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## Maximizing Synergy Between Federal Health Information and Technology Programs

Session 203, February 14, 2019

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# Conflict of Interest

Maria Michaels, MBA, PMP

Has no real or apparent conflicts of interest to report.

The findings and conclusions in this presentation are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

# Conflict of Interest

Edwin Lomotan, MD, FAAP, FAMIA

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# Agenda

- Review learning objectives and goals for the session
- Describe the overarching challenges for collaboration and how to choose a problem that can be solved collaboratively
- Illustrate the opportunity for a specific problem that CDC and AHRQ are helping tackle together by leveraging each other and shared stakeholder participation
  - Overview of CDC's Adapting Clinical Guidelines for the Digital Age
  - Overview of AHRQ's Clinical Decision Support initiative
- Describe how you can become involved and make the programs even better



# Learning Objectives

1. Discuss challenges with operationalizing national health IT infrastructure across federal agencies and meeting the needs of many different stakeholder organizations.
2. Identify specific opportunities that led to CDC and AHRQ collaboration on Adapting Clinical Guidelines for the Digital Age, CDS Connect, and the Patient-Centered Clinical Decision Support Learning Network.
3. Outline ways that the stakeholder community and federal agencies can work more closely together to strategically build national health IT infrastructure.



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# The Challenges



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# Overarching Challenges

- Complimentary but unique organizational missions
- Program timelines
- Funding sources can offer opportunities but also constraints
- Funding mechanisms and timelines
- Varying levels of evidence to guide programs and demonstration projects
- Including *all* appropriate perspectives *every* time
- Not over-burdening stakeholders who are volunteering their time to provide guidance and feedback



# How to Choose a Problem to Collaboratively Solve

- Topic or area that falls under multiple agency missions
- Program timelines align (at least close enough)
- Funding sources do not have constraints that preclude the ability to use funds to complete the work needed to solve the problem
- Funding mechanisms and timelines align (at least close enough)
- Have sufficient levels of evidence to guide programs at each respective agency as well as any demonstration projects
- Find ways to “cross pollinate” between agency initiatives that allows for the appropriate inclusion of stakeholder perspectives
- Do not require inordinate amounts of time from the same individuals over and over again.



**Eureka! A good problem to solve...**



## Develop Guidelines

Research Results

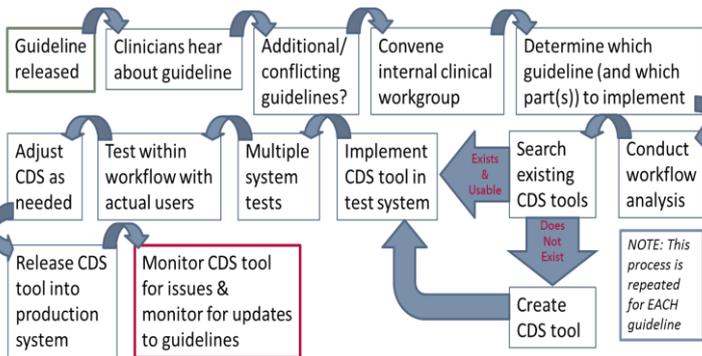
Literature Review

Meta-analysis

Guideline Narrative

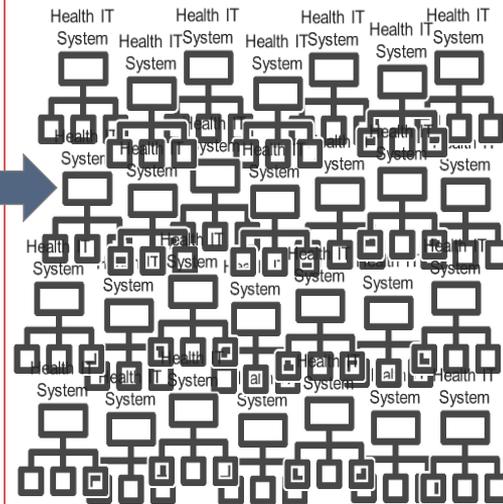


## Interpret & Implement Guidelines: Local Level



Performed by up to 95% of ~5500 hospitals  
 Performed by up to 82% of ~355,000 clinics

## Interpret & Implement Guidelines: Across Health Systems



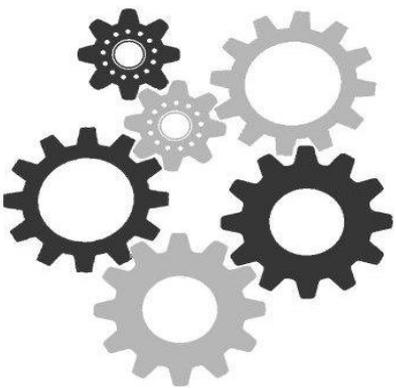
<https://dashboard.healthit.gov/quickstats/quickstats.php>

# Stakeholder Groups Needed to Help Solve This Problem

- Guideline authors
- Health IT developers
- Communicators
- Clinicians
- Patients / Patient Advocates
- Medical Societies
- Public Health Organizations
- Evaluation experts
- Standards experts
- Clinical decision support developers
- Clinical quality measure developers
- Policy or technical support for implementation



# WANTED: Complete Feedback Loop



**CLINICAL  
DECISION  
SUPPORT**

**DO**

**STUDY**

**PLAN**

**ACT**

**CLINICAL  
QUALITY  
MEASUREMENT**



**CLINICAL  
GUIDELINES  
DEVELOPMENT**

**DESIRED  
CLINICAL / HEALTH  
ACTIONS**



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# The Opportunities

For Federal Agency Collaboration



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# CDC: Adapting Clinical Guidelines for the Digital Age

**Problem:** Long Lag Time, Inconsistencies, and Inaccuracies in Translation



Contributes to an average of 17 years for scientific evidence to apply in patient care

**Reason:** Playing the “Telephone Game”



Multiple translations of guidelines add complexity, opportunity for error, and variation across sites/providers

**Solution:** Developing Tools and Guidelines Together



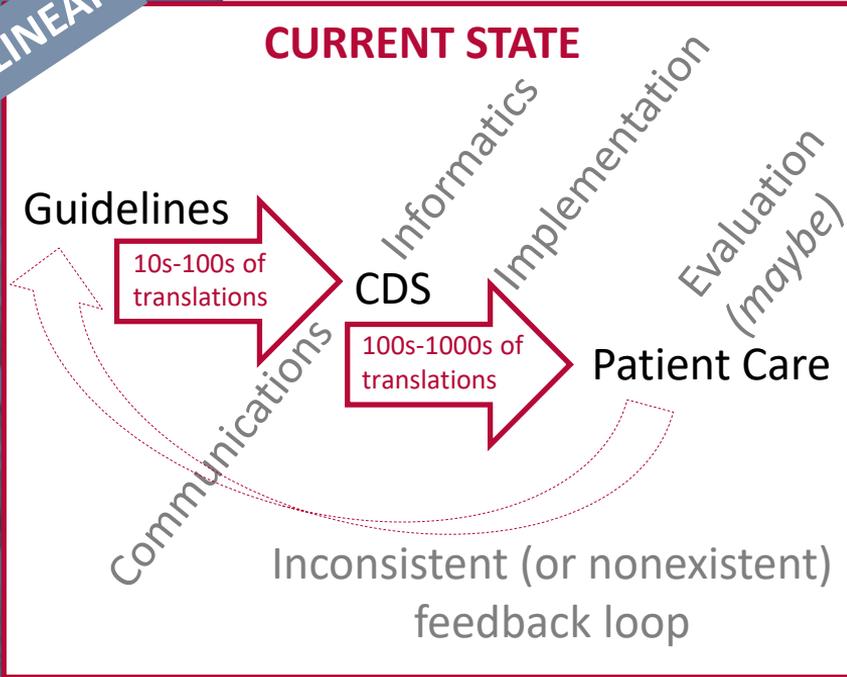
Can help evidence apply to patient care more easily, quickly, accurately, and consistently



# Redesigning Guideline Development and Implementation

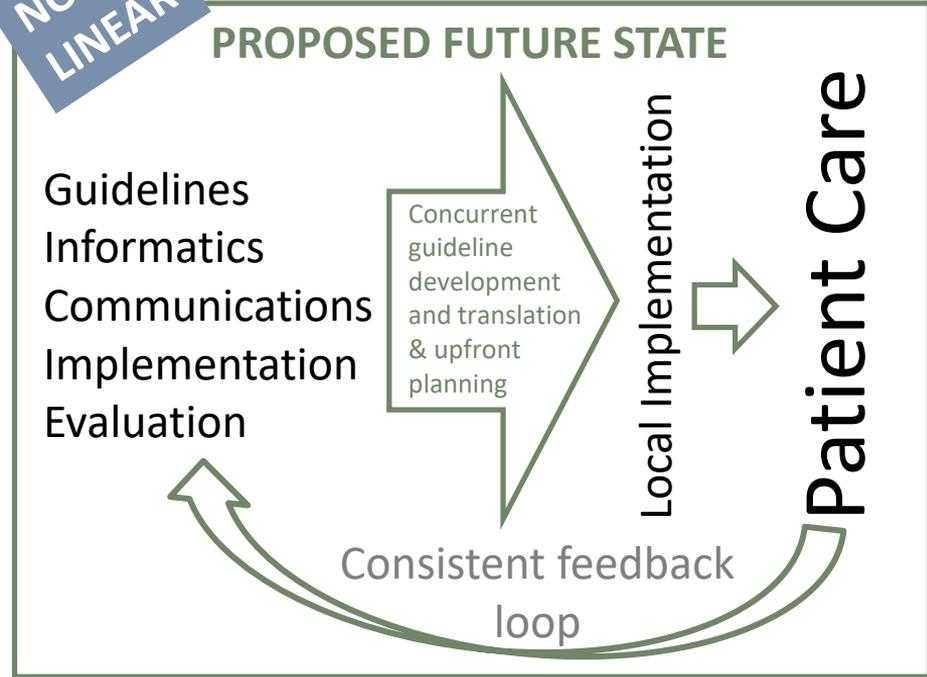
LINEAR

## CURRENT STATE

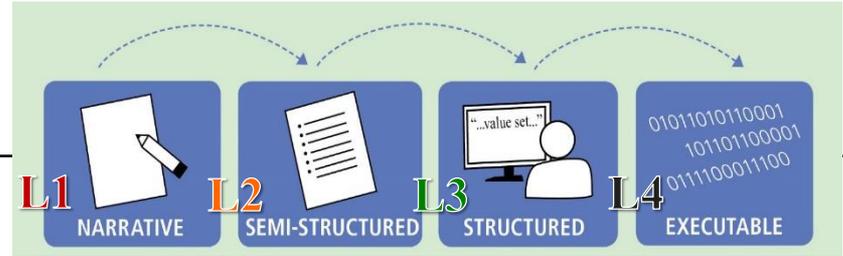


NON-LINEAR

## PROPOSED FUTURE STATE



# Translating Evidence to Executable CDS



Knowledge Level	Description	Example
<b>L1</b>	Narrative guideline	Guideline for a specific disease that is written in the format of a peer-reviewed journal article
<b>L2</b>	Semi-structured	Flow diagram, decision tree, or other similar format that describes recommendations for implementation
<b>L3</b>	Structured	Standards-compliant specification encoding logic with data model(s), terminology/code sets, value sets that is ready to be implemented
<b>L4</b>	Executable	CDS implemented and used in a local execution environment (e.g., CDS that is live in an electronic health record (EHR) production system) or available via web services

# AHRQ: Clinical Decision Support

<http://cds.ahrq.gov>

**Advancing evidence into practice through CDS and making CDS more shareable, standards-based, and publicly-available**

Four components:

1. Engaging a stakeholder community
2. Creating prototype infrastructure for sharing CDS and developing CDS
3. Advancing CDS through demonstration and dissemination research
4. Evaluating the overall initiative



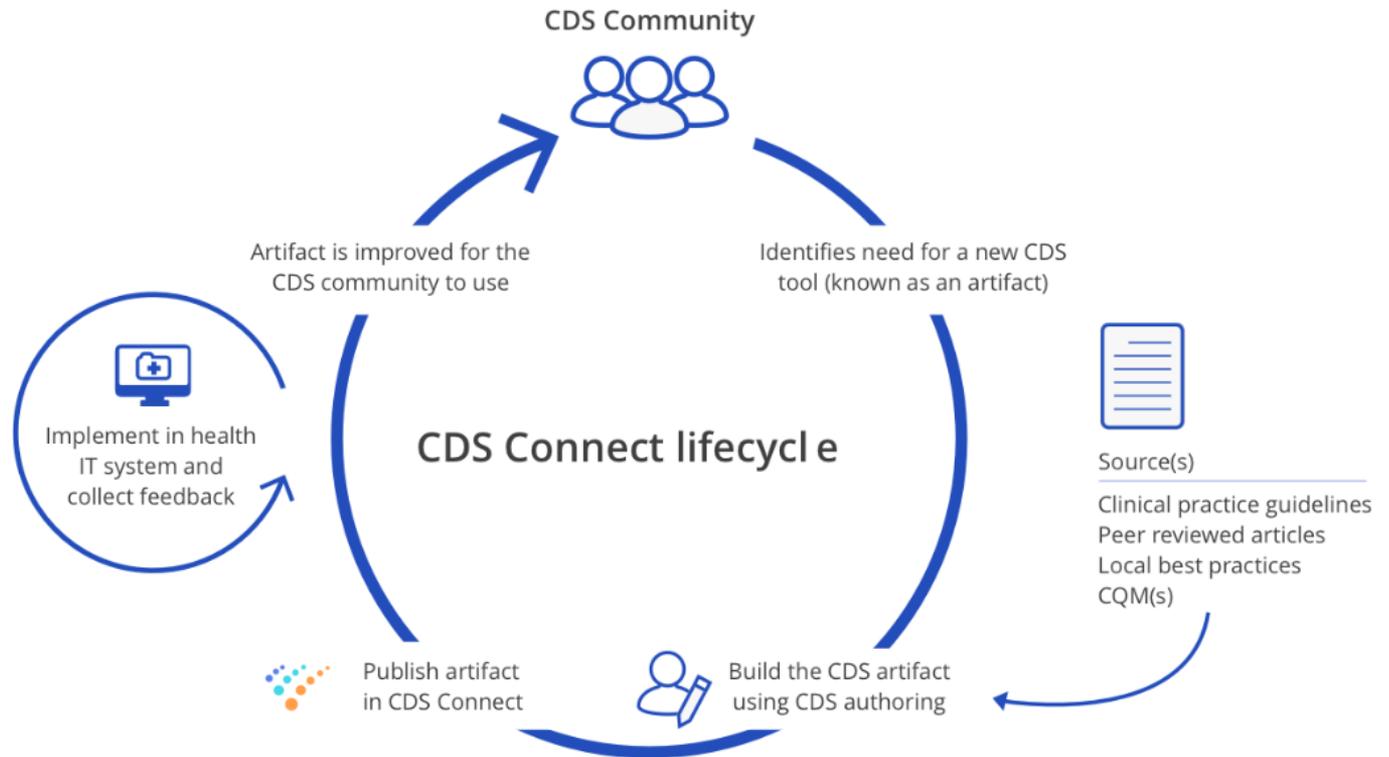
Patient-Centered  
Clinical Decision Support  
Learning Network



CDS Connect



# Sharing Clinical Decision Support

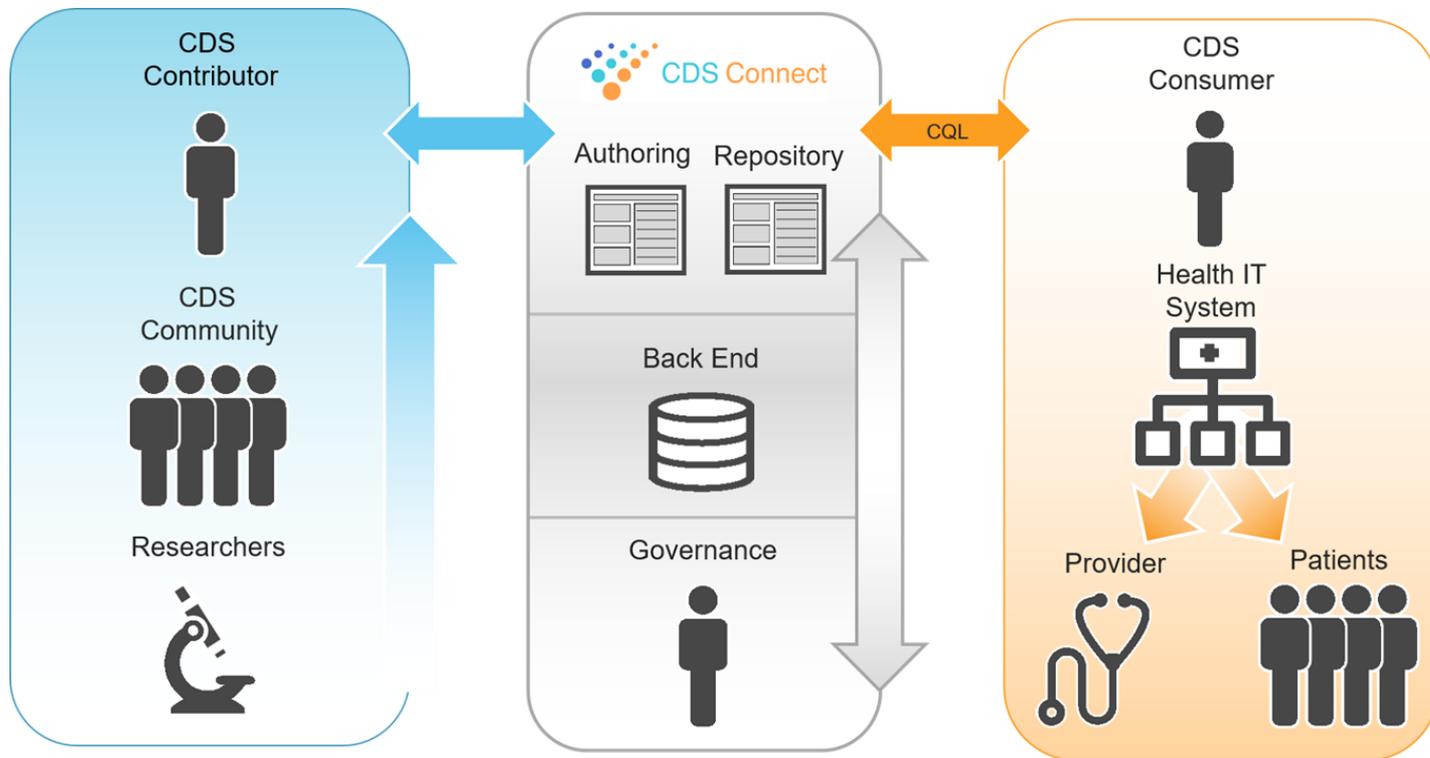


# Taking a Broad View of CDS

- CDS “Five Rights”
  - CDS should deliver the ***right information***, to the ***right person***, in the ***right format***, in the ***right channel***, at the ***right time*** during work flow.
- CDS as an enabler and tool for quality improvement
  - Not just an app, widget, alert, or reminder
  - Not just for physicians at the point of care
  - Can represent the “actionable” side of quality measurement



# CDS Connect: Concept of Operations



# CDS Connect Repository

The screenshot displays the CDS Connect Repository website. At the top, there is a navigation menu with links for Welcome, About, Governance, Artifacts, Authoring Tool, Community, and FAQ. Below this, a breadcrumb trail shows the path: Welcome / Artifacts / Anthrax Post-Exposure Prophylaxis. The main header identifies the site as part of the U.S. Department of Health & Human Services, Agency for Healthcare Research and Quality (AHRQ), and the Patient-Centered Outcomes Research Institute (PCORI) Clinical Decision Support program. The page title is "Anthrax Post-Exposure Prophylaxis".

The main content area is titled "Opioids and Pain Management: Artifacts (View Topic)". It lists several clinical decision support artifacts:

- Factors to Consider in Managing Chronic Pain: A Pain Management Summary**
  - Data Summary
  - Publisher: The MITRE Corporation
  - 2018
  - Tags: Pain Medicine (Family Medicine), Family Medicine, Internal Medicine, Rheumatology, Physical Medicine and Rehabilitation
- Recommendation #4 - Opioid Release Rate When Starting Opioid Therapy**
  - Event-Condition-Action (ECA) rule
  - Publisher: Centers for Disease Control and Prevention
  - 2018
  - Tags: Family Medicine, Internal Medicine
- Recommendation #5 - Lowest Effective Dose**
  - Event-Condition-Action (ECA) rule
  - Publisher: Centers for Disease Control and Prevention
  - 2017
  - Tags: Family Medicine, Internal Medicine
- Recommendation #7 - Opioid Therapy Risk Assessment**
  - Event-Condition-Action (ECA) rule
  - Publisher: Centers for Disease Control and Prevention
  - 2018
  - Tags: Family Medicine, Internal Medicine
- Recommendation #8: Naloxone Consideration**
  - Event-Condition-Action (ECA) rule
  - Publisher: Centers for Disease Control and Prevention
  - 2018
  - Tags: Family Medicine, Internal Medicine
- Recommendation #10 - Urine Drug Testing**
  - Event-Condition-Action (ECA) rule
  - Publisher: Centers for Disease Control and Prevention
  - 2017
  - Tags: Family Medicine, Internal Medicine
- Recommendation #11: Concurrent Use of Opioids and Benzodiazepines**

On the left side of the screenshot, there is a sidebar with a "Welcome" message and a brief description of the CDS Connect project, stating it is a project to demonstrate how to bring evidence-based standards of care into clinical practice. It also mentions that the repository follows AHRQ's evidence-based standards of care as CDS artifacts being extended in 2018 to support pain management and that the goal is to evaluate the effectiveness of the Repository and how individuals participate and guide the process. Below this, it states that CDS artifacts are items that represent medical knowledge in many forms, but the ultimate goal is to create a...

# Analytic Framework for Action



# Collaboration Between AHRQ & CDC

- AHRQ is an integral part of the CDS community
  - Providing a platform for shareable, standards-based, and publicly-available CDS
  - As a convener for standardized approaches to CDS development and dissemination and patient-centered CDS
- AHRQ helps provide leadership
  - Through participation in multiple workgroups of Adapting Clinical Guidelines for the Digital Age initiative
  - Through pilot projects and development of CDS repository and authoring tools



# Collaboration Between AHRQ & CDC

- CDC is an integral part of the CDS community
  - As a guideline developer and disseminator
  - As a partner in making CDS more shareable, standards-based, and publicly-available
  - As a convener and source of expertise
- CDC helps provide leadership
  - Through the Patient-Centered CDS Learning Network Steering Committee
  - Through the CDS Connect Work Group (Chair)
  - Through pilot projects and use of the tools



# Successes To Date

- Coordinating requests for participation and input across both agencies' initiatives
- Incorporating CDS Connect as a platform for dissemination in the redesigned process for guideline development and implementation
- Sharing tools, e.g., CDS Authoring Tool
  - Leads to broader use and improved development
- Collaborating on specific strategies, e.g., Opioid Action Plan
- Sharing feedback from CDC Request for Information (RFI) on how to best set up a national testbed for health IT



# Working Together

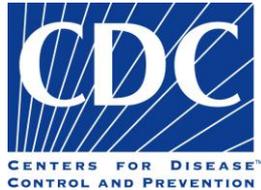
Across Federal Agencies and Stakeholder Groups

# Opportunities to Make These Programs Even Better

- Join CDS Connect Work Group
- Join one (or more!) of the Adapting Clinical Guidelines for the Digital Age work groups
  - Guideline Creation
  - Informatics
  - Dissemination and Communication
  - Translation and Implementation
  - Evaluation
- Tell us about use of CDS health IT standards in the “field”
- Become a pilot partner
- Contribute to the Adapting Clinical Guidelines for the Digital Age Implementation Guide (<http://build.fhir.org/ig/cqframework/cdc-acg/index.html>)
- Contribute to the CDS Connect repository
- Use the open source tools and contribute feedback
  - CDS Authoring Tool
  - CQL Services Prototype
  - Pain Management Summary SMART on FHIR App



# Questions



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