



Department  
for Environment  
Food & Rural Affairs

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# **The Incidence of TB in Cattle in Great Britain**

**Consultation on changes to National Statistics: summary of responses and next steps**

**August 2015**



Llywodraeth Cymru  
Welsh Government



The Scottish  
Government



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<https://www.gov.uk/government/statistics/consultation-on-changes-to-statistics-on-tb-in-cattle>

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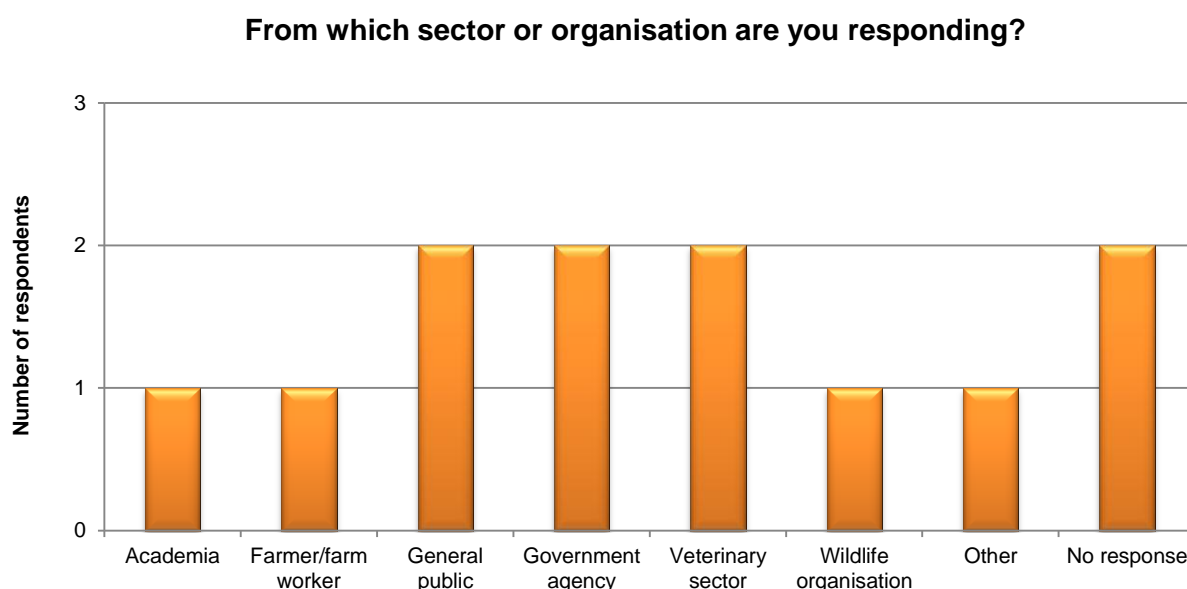
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# Introduction

From 11 February to 24 April 2015 Defra, the Welsh Government and the Scottish Government consulted on proposed changes to the National Statistics on Incidence of TB in Cattle in GB. The consultation was conducted in accordance with the [Official Statistics Code of Practice](#) and can be found [here](#).

There were twelve responses to this consultation, two of which were incomplete. An additional response was received via the TB Statistics mailbox which has been mapped as far as possible to the questions posed in the user consultation. This was a small number of responses relative to the number of people viewing the statistics each month<sup>1</sup>. However the respondents came from a broad range of sectors and organisations:



This document summarises the responses to the questions set out in the consultation, and within each section sets out the next steps in terms of making the changes and publishing the revised statistical notice. As these changes require some considerable changes to underlying data processing and systems, the revised notice is due to be published for the first time in December 2015.

<sup>1</sup> In the two weeks from May 13 2015 the TB statistics webpage at <https://www.gov.uk/government/statistics/incidence-of-tuberculosis-tb-in-cattle-in-great-britain> received 721 page views

## Headline statistics

The consultation set out several ways of presenting the bovine TB status of herds in the incidence calculation, as well as several options to measure headline statistics showing the incidence and prevalence of TB in cattle.

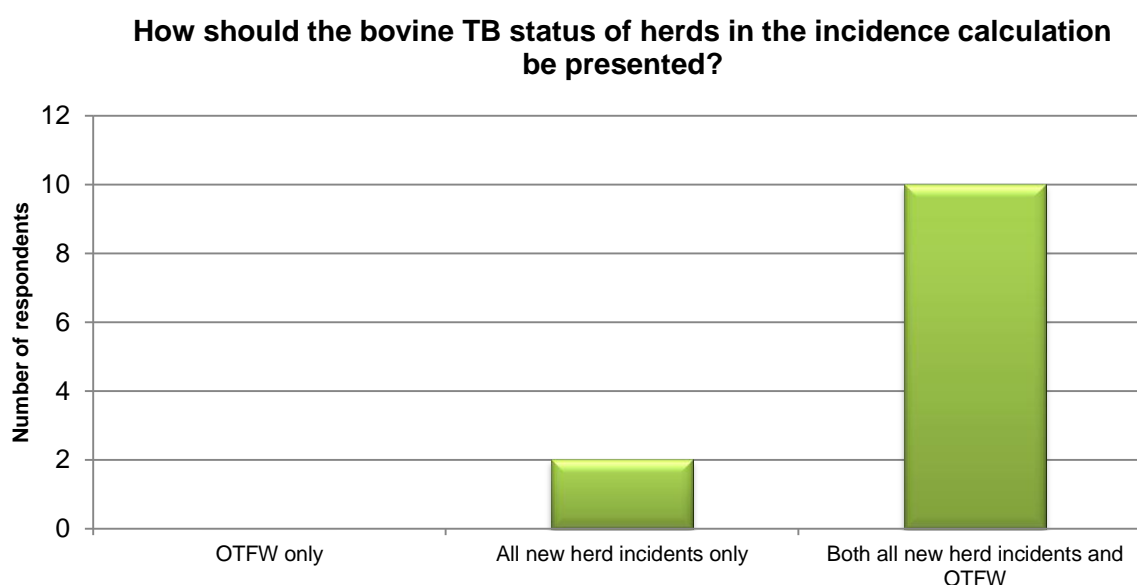
## Herd status used in incidence calculation

The current statistics use the number of breakdowns (incidents) where OTF status has been withdrawn as the numerator for the incidence measure. However, this excludes any new incidents of TB where OTF status is suspended in the absence of characteristic lesions of TB at post-mortem meat inspection or identification of the bovine TB bacterium in laboratory cultures. The consultation sought views on whether headline statistics should be presented using:

- New incidents where OTF status has been withdrawn (OTFW)
- All new incidents, whether OTF status has been withdrawn or suspended (OTFW and OTFS)
- Separate measures showing new incidents where OTF status has been withdrawn (OTFW) and all new incidents (withdrawn and suspended)

**Responses indicated a strong preference for the headline statistics to be presented both for OTFW incidents and for all new herd incidents, whether OTFW or OTFS.**

Respondents gave a number of explanations for their choice, including wanting more information, concerns about differences in the predictive value of the TB skin test across areas and the implication that using OTFW means that OTFS results are 'false positives'.



**In future the headline herd incidence statistics will be presented both for all new herd incidents and for incidents where OTF status has been withdrawn.**

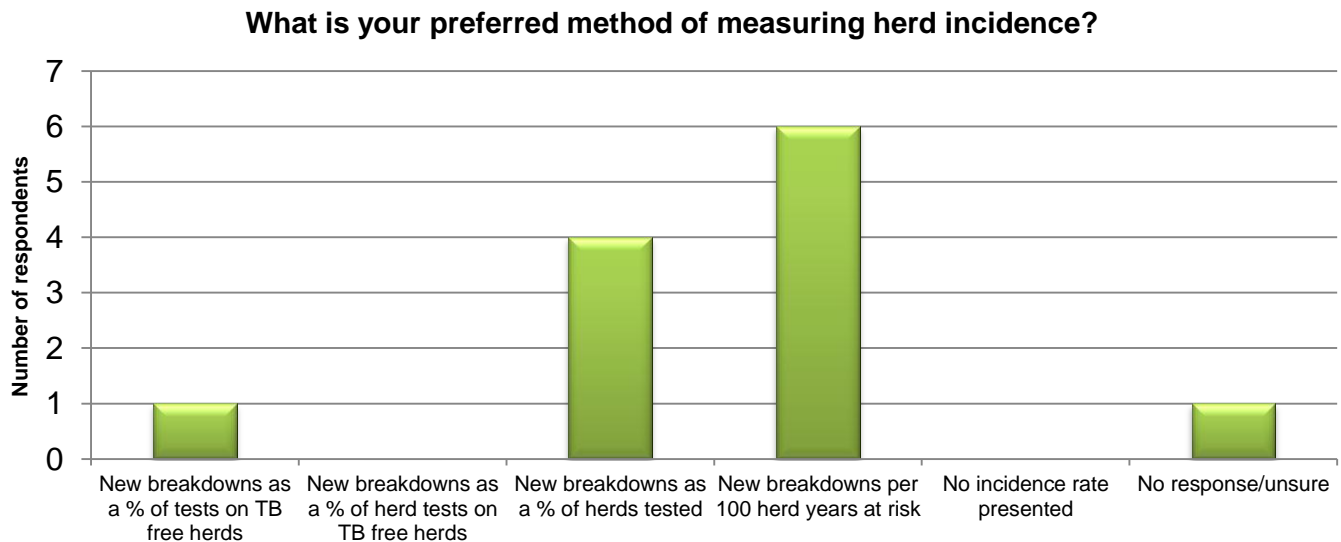
## **Herd incidence**

The current headline measure is based on new herd incidents (OTFW) as a proportion of tests carried out on TB-free herds. Several new options were proposed, with the recommendation that the incidence rate should move to using the amount of time that a herd was unrestricted and at risk of infection as the denominator (100 herd-years at risk).

### **Respondents indicated a preference for the proposed method.**

Reasons given were that it is statistically robust, it is a standard accepted way of measuring disease incidence, it accounts for differences in TB test frequency across different areas and it allows for trends to be measured over time. New breakdowns as a percentage of herds tested received some support, with its simplicity and transparency cited as reasons for the choice.

Measures based on either the numbers of herds tested or the number of tests on herds are heavily influenced by surveillance effort. Additionally, they include breakdowns detected at slaughter in the numerator but do not account for these in the denominator (such that in theory the numerator could be one breakdown detected at slaughter and the denominator could be zero tests on herds). For these reasons, options using a denominator based on testing do not allow for meaningful interpretation of trends over time.



**In future the headline herd incidence statistic will be calculated as the number of new breakdowns per 100 herd years at risk. The measure will be accompanied by a clear explanation of what the calculation means. We will also consider how to**

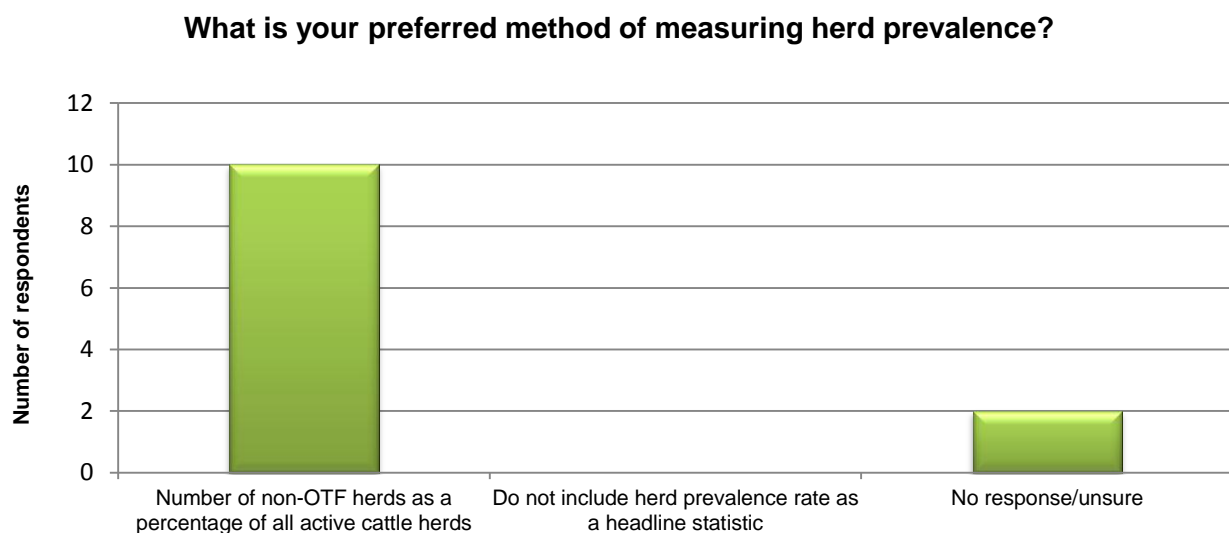
improve the transparency of the metric as this was a concern for some respondents.

## Herd prevalence

The consultation proposed including herd prevalence as a headline statistic, calculated as the number of herds restricted due to an ongoing bovine TB incident as a proportion of all active cattle herds.

**Respondents were in favour of this approach.**

Reasons given were that it is a meaningful and informative statistic that gives an indication of the overall impact of the disease in the population at a specific point in time, and that the metric supplements the herd incidence rate well.



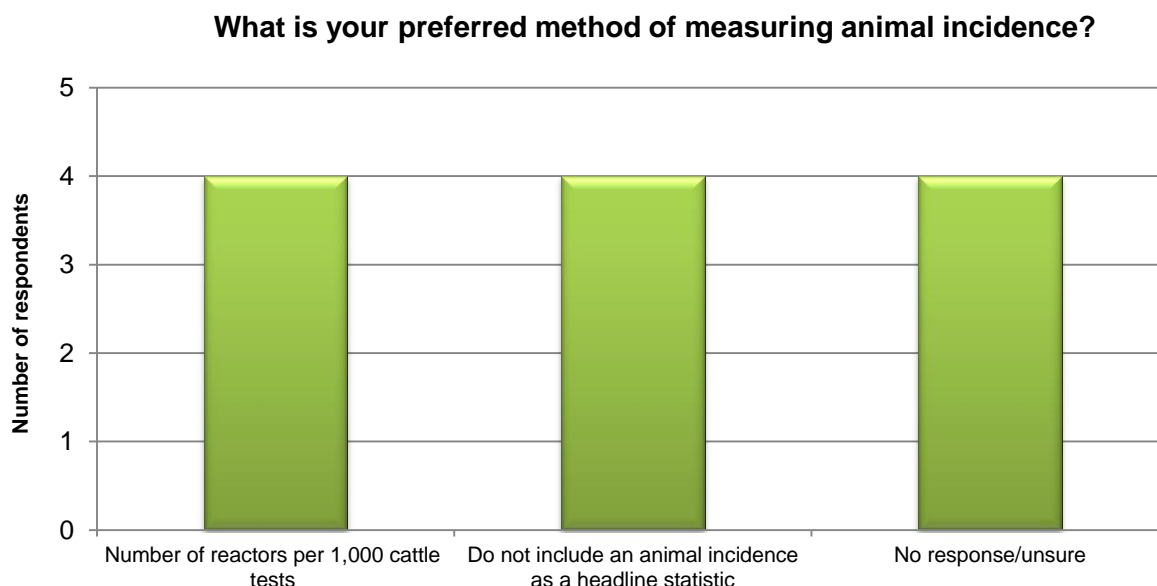
**In future, herd prevalence will be presented as a headline statistic. This will mean that an additional column of data will be published showing the number of restricted herds at the end of the month/year due to a TB incident. Currently the statistics show the number of herds becoming non-OTF during the period due to a TB incident, and separately the number of herds under restrictions at the end of the period for any reason (i.e. because of a TB incident, overdue test or pending an individual animal restriction).**

## Animal incidence

The consultation presented animal incidence as a potential headline statistic, although the recommendation was not to include it because it is influenced by testing effort and can be biased by several factors (e.g. herd size, test type or test interpretation).

**There was no clearly-favoured option in the responses to the consultation.**

Reasons in favour of including the metric included the provision of more information. However, as the underlying data which allows users to calculate this statistic will continue to be published in the datasets each month, the information is already made available to users. Respondents also noted that this statistic was easy to calculate and to understand. Reasons in favour of excluding it were that it is meaningless, misleading and confounded with testing effort.



**Because of the drawbacks of the measure, this statistic will not be included as a headline measure.**

## Geographical breakdowns

The consultation proposed disaggregating the headline statistics by risk area in England (high risk area, edge and low risk area) and TB eradication board areas in Wales.

**Responses to this question were mixed, with no clearly-favoured option.**

Reasons for agreeing with this proposal included its policy relevance of the England risk areas and the need to monitor statistics for areas which are epidemiologically different from each other. Reasons against this proposal were that it may distort the statistics and that the information is already available for users to analyse themselves if needed. However the latter point is only true of the low risk area, because several counties are split between the high risk and edge areas. This means that the figures cannot be calculated from the existing county-level boundaries.

Another reason given by two users was that these areas are policy-driven, with one user commenting that the geographic breakdown should be by administrative, geographical or epidemiological boundaries instead. It is important that users trust the National Statistics

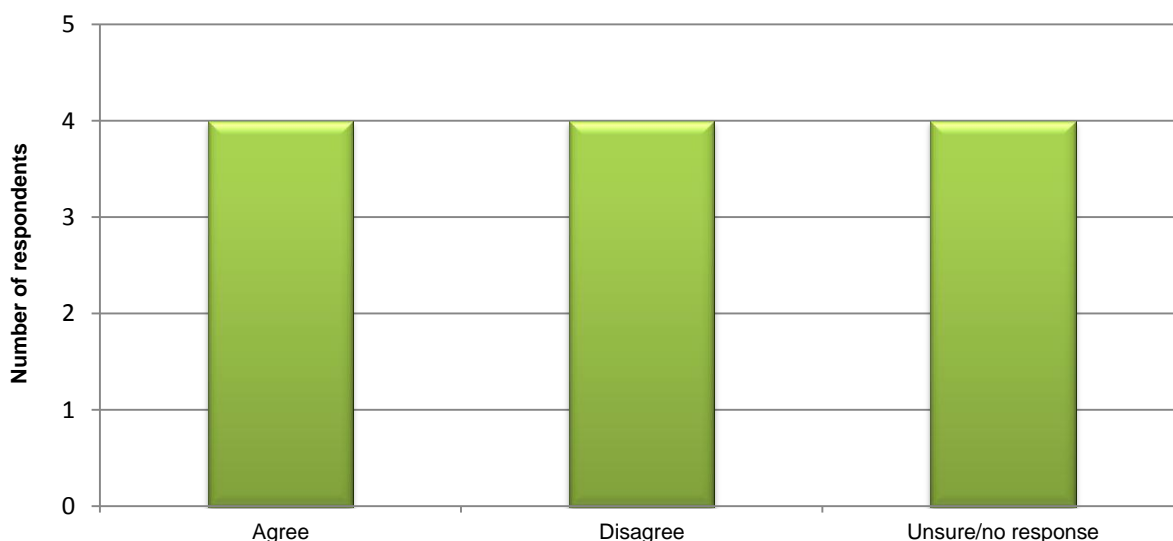


and that they recognise the independence of the statistics from policy influence. However, it is also the case that the statistics are designed to meet *user needs*. From a policy perspective this is to be able to monitor the spread (or contraction) of TB in cattle in areas which have been defined based on epidemiological boundaries. The boundaries should be stable to allow for changes to be monitored over time and to avoid breaks in the time series (which changing the boundaries would result in). The risk areas of England meet these criteria; they are defined based on differences in the prevalence and epidemiology of TB in each area and are set to remain the same for several years. Furthermore, these areas are recognised as distinct disease control entities in the Government's Strategy for Achieving Officially TB Free status for England<sup>2</sup>. The three TB Regional Eradication Boards in Wales, and the areas that they each cover, were not defined on an epidemiological basis and are not suitable units on which to stratify TB statistics in a reporting series operating over the long-term.

The need for county-level data dating back as far as possible was also raised. The county-level data will be backdated to 1996. Other comments included:

- the possibility of producing statistics for a different set of APHA-defined regions. The feasibility of this will be investigated.
- a request for maps showing prevalence. This is resource intensive for a frequent publication and information which already exists in the APHA annual surveillance reports for England, so will not be included.

#### **The headline statistics should be presented by risk area in England and TB board in Wales**



**In future, the headline statistics will be presented for England, Wales and Scotland, with the England statistics disaggregated by risk area.**

<sup>2</sup> <https://www.gov.uk/government/publications/a-strategy-for-achieving-officially-bovine-tuberculosis-free-status-for-england>

As there was no strong preference for the Welsh statistics to be disaggregated by TB board, and to reflect concerns that the underlying basis of geographic breakdowns should be relatively stable administrative or epidemiological boundaries, **the headline statistics for Wales will not be disaggregated into sub-groups**. However, some of the Welsh county statistics will be further disaggregated so that the boundaries match those of other statistical outputs such as in the APHA [annual surveillance report for Wales](#).

**County-level statistics will be published as far back as the data held within Sam<sup>3</sup> allows, which is 1996.**

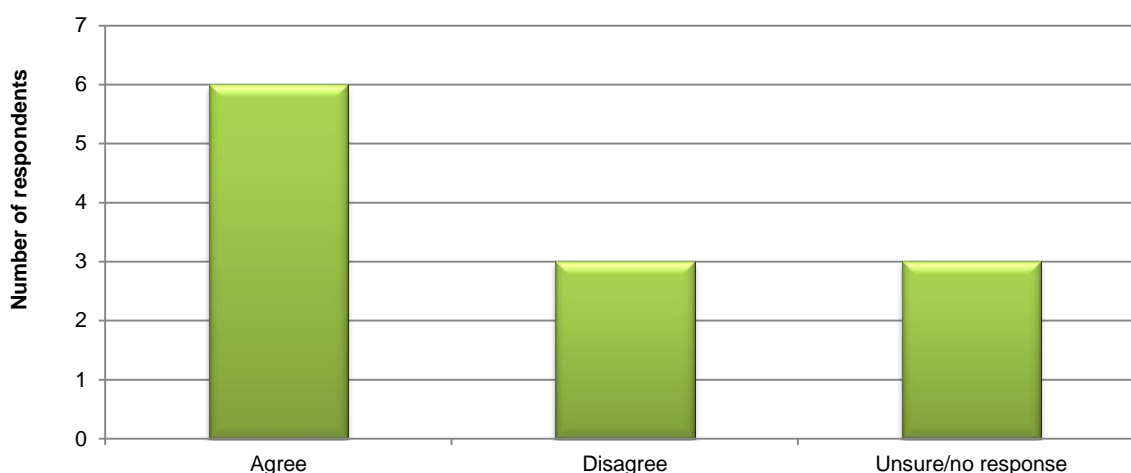
## Frequency of publication

The consultation sought views on the proposal that the statistical notice – which contains the headline statistics, graphs showing the time series and statistical commentary – should be published on a quarterly basis, with the underlying datasets continued to be published each month.

**There was broad agreement for this proposal.**

The main reason given for being in favour of this related to the understanding of trends, with fluctuations from month to month and changes in the disease not being observable over short time periods.

**The statistical notice and headline statistics should be published quarterly, with the underlying datasets published monthly**



**In future the statistical notice will be published on a quarterly basis. The datasets showing the underlying statistics will be published monthly (as they are currently).**

**The statistical notice will include:**

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<sup>3</sup> Sam is the name of the data system used by APHA to collect and store the operational data underpinning the National Statistics

- Herd incidence, measured using 100 herd years at risk as the denominator. This will be presented for a rolling twelve month period. It will be presented for all new herd incidents (as the main metric) and also for new incidents where OTF status has been withdrawn (OTFW)
- Herd prevalence, measured using the number of non-OTF herds due to a TB incident at the end of each period as a proportion of all active herds
- The above headline statistics presented in charts showing the time series from 1996 to present for England, Wales and Scotland, with England statistics also disaggregated into high risk area, edge and low risk area
- Statistical commentary explaining any trends.
- The headline herd incidence chart for GB both in its current and new form, for twelve months. This will allow users to compare the new measure with the old one.

**The monthly datasets will include** the number of herd and cattle tests, new herd incidents, new herd incidents where OTF status was withdrawn, animals slaughtered and herds under movement restrictions. The full dataset can be seen [here](#), entitled *Incidence of TB in cattle in Great Britain: GB dataset*. These will be published for:

- Great Britain
- England
- Wales
- Scotland
- Risk areas within England
- Counties for all countries.

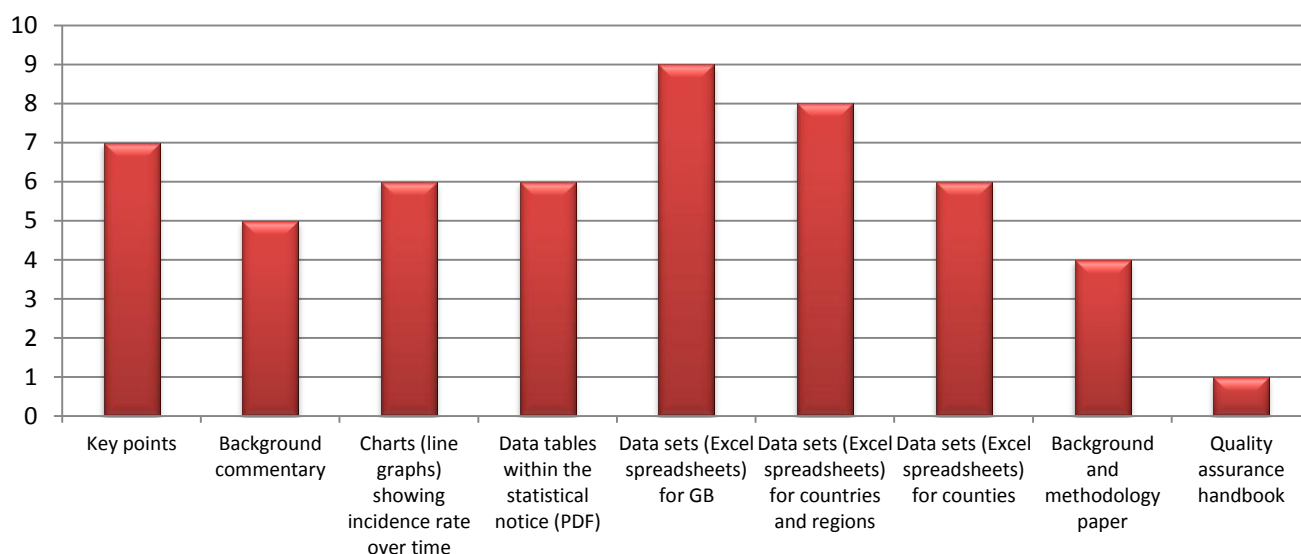
## Uses of the statistics

The consultation also sought information on which elements of the statistical release users currently look at, and how the statistics are used.

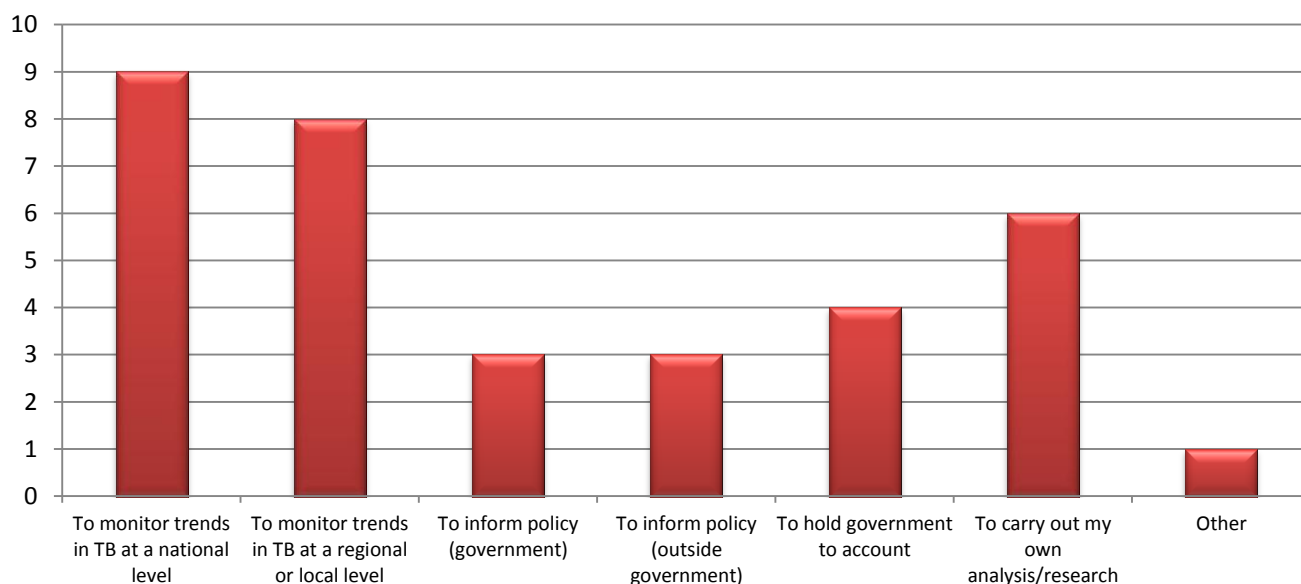
Most users looked at the datasets at a national, regional and county level to monitor trends in the disease, and most users looked at the statistical notice which features key points, commentary, charts and data tables.

The paper summarising the background and methodology and the data handbook (which summarises the processes involved in the collection, validation and management of the data used in the TB statistics) were used by fewer people. However these are important documents to maintain for reference and to meet the requirements of a National Statistics publication.

### Which elements of the statistics do you tend to look at or use?



### What do you use the statistics for?



## Next Steps

Technical work is currently underway to allow the data from Sam to be extracted on a monthly basis using the risk areas (England) and additional county boundaries (Wales). We are also adding new fields to the monthly reports and extracting the historical data (pre-2008) at a county level. This will be quality assured and compared with previously-published figures. The revised statistical notice and datasets will be published in December 2015.