



MODELLING INTO POLICY: HOW CAN AN 'INTELLIGENT CUSTOMER' ENSURE APPROPRIATE USE OF EVIDENCE?

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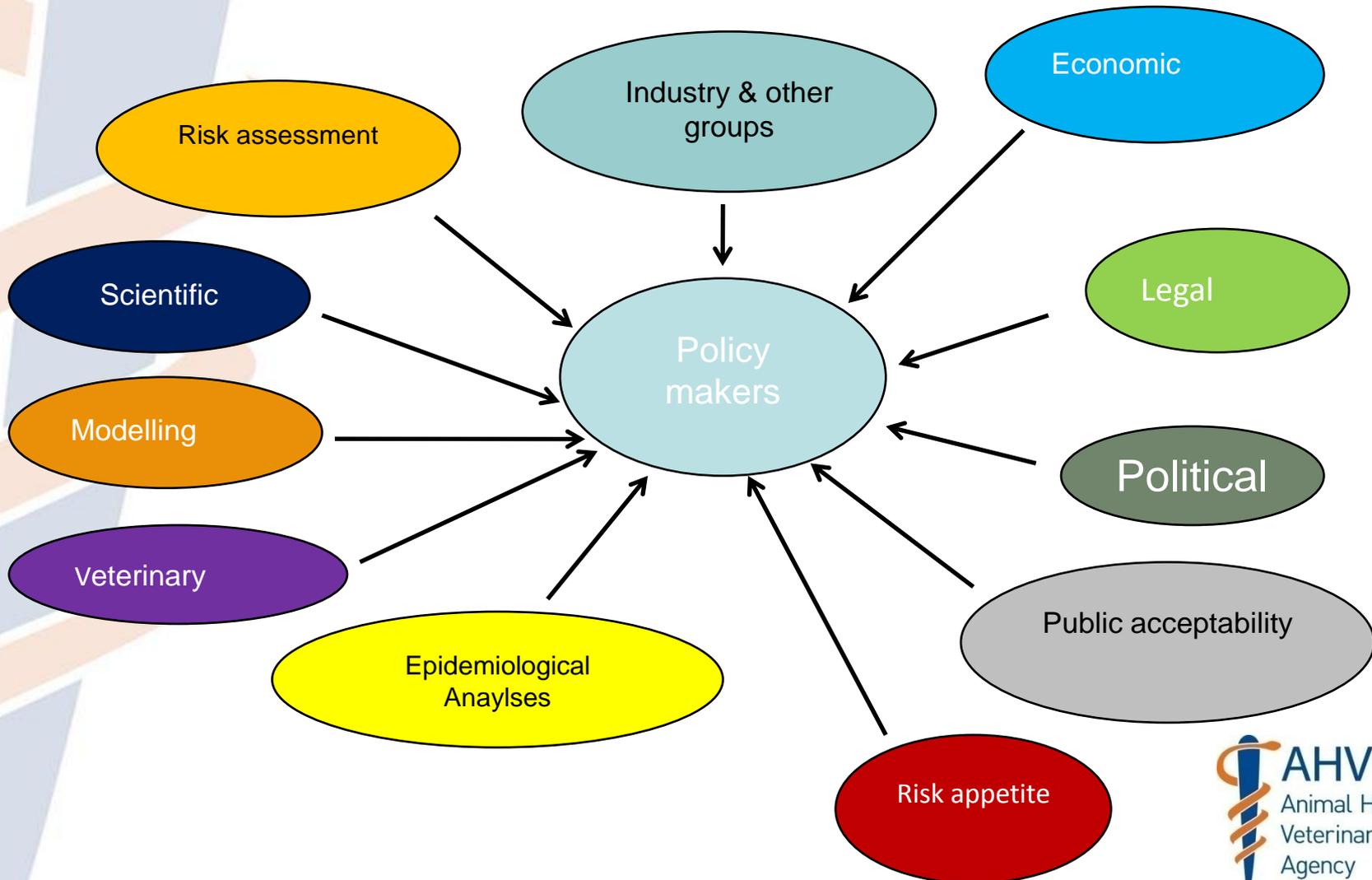
Conclusions and Recommendations

- AHVLA's quantitative modelling ICF has liaised effectively with both policy makers and expert mathematical modellers.
- ICF involvement has ensured that the modelling commissioned has been relevant and has contributed to the evidence informing policy.
- ICF has provided:
 - expert challenge during the modelling process;
 - prevents modelling outputs being ignored through lack of time and capacity to make use of them.
 - should also lead to significant cost savings by working with officials commissioning work to prevent unnecessary modelling work
- This is a valuable approach ensuring that model outputs are used appropriately in policy development, without each official engaged in a modelling project being required to develop sufficient technical understanding to commission and/or interpret the outputs.

Challenges

- Epidemiological modelling may be used to aid the development of animal health policy, to support disease surveillance activities, and to evaluate existing or new intervention strategies.
- In order to use model outputs effectively, the decision maker has to consider a range of issues.
- In some areas, there is an increasing reliance on models across Government but few people who understand outputs.
- Need help to make evidence based decisions in complex systems
- Danger of policy makers wanting a definitive answer for Ministers
 - modelling provides a level of certainty
 - which may be limited!

Policy makers use evidence that comes from a variety of sources



Modelling to inform policy development

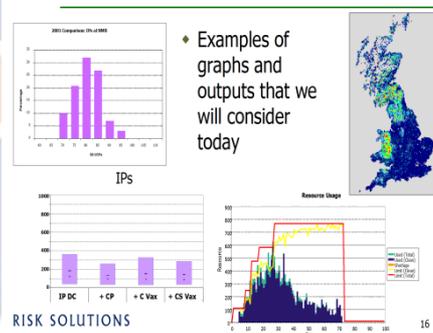
- Different arenas for modellers – long term strategic questions, with time for ‘data gathering’ vs. shorter, specific questions using available data
- Dangers of rapid modelling from existing data and importance of obtaining good data in as close to real time as possible
- Models are not reality, they are an approximation of possible outcomes
- Modelling in haste = more assumptions, less data = less accurate
- A particular problem in disease outbreaks, where decisions have to be made in absence of data
- Models do not remove uncertainty, but may give an illusion of knowledge that is unfounded

Intelligent Customer Function (ICF)

- How does it work...
- Does this add value?
- Do policy makers benefit?
- Do the modellers benefit?
- Dependent on resource available.
- Are we asking modellers to do too much?



Typical Graphs



Intelligent Customer Function (ICF)

Wikipedia: Intelligent Customer Function is

- an in-house capability within an organisation which assists the organisation in the procurement of outsourced services. The 'Intelligent Customer' retains sufficient technical knowledge of the services being provided by a third party to competently specify requirements and manage delivery of the services.

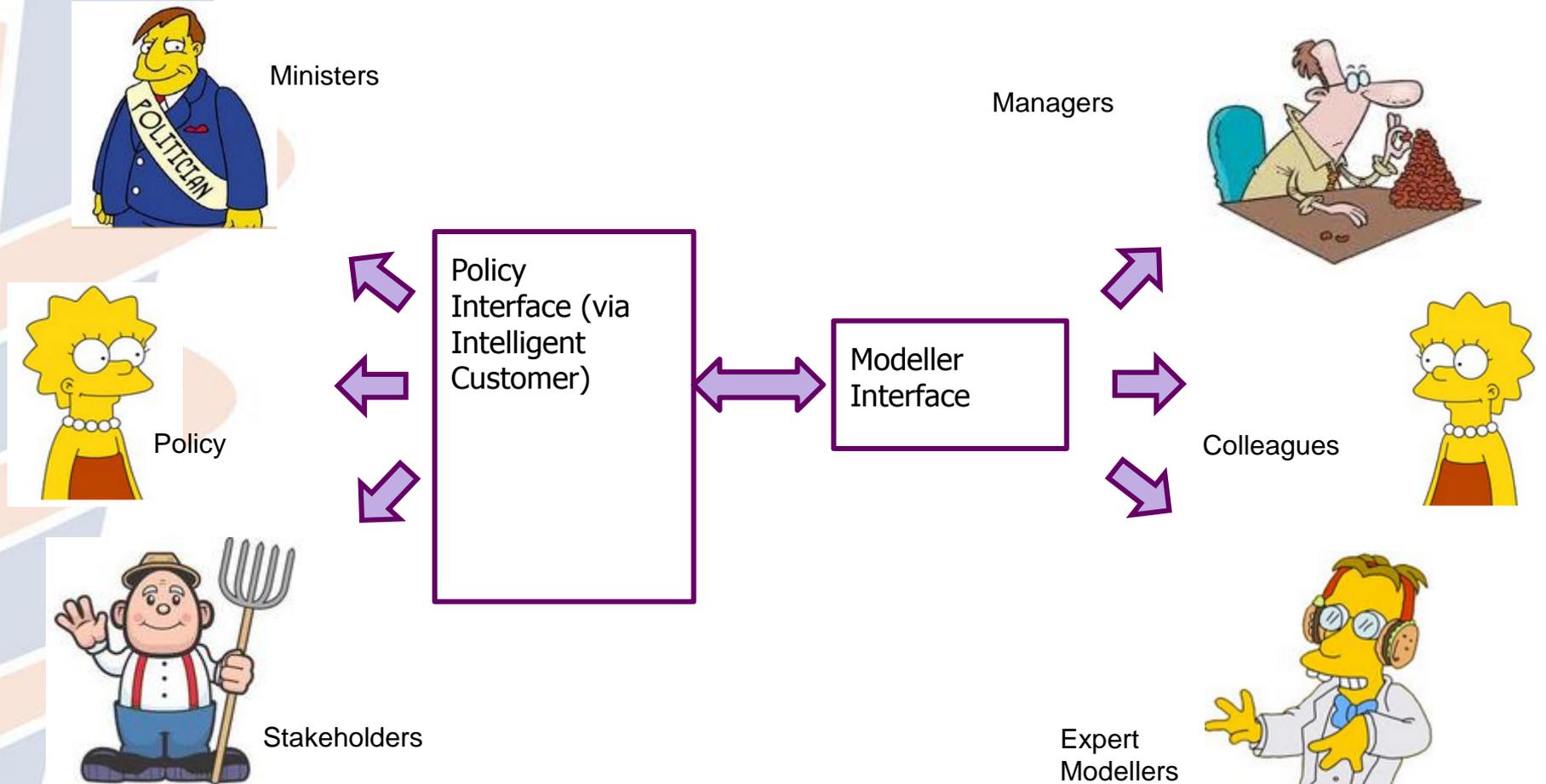
Nuclear industry definition: An intelligent customer should

- know what is required
- fully understand the need for a contractor's services,
- specify requirements,
- supervise the work
- technically review output before, during & after implementation.

ICF for modelling: Skills/knowledge

- AHVLA's QM ICF group made up of a mathematical modeller, epidemiologists and an economist.
- Overview & understanding of Defra business
- Speak "language" of policy development; ICF has the ability to translate the requirements from customers/users and the technical outputs of the modellers.
- Aware of policy developments and issues;
- Ability to interpret and apply modelling derived evidence to guide policy decision making
- Ability to influence and ensure best use of modelling outputs; ensures modelling outputs are not ignored as a result of a lack of time and capacity to make use of them.

Working with modelling - Dialogue helps



Constant Dialogue

Policy / ICF

Clear Specification

This is the problem
This is why it's important

Review of approach

Here are some better assumptions
Have you included this effect?

Review of emerging findings

Why does the model do that?
Can you look at this?

Review of final findings

Can you explain this better?
Can you expand that ?

Modeller

Defined approach

This is how we will model it
These are our assumptions

Emerging findings

The model says this
We need more data on that
Does this look sensible?

More findings

The model now says this
This is what we can infer
Does this explanation make sense?

Good commissioning and delivery

- Policy:
 - Set a good exam question
 - Try not to change your mind half way through
 - Explain who the outputs will be seen by
- Modellers:
 - Answer the exam question
 - Be clear and honest about what you don't know
 - Focus the outputs for the audience(s)

Broad Engagement

Help to identify parameter ranges and review model behaviours



Experts

Keep you honest.
Build wider credibility



Peer Review



Stakeholders

Help to ensure buy-in, and to force explanations to be clear and simple

Modeller



Other Modellers

Allow alternative approaches to be compared

Lessons/What Next ?

- Modelling has an important role to play in policy development.
- Modelling is not a substitute for data
- Flexibility and willingness to engage in understanding the wider policy issues by “modellers” really helpful.
- Policy customer should be clear at the outset what they want and what they want it for.
- Can we put a value on modelling?
 - what are the benefits of modelling?

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