

ResearchElementDefinition FHIR Resource Proposal

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[Clinical_Decision_Support](#)

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- Initial PSS: June 22, 2018
- CDS WG: September 12, 2018

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- Clinical Decision Support
- Clinical Quality Information
- Biomedical Research and Regulation

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[Scope of coverage](#)[[edit](#) | [edit source](#)]

The scope of the ResearchElementDefinition resource is to describe a "PICO" element that knowledge (evidence, assertion, recommendation) is about. PICO stands for:

- Population - the population within which exposures and outcomes are being considered
- Intervention - the conditional state or exposure state being described for which one is expressing the risk of or effect on an outcome
- Comparison - the alternative conditional state or alternative exposure state when one is comparing states for the effect on an outcome
- Outcome - the result or effect of an intervention or exposure in a population

PICO (and its variants like PECO or PICOT) is a universal acronym used in evidence-based medicine communities to clearly express research questions and evidence findings.

The ResearchElementDefinition resource allows expression of the components of a PICO question in codeable and reusable formats.

[RIM scope](#)[[edit](#) | [edit source](#)]

Resource appropriateness[[edit](#) | [edit source](#)]

Across the evidence-based medicine community (hundreds of thousands of people communicating the results of healthcare research and recommendations), the PICO elements are the foundational components of expressing what evidence assertions and recommendations are about. Standardizing the specification of these PICO element definitions is necessary to support interoperability across the evidence-based medicine domain.

Expected implementations[[edit](#) | [edit source](#)]

Many knowledge producers who express the biomedical research community knowledge will be the implementers using this resources. Examples of these knowledge producers include Agency for Healthcare Research and Quality (AHRQ), Centers for Disease Control and Prevention (CDC), Cochrane, Duodecim Medical Publications Ltd (from the Finnish Medical Society), EBSCO Health, MAGIC (stands for Making GRADE the Irresistible Choice), and numerous guideline development organizations.

Content sources[[edit](#) | [edit source](#)]

None expected beyond the standard source specifications

Example Scenarios[[edit](#) | [edit source](#)]

Description of the population for which a recommendation or evidence summary is applicable
Description of the intervention or exposure for which a recommendation or evidence summary is applicable
Description of the outcome that an evidence summary is about

These descriptions could be used in coded specifications of recommendations from clinical practice guidelines to facilitate the translation from guidelines to clinical decision support artifacts.

These descriptions could be used in Summary of Findings tables from systematic reviews to facilitate the representation of medical knowledge when creating recommendations.

These descriptions could be used in classification of new evidence reports to facilitate recognition of signal for updating existing evidence summaries and recommendations.

Resource Relationships[[edit](#) | [edit source](#)]

This resource does not reference other resources as it is the "atomic" level.

Multiple resources describing evidence findings (EffectEvidenceSynthesis, EffectEvidenceBit, RiskEvidenceSynthesis, RiskEvidenceBit) will reference ResearchElementDefinition to describe what the evidence findings are about.

Recommendation resources will reference 3 ResearchElementDefinition resources to describe the population for whom the recommendation is intended, the exposure being recommended and the exposureAlternative being recommended against. This common pattern will be defined as a ResearchDefinition resource to bundle the three ResearchElementDefinition resources for unique identification and searching.

Resource Boundaries[[edit](#) | [edit source](#)]

To be determined if implementers have questions that need explanations to support distinction and clarification

Timelines[[edit](#) | [edit source](#)]

First STU Ballot 2019 May

gForge Users[[edit](#) | [edit source](#)]

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When Resource Proposal Is Complete[[edit](#) | [edit source](#)]

When you have completed your proposal, please send an email to FMGcontact@HL7.org

FMG Notes