

### Visual Basic User Interface (III)

Select province(s)/district(s); choose pandemic scenario; change resource parameter values

'Start AsiaFluCap'

Menu manually

Menu automated

Select country and province (from the those made available in 'country prov' sheet)

Select province(s) / district(s)

Choose pandemic scenario: (mild scenario, moderate scenario or severe scenario)

Choose Basic Reproduction Number ( $R_0$ )

Fill in population size and total resource availability

Fill in total resource availability

Option to change depletion rates materials (per capita use)

Option to change occupancy ratios human resources / equipment (per capita use)

Option to change other resource parameter values (absenteeism, surge capacity duration day/night shift)

Run Simulation

Run Simulation(s)

Data provinces/districts (on population sizes and total availability of 28 health care resources)

'Input Data' sheet

### SEIR model (I)

'Seir Model' Sheet

Mild scenario  
parameters values based on pandemic influenza H1N1v

Moderate scenario  
parameter values based on average of mild and severe scenario

Severe scenario  
parameter values based on avian influenza virus: HPAI A(H5N1)

SEIR structure

Actual availability of hospital beds, ventilators and antivirals

Sufficient availability of hospital beds, ventilators and antivirals

Peak number hospitalised cases

Total hospitalised cases

### Resource model (II)

Other resource parameter values (surge capacity etc.)

'Available resources' sheet

Occupancy ratio per hospitalised/ventilated case (day/night shift, etc.)

'Occupancy' sheet

Depletion rate per hospitalised/ventilated case (high/low pandemic activity period, prop. receiving materials etc.)

'Depletion' sheet

Resources available for treatment/management influenza cases

Needed Health care workers/equipment during pandemic peak

Needed Materials over total pandemic

Epidemiological results

'Epidemiology' Sheet

Surplus/Gap in human resources and equipment during pandemic peak

'Resource output 1' sheet

Surplus/Gap in materials over total pandemic

'Resource output 2' sheet

### Visual Basic Functions (IV):

saving and exporting

Export all results as .dbf-IV file and replace old dbf in ESRI shapefile

Overview output simulations per province/district

'GIS output 2' sheet

Saving simulation results per selected region

Shapefile (.shp, dbf and .shx files)

Geographical Information Systems (GIS) software (to display simulation results in maps)