

An aerial photograph of a long suspension bridge spanning a wide body of water. The bridge features two prominent white towers with a lattice structure, connected by cables. The water is a deep blue, and the sky is clear. The bridge extends into the distance, with smaller support structures visible.

# BRIDGE WIZ

Building  
Recommendations  
In a  
Developer's  
Guideline  
Editor

# Complete COGS Checklist or Create a Recommendation

## RULE EDITOR

COGS

### Welcome to Bridgewiz

BridgeWiz aims to assist guideline authors to write more comprehensive guidelines and clearer, more actionable recommendations. BridgeWiz incorporates a number of features that are designed to safeguard against creating vague and underspecified recommendations.

The end-products of BridgeWiz include:

- A completed template that provides information required to be compliant with a guideline quality checklist, the COGS appraisal
- One or more skeleton IF-THEN statements that are expected to facilitate implementation in a computer-based decision support system
- A partially populated Evidence Profile for each Key Action Statement.

Begin by selecting an activity described below:

Create COGS Statement

Create Key Action Statement

# Define Object for the Verb

## RULE EDITOR

What

What type of activity do you propose?

PRESCRIBE

NOT

Based on the PRESCRIBE action type,  
select a verb:

start

ADD

Start what?

metformin as first-line treatment

VERB

WHAT

start

metformin as first-line treatment

AND

OR

DEL

# Add Conditions

## RULE EDITOR

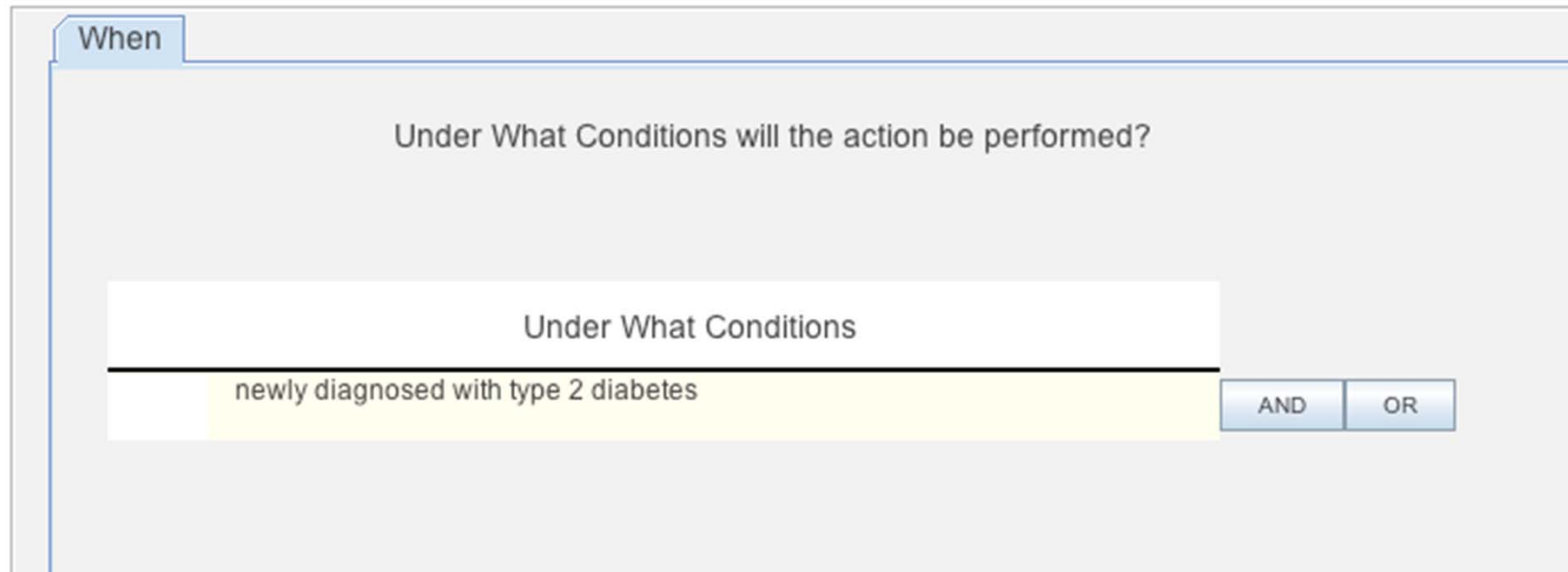
When

Under What Conditions will the action be performed?

Under What Conditions

newly diagnosed with type 2 diabetes

AND OR

The image shows a software interface for editing rules. At the top, there is a tab labeled 'When'. Below the tab, a question asks 'Under What Conditions will the action be performed?'. A text input field contains the text 'Under What Conditions'. Below this field, a horizontal line separates it from a list of conditions. The first condition is 'newly diagnosed with type 2 diabetes', which is highlighted in yellow. To the right of this condition are two buttons: 'AND' and 'OR'.

# Judge Benefit-Harms Balance

## RULE EDITOR

### Balance

Is there Equilibrium or a preponderance of Benefits or Risks, Harms, and Costs?



- Equilibrium
- Preponderance of Risks, Harms, Costs
- Preponderance of Benefit

#### Benefits

Lower Hgb A1C  
Target A1C sustained longer  
Less early deterioration of blood glucose  
Lower chance of weight gain  
Improved insulin sensitivity  
Improved lipid profile

#### Risk, Harms, Costs

GI side-effects  
potential for lactic acidosis/ B12 deficiency  
cost of medication and administration  
need for additional teaching about medication  
SMBG  
Possible metabolic deterioration if Type 1 is  
misdiagnosed & treated as type 2  
potential risk of lactic acidosis in setting of ketosis  
or significant dehydration

# Choose a Recommendation Style

If  
newly-diagnosed with type 2 diabetes (i.e., not previously treated)  
Then  
Clinicians should start metformin as first-line treatment AND  
recommend diet and exercise

Select

Clinicians should start metformin as first-line treatment AND  
recommend diet and exercise  
if/when/whenever  
newly-diagnosed with type 2 diabetes (i.e., not previously treated)

Select

The *{developer}* recommends that if  
newly-diagnosed with type 2 diabetes (i.e., not previously treated)  
Then  
Clinicians should start metformin as first-line treatment AND  
recommend diet and exercise

Select

The *{developer}* recommends that  
Clinicians should start metformin as first-line treatment AND  
recommend diet and exercise  
if/when/whenever  
newly-diagnosed with type 2 diabetes (i.e., not previously treated)

Select

# BRIDGE-Wiz



## Building Recommendations in a Developer's Guideline Editor

- Formalizes a process for writing implementable recommendations
- Incorporates prompts based on COGS to improve guideline quality
- Controlled natural language
  - Offers verb choices based on action-type
  - Traps and disallows use of “consider”
  - Discourages “statement of fact” masquerading as recommendation
  - Limits boolean connectors to all ANDs or ORs in a statement
- Incorporates decidability and executability checks
- Requires systematic appraisal of evidence quality and benefit-harms
  - Suggests appropriate obligation term (deontic modal)
- Output includes a high-level “rule” and an evidence profile
- Runs on Mac OS and Windows OS