Title:
Transposition of Directive 2011/100/EU amending Directive 98/79/EC on in-vitro diagnsotic medical devices
IA No: 4021

Lead department or agency:
Medicines and Healthcare products Regulatory Agency (MHRA)

Other departments or agencies:
Department of Health

Impact Assessment (IA)

Date: 30/05/2012

Stage: Final

Source of intervention: EU

Type of measure: Secondary legislation

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Summary: Intervention and Options

RPC Opinion: GREEN

Cost of Preferred (or more likely) Option				
Total Net Present Value	**Business Net Present Value**	**Net cost to business per year** (EANCB on 2009 prices)	**In scope of One-In, One-Out?**	**Measure qualifies as**
Unknown	Unknown	Unknown	No	NA

What is the problem under consideration? Why is government intervention necessary?

It is anticipated that assays for testing the presence of variant Creutzfeld-Jacob Disease (vCJD) will be available on the market in the near future. As European legislation stands, the new vCJD assays would not be subject to the highest levels of scrutiny prior to being placed on the market to assure the user of the accuracy of the test. This possible information asymmetry between user and supplier risks a market failure in the use of such diagnostic assays, and in theory justifies government intervention.

What are the policy objectives and the intended effects?

The policy objective is to assure the users of vCJD assays that the assay operates to an appropriate level of accuracy. Directive 2011/100/EU places vCJD assays into a technical annex of Directive 98/79/EC that subjects IVDs to the greatest level of pre-market scrutiny. This has the effect of requiring manufacturers of vCJD assays to have pre-market checks and ongoing audit undertaken by a Notified Body (a private organisation designated by the MHRA to undertake pre-market checks of medical devices). The rationale for this change is to correct the inherent information asymmetry market failure and control the public health risks posed by an incorrect result from a vCJD assay.

What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)

Directive 2011/100/EU is a straightforward amendment to a technical annex of Directive 98/79/EC; there is no discretion on implementation, and the only feasible policy option is to transpose this Directive into UK legislation through an amendment to the Medical Devices Regulations 2002.

Will the policy be reviewed? It will be reviewed. **If applicable, set review date:** 09/2012

Does implementation go beyond minimum EU requirements?			No		
Are any of these organisations in scope? If Micros not exempted set out reason in Evidence Base.	**Micro** Yes	**< 20** Yes	**Small** Yes	**Medium** Yes	**Large** Yes
What is the CO_2 equivalent change in greenhouse gas emissions? (Million tonnes CO_2 equivalent)			**Traded:** 0	**Non-traded:** 0	

I have read the Impact Assessment and I am satisfied that (a) it represents a fair and reasonable view of the expected costs, benefits and impact of the policy, and (b) that the benefits justify the costs.

Signed by the responsible Minister: ..... Date: 29 May 2012

Summary: Analysis & Evidence

Policy Option 1

Description:

FULL ECONOMIC ASSESSMENT

Price Base Year 2012	PV Base Year 2012	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low: Optional	**High:** Optional	**Best Estimate:** Unknown

COSTS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	Optional		Optional	**Optional**
High	Optional		Optional	**Optional**
Best Estimate	Unknown		Unknown	**Unknown**

Description and scale of key monetised costs by 'main affected groups'

All costs will be borne by the private sector suppliers of vCJD assays. However, because we do not know when the assays may become available or how many there will be, we cannot estimate the costs of implementing this regulatory change. Per assay we expect a one-off cost of between £12,000 and £18,000 and annual costs of between £9,000 and £10,000

Other key non-monetised costs by 'main affected groups'

We have painted what we think is a realistic scenario that suggests that the ten year present value of costs would be in the order of magnitude of tens of thousands of pounds, and the annualised cost in the order of thousands of pounds.

BENEFITS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	0		0	**0**
High	0		0	**0**
Best Estimate	0		0	**Unknown**

Description and scale of key monetised benefits by 'main affected groups'

The expected benefits would be to patients in terms of avoided ill health from vCJD transmitted by blood, and savings to the NHS from not having to treat vCJD cases.

Other key non-monetised benefits by 'main affected groups'

Although we have been unable to estimate the benefits, the scenarios that we have painted suggests that the number of prevented cases of vCJD would have to be small (significantly less than one case every ten years) for the benefits to justify the costs.

Key assumptions/sensitivities/risks **Discount rate (%)** 3.5

The key uncertainties are; when assays might become commercially available, and; how many become available.

BUSINESS ASSESSMENT (Option 1)

Direct impact on business (Equivalent Annual) £m:			In scope of OIOO?	Measure qualifies as
Costs: Unknown	**Benefits:** 0	**Net:** Unknown	No	NA

Evidence Base

Problem under consideration

1. Currently there are no commercial assays for testing the presence of vCJD in human blood. This is a technological constraint to which there is currently no solution. However, it is anticipated that in the near future technologies will be developed that will allow reliable testing of human blood for the presence of vCJD. When this happens, the users of the assays may not be confident in the accuracy of the test results unless there is pre-market assessment of the assay, which is important in high risk IVDs, where an incorrect result would result in significant public health or personal risk. This problem of information asymmetry, whereby the provider may know more about the accuracy of the assay than the user, potentially gives rise to a market failure.
2. A number of precautionary measures have been taken in the UK against the potential risk of vCJD being transmitted by blood. This includes, for instance, blood plasma products, such as clotting factors, being sourced from plasma from countries where vCJD is known not to occur. These measures mean that the risk of transmission of vCJD to blood transfusion patients is therefore very low. However, when assays for vCJD become available, there is likely to be consideration given to widening the use of domestically-sourced blood. The risk of vCJD transmission will then be a function of the accuracy of the vCJD assays.
3. In 2007, two expert advisory committees of the Department of Health, the UK Advisory Committee on the Microbiological Safety of Blood, Tissues and Organs and the Spongiform Encephalopathy Advisory Committee, recommended that diagnostic assays used to identify the presence of vCJD in human blood supplies should be placed into the regulatory category subject to the highest possible level of scrutiny.
4. Both Committees were concerned that new assays under development to diagnose the presence of vCJD in donated blood could, at that time, be available on the European market within 12-18 months and because of the public health implications should be subject to the highest possible regulatory scrutiny. Currently such assays would come under the lowest risk category in Directive 98/79/EC which would not require any independent scrutiny before a device was placed on the market in the EU.

Rationale for intervention

5. The potential market failure caused by the information asymmetry gives theoretical justification for government intervention.

Policy objective

6. The policy objective is to overcome the information asymmetry in a way that ensures that users of vCJD assays (when they become available) can have confidence in the accuracy of the tests.

Description of options considered

7. Standards applied in the UK to diagnostic assays are set out in European legislation, and changes to these standards have to be dealt with through amendments to that legislation. The only option that was considered in Europe was to add requirements for vCJD assays to Directive 98/79/EC concerning in vitro diagnostic medical devices through Directive 2011/100/EU, which requires subsequent transposition into the Medical Device Regulations 2002.
8. The “do nothing” option, whereby the UK would not amend its domestic regulation to reflect the changes to the Directive 98/79/EC, is theoretically an option open to the UK. However, there would be a substantial risk that the EU would start infraction proceedings, which, if the UK continues with the “do nothing” option, could result in an unlimited fine.

Monetised and non-monetised costs and benefits

9. It is extremely difficult to assess the financial impacts of reclassification of vCJD assays as there are not currently any assays on the market anywhere in the world. Whilst it was anticipated in 2007 that such assays could be placed on the market within 12-18 months, this has not been realised, largely owing to technical difficulties and the scarcity of samples to work on.

10. In order to inform this Impact Assessment, an informal consultation exercise was undertaken in March and April 2012, targeted at key interested parties. Responses to this exercise demonstrate that it remains unclear when assays might be placed on the market in the future, although the response from NHS Blood and Transplant suggested that it may be possible for an assay to be placed on the market within two to three years.

11. The inclusion of vCJD assays in Annex II List A of Directive 98/79/EC means that, rather than being able to self-certify that a device placed on the market is in conformity with the requirements of the Directive, a manufacturer will need to meet the requirements laid down in a Common Technical Specification (CTS) and that their conformity assessment is certified by a Notified Body, which are the organisations responsible for pre-market testing of medical devices. The CTS – set out in Decision 2011/869/EU – establishes criteria for performance and testing that a manufacturer is required to meet unless they have justified reasons for adopting alternative solutions.

12. The practical implications of this change are that an additional cost will be borne by manufacturers wishing to place a vCJD assay on the market following its inclusion in Annex II List A. This cost relates to the work undertaken by a Notified Body in respect of initial conformity assessment and ongoing audit and batch verification.

13. Evidence gathered from three Notified Bodies and reconfirmed during the informal consultation exercise, based on equivalent costs for other products in Annex II List A, are that one-off costs related to conformity assessment and certification would be in the region of £12,000-£18,000 per manufacturer and that ongoing annual costs for audit and batch verification would be £9,000-£10,500 per manufacturer per year.

14. Not knowing when a commercially viable assay might become available makes estimating the expected costs of the greater quality standards problematic. However, for the sake of illustration, we suggest the following scenario: an assay is developed after three years and is successfully marketed for the following seven years. The present value of the costs would be between £62,000 and £76,000 (annualised cost between £7,000 and £9,000)

15. Without a significant piece of analysis that would be disproportionate to the cost of this change, it is not possible to estimate the potential health benefits of reducing the chances of vCJD transmission through blood products.

16. However, in an effort to put the costs into context, we have painted the following scenario. Let's assume that the introduction of strict standards for assays prevents one case of vCJD in the next ten years, and that it would have taken twenty five years for the disease to develop after transmission. If we further assume that the victim would have been the average UK age of approximately forty at the time of transmission and that once the disease develops, the patient loses all quality of life (each year of life with vCJD scores zero Quality Adjusted Life Years or QALYs). Normally, someone who has reached the age of 65 (40 + 25) has a QALY expectancy of 15 (Department of Health research). By applying the standard Department of Health QALY value of £60,000, we can value the 15 QALYs that would have been lost without the strict standards for assays at an undiscounted £900,000.

17. Another way of looking at the benefits in the context of costs, is to say that, in the scenarios that we have painted above, the introduction of strict standards for vCJD assays would have to prevent about 0.08 cases of vCJD transmission over the next ten years in order for the benefits to be equal to the costs. Note that we are <u>not</u> claiming that this level of prevention would occur in practice.

Rationale and evidence that justify the level of analysis

18. In order to inform the analysis in this Impact Assessment, consultation has taken place over time with a wide range of stakeholders, including manufacturers, Notified Bodies, researchers and key public sector organisations such as NHS Blood and Transplant, the National Institute for Biological

Standards and Control and the Health Protection Agency. This consultation was initially used to develop the UK's position for negotiating Directive 2011/100/EU and Decision 2011/869/EU and more recently in March/April 2012 to reconfirm our understanding of the likely cost impacts on manufacturers.

19. Owing to the fact that our evidence gathering has confirmed that there are no manufacturers that currently place vCJD assays on the market, and only a limited possibility of this happening in the next 5 years, there is a limited amount of analysis that is possible or desirable. Equally, this Impact Assessment relates to the implementation of a Directive that has been finalised and, as set out previously, there is no discretion in how it can be implemented. The Impact Assessment in this instance is therefore more of an administrative tool to set out the potential costs to business, rather than being developed at a stage when the proposals can be changed.

Risks and assumptions

20. The key risk in the analysis above is that an unexpected scientific or technological breakthrough could mean that a vCJD assay is developed in a year's time; equally, however, it could be 50 years until such a test is available. For example, a prototype vCJD assay was reported in the Lancet in 2011 (*Detection of prion infection in vCJD disease: a blood-based assay, Edgeworth et al., 2011)* and whilst this marks an important step in the development towards a diagnostic assay, there is significant further work required before such a prototype could be developed into a commercial assay.

Implementation

21. Directive 2011/100/EU will be implemented by means of Regulations amending the Medical Device Regulations 2002. The deadline for transposition is 1 July 2012.

22. Separately to this amendment to Directive 98/79/EC, the Commission are undertaking an exercise to undertake a wider revision of the Directive, with proposals for a new Regulation expected to be published in September 2012 (this explains the review date in the summary above). The intention is that the list-based approach is amended to a risk-based approach, meaning that broader rules are used to determine the level of pre-market assessment required and that changes such as those in Directive 2011/100/EU will not be required in the future.

Wider impacts

Small firms impact

23. Currently it is difficult to tell whether any small firms would be affected by the introduction of stricter quality requirements for vCJD assays. Given that no such assays have been developed yet alone commercialised, we do not know the type of production capabilities required to produce the assays. We therefore do not know whether small firms, with their limited resources, could successfully produce assays.

Competition assessment

24. **Will the policy directly limit the number or range of suppliers?** No. The policy will place no direct limits on the number of suppliers

25. **Will the policy indirectly limit the number or range of suppliers?** No. The policy confers no advantages to existing suppliers (there are none) and imposes costs that are too small to impede the entry or exit to the future market.

26. **Will the policy limit the ability of suppliers to compete?** The policy places quality standards on vCJD assays. However, the costs of complying with the minimum standards are not high enough to affect competition.
27. **Will the policy reduce suppliers' incentives to compete vigorously?** The policy will not affect the vigour of competition.

Useful links

Directive 98/79/EC

Directive 2011/100/EU

Decision 2011/869/EU

Informal consultation letter from MHRA – dated 12 March 2012