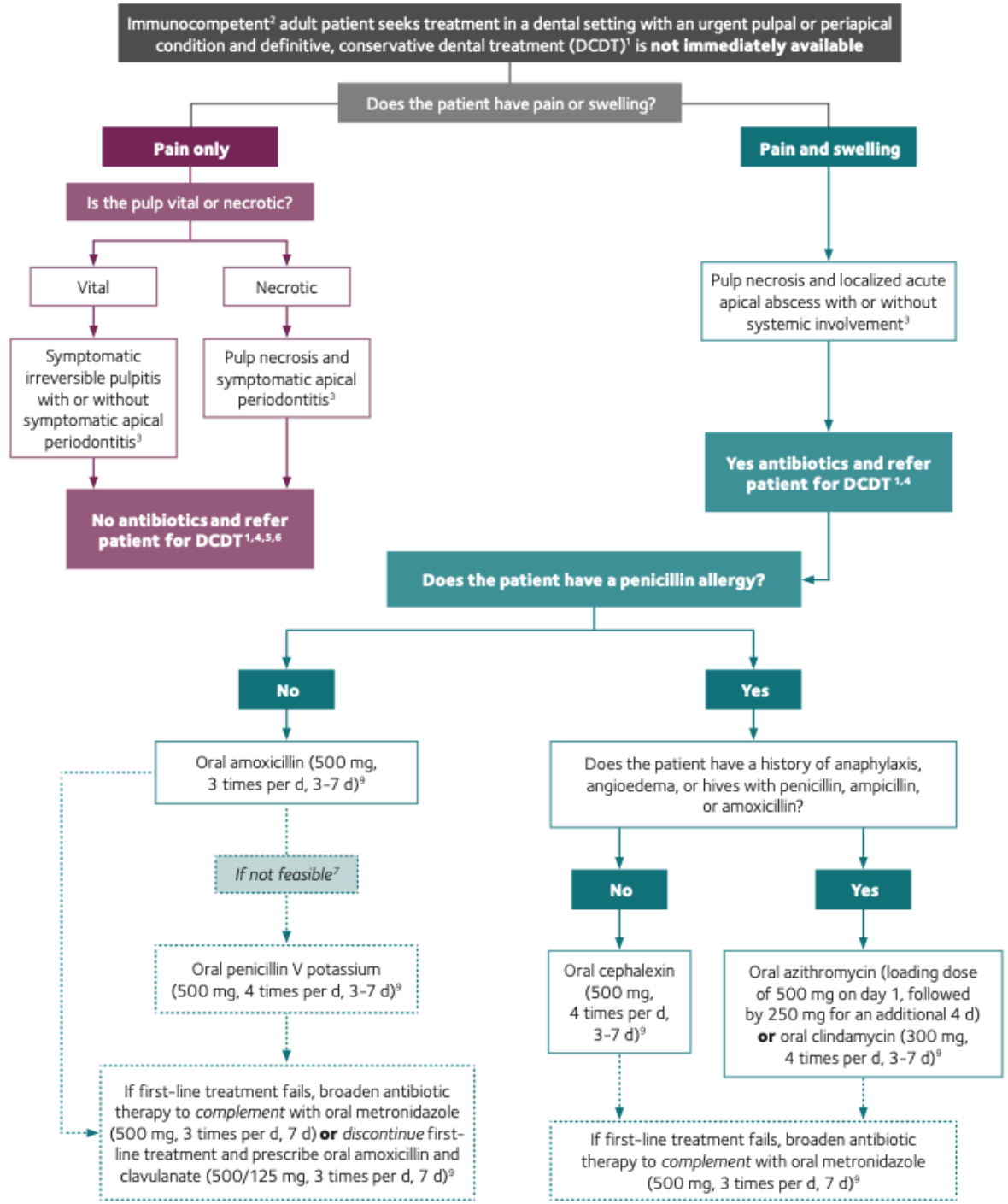
7 Although the expert panel recommends both amoxicillin and penicillin V potassium as first-line treatments, amoxicillin is preferred over penicillin V potassium because it is more effective against various gram-negative anaerobes and is associated with lower incidence of gastrointestinal adverse effects.

8 Refer to the opposite side of this chairside guide and the associated clinical practice guideline for additional considerations when choosing the appropriate antibiotic for your patient. An antibiotic with a similar spectrum of activity to those recommended above can be continued if the antibiotic was initiated before the patient sought treatment. As with any antibiotic use, the patient should be informed about symptoms that may indicate lack of antibiotic efficacy and adverse drug events.

9 Clinicians should reevaluate patient within 3 d (for example, in-person visit or phone call). Dentists should instruct patient to discontinue antibiotics 24 h after patient's symptoms resolve, irrespective of reevaluation after 3 d.

10 Urgent evaluation will most likely be conducted in an urgent care setting or an emergency department.

ADA Center for Evidence-Based Dentistry™



Debunking misconceptions

There is **not enough evidence** to create evidence-informed clinical or public health guidelines.

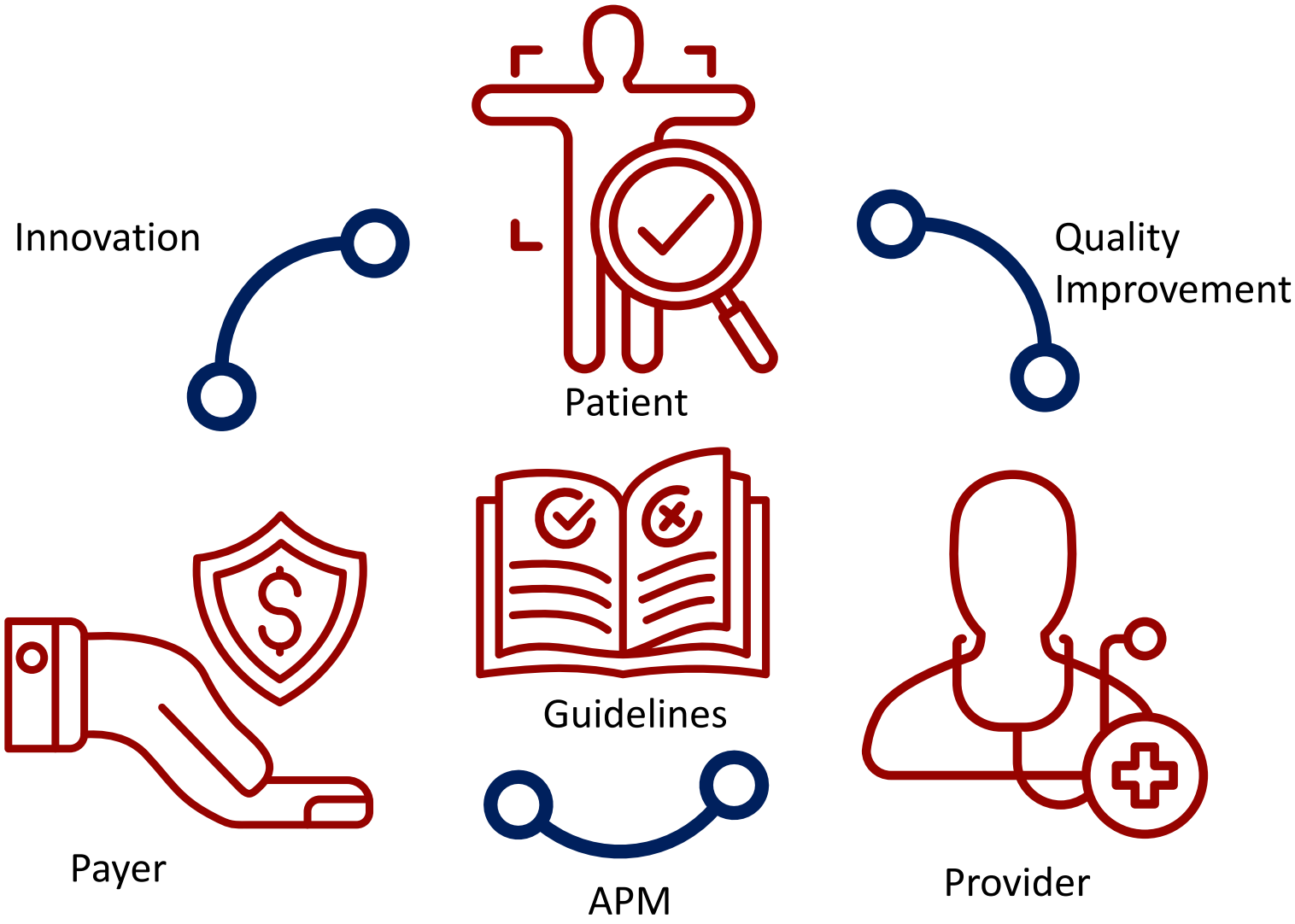
Guidelines are **too expensive** and **take too long** to develop to be helpful in informing clinical and public health decisions in a timely manner.

Guidelines are written statements published in peer-reviewed journals that **clinicians do not read** and that do not play a role **in informing population-level decision-making**.

Guidelines: Essential for learning health systems 1

The creation of guidelines is an **extensive stakeholder engagement exercise**, informed by the best available evidence, about the desirable and undesirable effects of clinical or public health interventions.

Guidelines: Essential for learning health systems 1



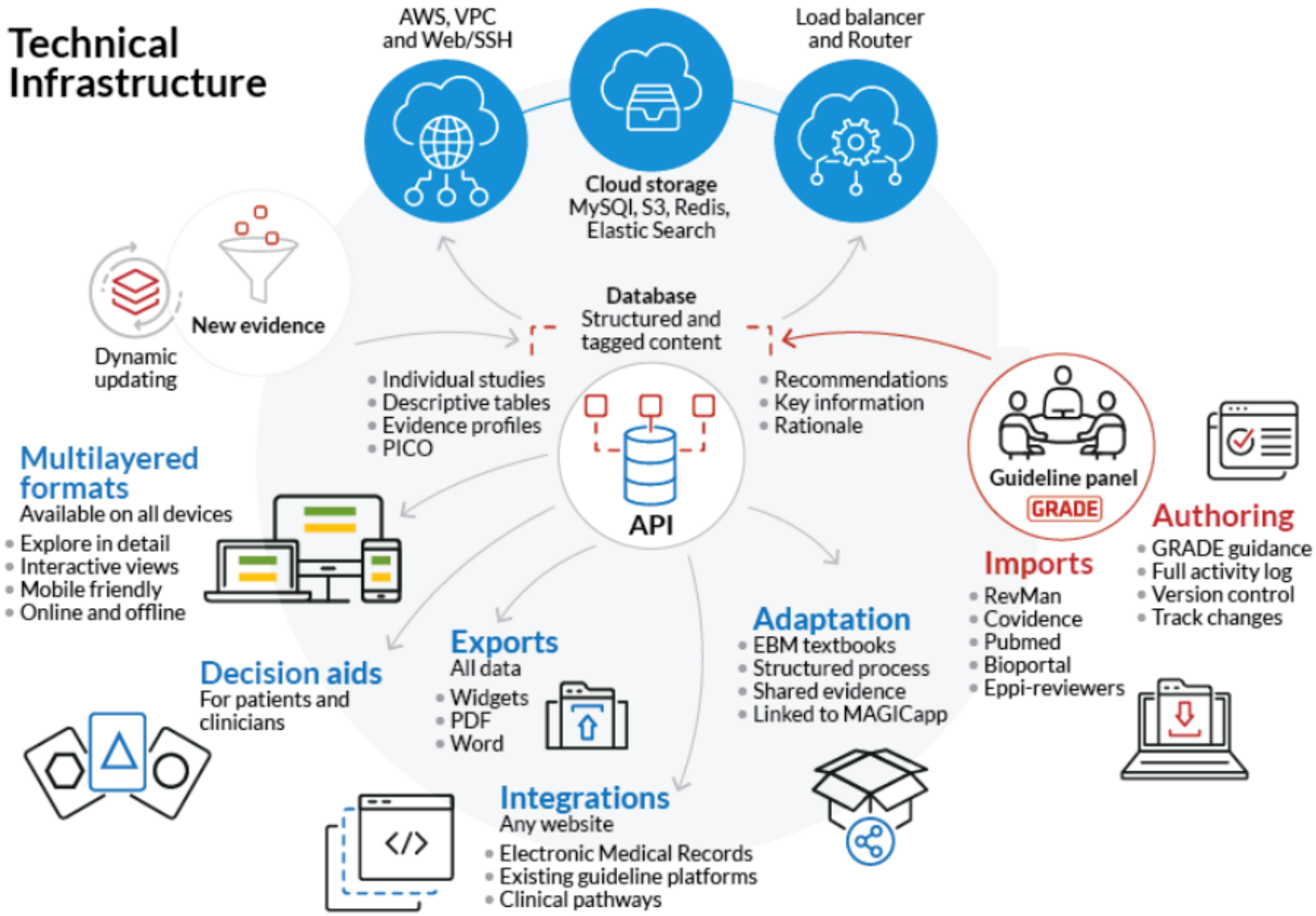
Guidelines: Essential for learning health systems 2

Guidelines allow the **efficient translation of evidence** into practice and should be conceived as **implementation tools**.

Creating a guideline **without an implementation strategy** is an exercise in futility.

A living guideline is a clinical practice guideline that is continually updated, identifying new evidence as soon as it becomes available, and appraising, synthesizing, and incorporating it into living recommendations.

Cheyne S et al. Methods for living guidelines: early guidance based on practical experience. Paper 1: Introduction. J Clin Epidemiol. 2023 Mar;155:84-96.



MAGIC. Evidence Ecosystem Foundation (www.magicevidence.org) [last visited Nov 16, 2024]

Guidelines: Essential for learning health systems 3

Guidelines are the **cornerstone** of evidence-informed clinical and public health practice in medicine.

Oral health guidelines conducted with rigorous methods and standards as the ones used in the medical field will facilitate the **coordination and intersection of medical and oral health services**.

Thank you!

Alonso Carrasco-Labra DDS, MSc, PhD
carrascl@upenn.edu

Center for Integrative Global Oral Health
University of Pennsylvania
School of Dental Medicine