

### Instruction on Using the Shiny Web Application

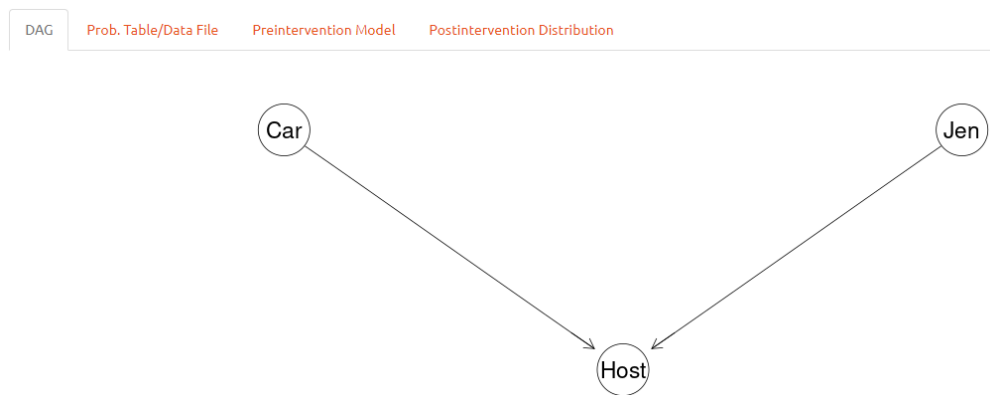
**Step 1:** In the top panel on the left, select one of the first four examples. For instance, select Example 4 *Should I switch?* and the example's BN model structure will show in the panel below.

**Select an example**

- ☐ Sex as a Cause of Pregnancy
- ☐ Color of Children's Shoes
- ☐ Efficacy of Medication Treatment
- ☒ Should I Switch?
- ☐ Effect of Smoking on Forced Expiratory Volume

**The Bayes Network model structure**
$$P(\text{Host}, \text{Jen}, \text{Car}) = P(\text{Jen})P(\text{Car})P(\text{Jen}|\text{Host}, \text{Car})$$

Meanwhile, its DAG is shown in the **DAG** tab on the right



**Step 2:** In the third panel on the left, select a variable and complete its conditional probability table in the **Prob. Table/Data File** tab.

**Complete conditional probability table for**

- ☒ Jen
- ☐ Car
- ☐ Host

Apply

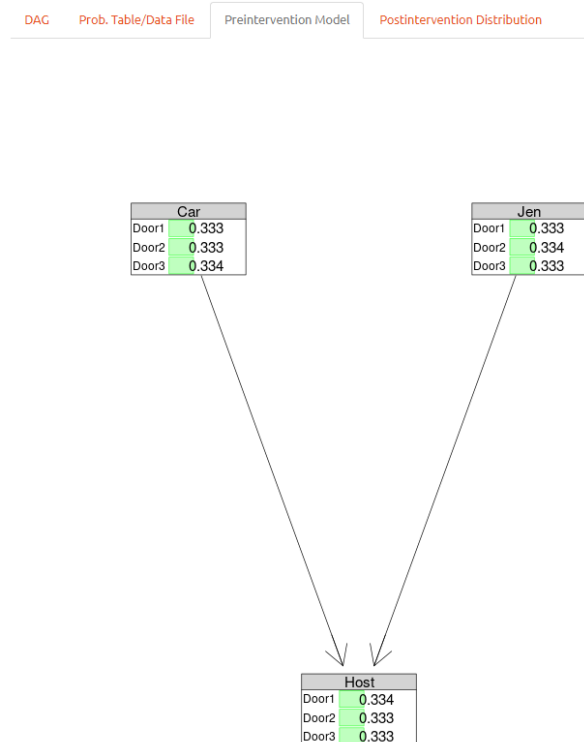
DAG

Prob. Table/Data File

	Door1	Door2	Door3
1	1/3	1/3	1/3

After that, press **Apply** to load the table into the BN model. Repeat this step for each variable in the example.

**Step 3:** After all the probability tables in one example are completed, press **Compile** to build the preintervention model that will be shown in the **Preintervention Model** tab.



**Step 4:** Variable intervention and manipulation can be done in the two panels as shown below

**Node intervention and manipulation**

Intervene on the nodes of

Jen, Car

Fix their states at

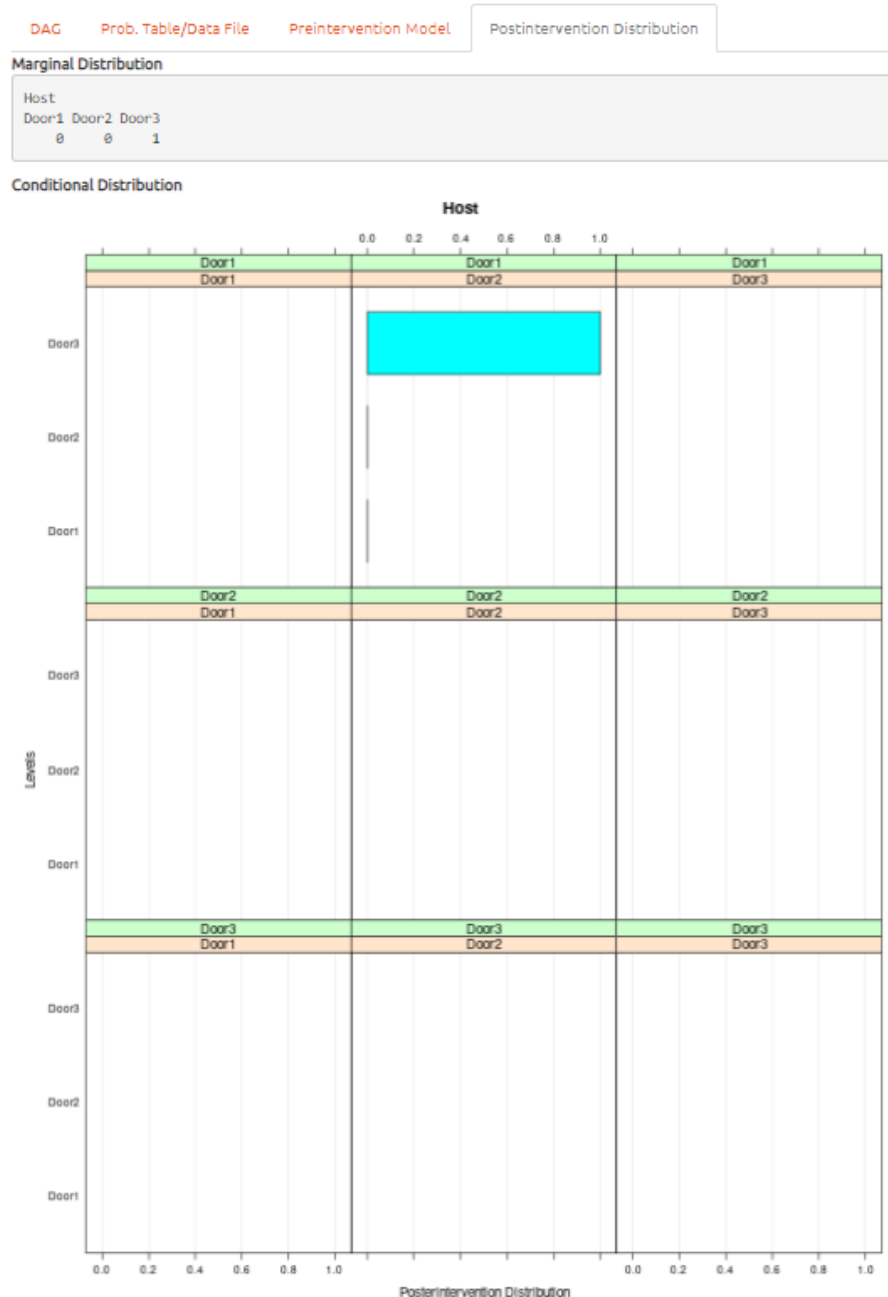
Door1, Door2

Apply

**Postintervention distribution for**

☐ Jen  
☐ Car  
☒ Host

First, specify the variables you want to intervene on and then fix the variables at selected states. Second, select the variable to view its postintervention conditional (and marginal, if it is the effect variable) distributions in the **Postintervention Distribution** tab. (Note: due to space limit, the conditional distribution for some variable is not fully displayed.)



When selecting Example 5 *Effect of Smoking on Forced Expiratory Volume* in **Step 1**, instead of completing the conditional probability tables manually in **Step 2**, you press **Load** to load the example data file directly from JSDE website

Load the example data file from JSDE website

Load

The loaded data will show in the **Prob. Table/Data File** tab.

DAG

Prob. Table/Data File

Preintervention Model

Postintervention Distribution

Show

10

▼
entries

Search:

Age	FEV	Height	Sex	Smoke
9	1.708	57	0	0
8	1.724	67.5	0	0
7	1.72	54.5	0	0
9	1.558	53	1	0
9	1.895	57	1	0
8	2.336	61	0	0
6	1.919	58	0	0
6	1.415	56	0	0
8	1.987	58.5	0	0
9	1.942	60	0	0

Age

FEV

Height

Sex

Smoke

Showing 1 to 10 of 654 entries

Previous

1

2

3

4

5

...

66

Next

You can then follow the other steps instructed above to complete the example.