

Guidance for standardising quantitative indicators of impact within REF case studies

1. What is it?

- HEFCE (now Research England)-commissioned RAND Europe report¹ that sets out **guidelines for standardising the presentation of quantitative indicators of impact evidence** within REF 2021 case studies. The guidance draws on an analysis of data contained within non-redacted case studies from REF 2014.
- **Qualifiers** for use of guidance in case study development
 - Funding bodies' position on use of the standards, as set out in the draft guidance on REF submissions: **'when writing case studies, submitting units should refer to the guidelines for presenting quantitative data'**.
 - **That said**, the standards are framed as a **'suggested approach'** only, and it is recognised that they **'might not work in all instances'**.

2. Aim/rationale

- In promoting a **more standardised quantitative 'vocabulary'**, the funding bodies ultimately **aim at a 'more consistent' approach** to the presentation of quantitative impact evidence.
- The underpinning **rationale** is that a more consistent approach could potentially facilitate **'more effective and efficient' post-REF (text-mining based) impact data analysis and aggregation**, by making said data more readily 'discoverable'.

3. Contents

Two categories of proposed standards:

- **'Style guide'** consisting of 'general stylistic items' (see Figure 1 below).
- **'Specific guidance'** containing 'more specific and commonly occurring' quantitative indicators (see Figure 2 below).

¹ S. Parks et al., 'Guidance for standardising quantitative indicators of impact within REF case studies', Research England: Bristol, 2018. RAND Europe is a not-for-profit policy research body that aims to enhance policy and decision-making in the public interest.

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Figure 1 ‘Style guide’ for standardising quantitative indicators of impact²

Areas	Suggested approach to standardisation + examples
Numbers	<ul style="list-style-type: none"> ▪ Use numerals when referring to quantitative indicators of impact (e.g. ‘4’, ‘1,567’, ‘2,000,000’). ▪ Use commas for the thousands separator in numbers of 4 digits or more (e.g. ‘1,567’, ‘2,000,000’). ▪ Use precise figures where possible. If referring to a non-exact figure, use ‘approximately [X]’ (e.g. ‘approximately 100 people’, ‘approximately GBP1,000,000’). ▪ If decimal points are necessary, use 2 decimal points where possible (e.g. ‘0.29’, ‘8.50’, ‘2,000.88’).
Percentages and rates	<ul style="list-style-type: none"> ▪ Use % immediately after the numerical value (e.g. ‘17%’, ‘29.18%’). ▪ Do not include a space between the numerical portion and %. ▪ If describing a particular type of rate, include the term ‘rate’ (e.g. ‘mortality rate’, ‘survival rate’, ‘response rate’).
Measures of change (i.e. increase or decrease in quantity/rate)	<ul style="list-style-type: none"> ▪ Use the following formulations as appropriate: <ul style="list-style-type: none"> ○ ‘...increase(s/d) from [X] to [Y]...’ (e.g. ‘increases from 5 to 6 months of survival’) ○ ‘...increase of [X] ...’ (e.g. ‘increase of 70% per year’) ○ ‘...decrease(s/d) from [X] to [Y]...’ (e.g. ‘decreased from 25% to 7% since 2014’) ○ ‘...decrease of [X] ...’ (e.g. ‘decrease of 20mtCO2e’)
Time periods	<ul style="list-style-type: none"> ▪ Use the following formulations as appropriate: <ul style="list-style-type: none"> ○ ‘... per [TIME PERIOD] ...’ (e.g. ‘per day’, ‘per month’) ○ ‘... between [X] and [Y] ...’ (e.g. ‘between May and June 2013’, ‘between 2013 and 2017’) ○ ‘... since [X] ...’ (e.g. ‘since 2012’, ‘since 18 August 2017’)

² Verbatim account.

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	<ul style="list-style-type: none"> ▪ Include the year where appropriate.
Units	<ul style="list-style-type: none"> ▪ Where possible, to express the values of quantities, use SI units, 17 or non-SI units that are accepted for use with the International System of Units. ▪ When used with a numerical value, position the value before the appropriate symbol (e.g. '10km', '50t'). <ul style="list-style-type: none"> ○ For weight, use, for example, the following symbols: g (for gram), kg (for kilogram), t (for tonne) ○ For distance, use, for example, the following symbols: mm (for millimetre), cm (for centimetre), m (for metre), km (for kilometre) ○ For volume, use, for example, the following symbol: ml (for millilitre), l (for litre) ○ For area, use, for example, the following symbol: ha (for hectare) ▪ Do not include a space between the numerical portion of the measurement and the symbol.
Currency	<ul style="list-style-type: none"> ▪ Where currency is described, use the three-letter alphabetic currency code as specified in the ISO standard, ISO 4217:2015 (e.g. GBP, EUR, USD, AUD). ▪ Do not include a space between the currency code and the number (e.g. 'GBP100', 'GBP8,170.48'). ▪ Use GBP as the standard currency. ▪ If a currency other than GBP is used, provide the month and year in which the original figure was calculated in parentheses following the figure, using the format MM-YYYY (e.g. 'has contributed approximately USD19,000,000 (08-2013) gross value-added (GVA) to the region in shareholder return salaries and infrastructure spend').

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Figure 2 ‘Specific guidance’ for standardising quantitative indicators of impact³

Areas	Suggested approach to standardisation + examples
Engagement	<ul style="list-style-type: none"> ▪ Use specific terms where appropriate (e.g. ‘parents’, ‘children’, ‘students’). ▪ Use the formulation ‘... [X] people ([SPECIFIC INFORMATION]) ...’ (e.g. ‘viewed by 50 people (children aged 10 to 15 and their school teachers)’, ‘attended by approximately 2,500 people (junior doctors)’).
Mentions in non-academic documents and the media	<ul style="list-style-type: none"> ▪ For mentions of non-academic documents, use: ‘... cited [X] times in ...’ (e.g. ‘cited 50 times in national policy documents’). ▪ For mentions of the media (print and online), use: ‘... referenced [X] times in ...’ (e.g. ‘referenced 50 times in the media across 10 countries’). ▪ When a specific publication is mentioned, where available, provide relevant readership and circulation figures from an appropriate date²¹ (e.g. ‘the Guardian (print readership: 867,000; circulation: 152,714)’).
Employment	<ul style="list-style-type: none"> ▪ When referring to increasing employment as an outcome of research, where possible include both the headcount and the number of FTEs (where FTE is fulltime equivalent) (e.g. ‘generated 10 jobs (headcount: 10; FTEs: 10), ‘this created 50 part-time jobs (headcount: 50; FTEs: 25)’).
Financial figures	<ul style="list-style-type: none"> ▪ Where possible, use the following formulation: ‘... [TERM(S)] of ... [ALPHABETIC CURRENCY CODE][CURRENCY VALUE] ...’ (e.g. ‘profit of GBP1,000’, ‘turnover of approximately GBP80,000,000’, ‘gross value added of GBP1,400,000 per year’). ▪ Where possible, use more specific terms to express the financial indicator terms in the above formulation. Thus, if describing ‘profit’, specify the type of profit (e.g. ‘gross profit’, ‘post-tax profit’, ‘pre-tax profit’, ‘net profit’, etc.); if describing ‘expenditure’, specify the type of expenditure (e.g. ‘capital expenditure’, ‘health expenditure’, ‘public expenditure’, ‘total expenditure’, etc.).

³ Verbatim account.

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	<ul style="list-style-type: none">▪ For 'return on investment', use 'ROI'; for 'gross value added', use 'GVA'; for 'quality adjusted life years', use 'QALYs'.
Emissions	<ul style="list-style-type: none">▪ Use the following abbreviations for carbon dioxide, carbon dioxide equivalent and nitrogen oxides respectively: 'CO₂', 'CO₂e', and 'NO_x'.▪ Use SI units for all compound units (e.g. 'MtCO₂e/year', 'gCO₂/km').