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# The uses of economic evaluation by PDPs: When to do what

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# A hierarchy of questions about economic evaluation

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1. **Why?** What decision do you want to inform or influence?
2. **What?** Which tool is appropriate?
3. **When?** What's the right time, relative to stage of product development and project date of introduction?
4. **How and by whom?** What role should the PDP play?

# Why: purposes of economic evaluation

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- Informing decisions about investing in product development
  - By donors
  - By industry and other R&D partners
- Informing decisions about pipeline and product profile (including price)
- Informing decisions about product introduction and use
  - By WHO and other normative bodies
  - By countries
  - By donors

Informing decisions or “making the case”?

Is there only one right answer?

# What: which tools?

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- **Cost of illness/economic impact**
  - Tool of broader disease advocacy
  - Could include effects on growth rates, other sectors
  - Example of malarias and HIV
- **Cost-effectiveness/Cost-utility analysis**
  - Could include analysis of CE of R&D investment
- **Cost-benefit analysis**
- **Willingness to pay/Demand estimation**

# What: which tools?

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- Cost of illness/economic impact (R&D and product purchase funding, adoption decisions)
  - Tool of broader disease advocacy
  - Could include effects on growth rates, other sectors
  - Example of malarias and HIV
- Cost-effectiveness/Cost-utility analysis (Potentially R&D funding, portfolio, and adoption decisions)
  - Could include analysis of CE of R&D investment
- Cost-benefit analysis
- Willingness to pay/Demand estimation (Mostly industry, purchase funders, countries)

# When: two general considerations

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## Is the analysis timely?

Will the results come at the right time to influence key decisions?

## Is the analysis feasible?

Is enough information available to carry it out?

- Product characteristics
- Manufacturing cost/price
- Epidemiological context
- Availability and use of other interventions

# Highlights of Andrew Jones' Economics and Financing discussion paper for this group

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## Early (6-10 years before licensure)

- Advocacy to build value, especially if product likely to be expensive
- Cost of illness, impact of disease on economic growth, other sectors
- Market assessment/willingness to pay
- CEA for internal decision-making (candidate prioritization, TPP)

## Middle (3-6 years before licensure)

- CEA
- Strategic demand forecast

## Late (from 3 years before to initial use)

- Build capacity to use CEA
- (Refine CEA and SDF with new data)

# Examples

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- Malaria economic impact
- IAVI demand study
- IAVI impact work
- Goldie study of HPV CEA in East Africa\*
  - Explored dependence of CEA relative to other strategies on vaccination cost
  - Concluded that very cost-effective if total cost less than \$10; less CE than screening if \$50.

\*Campos, NG et al (2012): “Health and economic impact of HPV 16/18 vaccination and cervical cancer screening in Eastern Africa” Int. J. Cancer 130, 2672–2684

## How: by whom?

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- How serious is the credibility problem when, from the PDP's perspective, there's only one right answer?
- To what extent can this be mitigated by advisory boards and a hands-off approach to researchers?
- What are the alternatives to PDPs carrying out or commissioning this kind of work?

# Differences among product types

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- Experience is greatest for vaccines, approaches best developed, most standardized. Least experience with dx.
- Adoption decision-making most centralized for vaccines (public sector: countries, GAVI, WHO). Private sector often important for drugs, dx.
- Product development timelines often shorter for dx