

Care Pathways: Guidance on Appraising Sustainability

GP Consultation Module

October 2015



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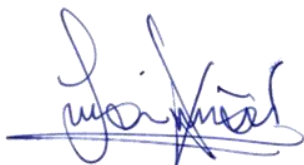
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1 GENERAL PRACTITIONER (GP) CONSULTATION

This module provides guidance on how to calculate performance per representative patient against the sustainability metrics for a GP consultation. It can be used:

- to direct the appraisal of a specific GP consultation, through the collection of primary activity data, for a care pathway; or
- as a source of secondary data for a GP consultation to inform a screening assessment of a care pathway; or
- as a source of secondary data for an appraisal of a care pathway where a GP consultation is known not to be material to the overall care pathway.

1.1 DESCRIPTION

A GP consultation is a patient attending a face-to-face consultation by a general practitioner, delivered in a general practice.

General Practitioner

A GP consultation is often the initial step in a care pathway when an injury/illness is first identified. As such, it is integral to setting the direction of the care pathway. A GP consultation is also an activity that can occur at different points in a care pathway.

A GP is defined as the following: *“General practitioners/family doctors are specialist physicians trained in the principles of the discipline. They are personal doctors, primarily responsible for the provision of comprehensive and continuing care to every individual seeking medical care irrespective of age, sex and illness. They care for individuals in the context of their family, their community, and their culture, always respecting the autonomy of their patients.”* ⁽¹⁾

General Practice

A general practice is an essential part of primary healthcare throughout the world. General practice is a term used to describe general practitioners and other supporting health personnel, associated with primary care and family medicine. Other services can be provided by a general practice in addition to GP consultations.

The majority of the work of a general practitioner is conducted through face to face consultations in the general practice, occasionally through home visits and with increasing frequency online or by phone. Only GP consultations conducted through face to face GP consultation in a general practice are included in this module.

(1) The European definition of general practice / family medicine. WONCA Europe 2005 edition, <http://www.woncaeurope.org/sites/default/files/documents/Definition%20EURACTshort%20version.pdf>

GP Consultation

A GP consultation is a process whereby a patient requiring a consultation at a general practice books the consultation, attends the appointment, is seen by a GP, is provided with any necessary prescriptions or other treatment and leaves the general practice. GPs may require a further consultation or choose to refer the patient to another general practice service, a hospital or other health care services. This can be for further monitoring, advice and guidance, tests and diagnostics, scheduled or emergency care.

1.2 BOUNDARY SETTING

Boundary setting is an important step in guiding a consistent approach to what should and should not be included in the appraisal of the module.

When appraising a GP consultation, the first step is to map out all of the activities or steps a patient undergoes for a GP consultation. Following this, the services required to provide these activities shall be determined and finally the resources (eg consumables, energy, etc) identified that are required to provide these services.

To ensure consistency in appraisals, recommended activities, services and resources for the provision of a GP consultation are presented below.

1.2.1 Activities Undertaken to Provide a GP Consultation

A patient may go through the following steps to complete a GP consultation.

(Note: yellow text refers to activities & orange text refers to separate modules to be included in a care pathway)

- **Booking:** an appointment is booked in person, via phone, online or invitation to attend.
- **Travel:** the patient travels to the general practice on the day of the appointment (included under patient travel module).
- **Reception:** the patient is seen at general practice reception or a self-check-in service.
- **Waiting:** the patient may wait in the general practice waiting room until the consultation.
- **Consultation:** the patient is called to and attends the appointment with the GP in a consultation room and may undergo treatment.
- **Referral:** a GP may provide referrals or prescriptions to use other health services external to the GP consultation (included in separate modules).
- **Travel:** the patient travels from the general practice after completing the consultation (included under patient travel module).

There may be variations to these activities and regional differences shall be accounted for when mapping out a specific GP consultation module.

1.2.2 Services & Facilities Required to Provide the GP Consultation Activities

To provide these activities, the following services and facilities are required.

- **Booking systems** whether in person at reception, via phone, online or other means.
- **Reception area** and staff to check-in the patient.
- **Waiting rooms** in the general practice.
- **Consultation rooms** in which the GP appointment is held.
- **GP Laboratory** to support consultations.
- **Administrative services** and areas to run the consultation part of the general practice.

Any services and facilities associated with a general practice but not required by the GP consultation shall be excluded from this module (eg asthma clinic). Capital goods (eg buildings, car parks) can be excluded from the module unless they are known to be material ⁽¹⁾ to the performance of the module against the sustainability metrics appraised.

A portion of the shared building and administrative services (eg managing of records, building cleaning) shall be allocated to the GP consultation service provided in the general practice, as described in the Allocation section in *Section 1.6*.

1.2.3 Resources Required to Provide the GP Consultation Services

Based on the list of activities, services and facilities identified above, the following categories of activity data shall be included:

(Note: green text refers to data that shall be included in an appraisal of the module)

- **Facilities**, eg energy, water and waste associated with buildings.
- **Consumables**, eg pharmaceuticals, single-use medical devices.
- **Medical gases**, eg nitrous oxide.
- **Equipment**, eg reusable medical equipment, hospital beds, furniture.
- **Travel**, eg staff travel.

A summary of resources and activities that shall be included in this module are summarised below. These may be excluded if they can be shown not to be material to the results. Exclusions should be undertaken by applying the materiality rules in the main document, ie no more than 10% of the total impact may be excluded. A list of additional care pathway modules that may be required to connect to this module to develop the overall care pathway map is given.

(1) Refer to section 2.6.3 Materiality and Data Screening in the Care Pathways: Guidance on Appraising Sustainability: Main Document

Include these activity data:

- Consumables used in GP consultation & GP laboratories
- Equipment used in GP consultation & GP laboratories
- Equipment used in shared services
- Electricity, fuel and water use in GP consultation
- Electricity, fuel and water used in shared services
- Staff travel
- Waste generated
- Administration activities
- Cleaning

Exclude these activity data:

- Capital goods (eg buildings, car parks)
- GP training
- Other staff training
- Health authorities, financial services
- GP & other staff non-protective clothing and food consumption

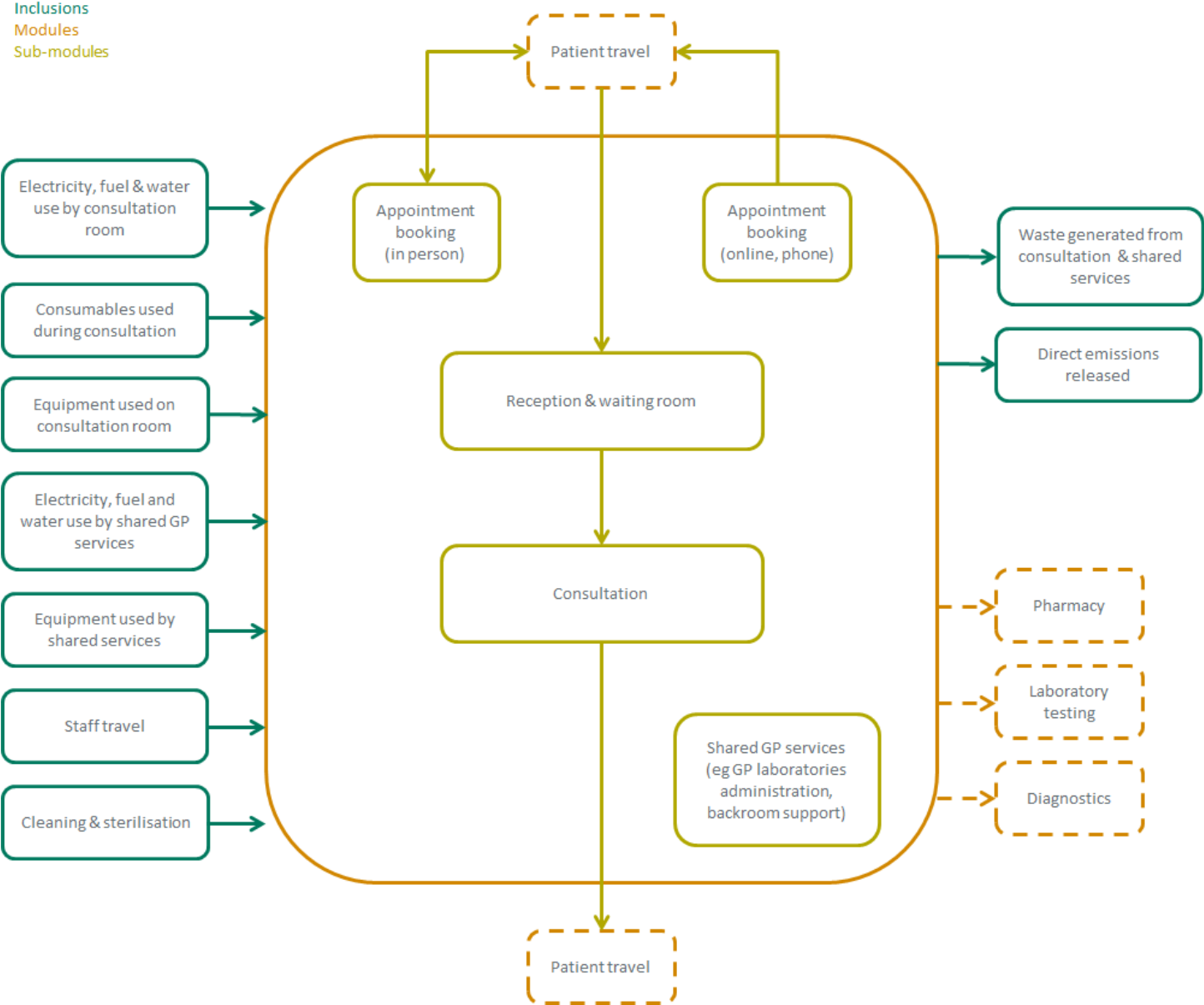
Additional modules that may be required (but that are excluded from this module):

- Patient travel
- Pharmacy visit and prescription pharmaceuticals collected
- Laboratory testing
- Diagnostics
- Other services provided at a general practice (not a GP consultation)

Detailed information on types of consumables and equipment relevant to this module can be found in the Activity Data section.

The activities, services and resources identified above for the GP consultation module are summarised in the process map below. When using this guidance, a similar process map shall be created for the specific GP consultation.

Figure 1.1 GP Consultation Example Process Map



1.3 UNIT OF ANALYSIS

A unit of analysis is identified as a common 'reference flow' or 'basis for comparison' to allow for the module to be included in a care pathway appraisal or to be used to compare different scenarios of the same module (eg GP consultations in different regions or the significance of changes made to an existing GP consultation).

A patient in a defined age group, with a specific condition, attending a GP consultation at a general practice in a geographical area

- eg an adult patient with diabetes attending a GP consultation at a general practice in the UK.

The age, condition type and geography is included within the unit of analysis in order to ensure consistency between appraisals. Further differences may be included in the unit of analysis if they are significant to the scenario being considered. Additional information may include sex, weight range, smoking habits, etc. Furthermore, depending on the care pathway considered, it may be relevant to include the service provided as well as, or instead of, the specific condition.

- eg an adult patient with polyuria attending a GP consultation at a general practice in the UK with subsequent single laboratory glucose measurement.

Note that, although the referral service is listed in this option, it is to be included as a separate module in the care pathway.

1.4 ACTIVITY DATA

Activity data are the quantified measures of activity relevant to the module being appraised.

GP consultation module activity data include the following.

- **Reference data** such as floor area and throughput of general practice split by services and types of patients.
- **Facilities data** (eg energy, water and waste) of the general practice split by services and patient type where possible.
- **Consumables, medical gases and equipment** used in the consultation rooms attributed to patient type and condition where possible.
- **Consumables and equipment** used in shared services of the general practice.
- **Travel of staff** required to provide the GP consultation service and all shared general practice services.

Primary activity data shall be collected to appraise the module if the activity is found to be material to the care pathway.

To determine if primary activity data are required, the calculations in *Section 1.7* can be used to inform a screening assessment of a care pathway. If the activity is found not to be material in the screening study, primary data, although preferable, are not required and the case study data can be used to represent a GP consultation within the care pathway.

1.4.1 Primary Data

Where required, primary activity data specific to the GP consultation being appraised shall be included. These data are likely to be sourced from a representative sample of general practices involved in the appraisal.

If a GP consultation for a specific condition is being appraised, data shall be collected to represent a patient attending a consultation with that condition, including the following.

- **GP consultation consumables:** the type and quantity of all consumables required to provide the GP consultation, including those used for diagnostic tests, for the specific condition.
- **GP consultation equipment:** the type, quantity, lifetime and number of uses of equipment required to provide the GP consultation for the specific condition.
- **GP consultation facilities:** quantity of electricity, fuels, water and types of waste generated from the GP consultation for the specific condition. If possible, the data should be based upon the equipment required or, alternatively, allocated based on floor area and sub-metering.
- **Shared services consumables:** the type and quantity of all consumables relevant to the shared areas of the general practice required to provide GP consultation patient activities (eg registration, reception, waiting room, administration).
- **Shared services equipment:** the type, quantity, lifetime and number of uses of equipment relevant to the shared areas of the general practice required to provide GP consultation patient activities (eg registration, reception, waiting room, administration).
- **Shared services facilities:** quantity of electricity, fuels, water and types of waste generated from the shared services allocated to the GP consultation. If possible, the data should be based upon the equipment required to provide the consultation or, alternatively, allocated based on floor area and sub-metering.
- **Staff travel:** staff surveys to calculate the modes and distances travelled by staff attributable to the GP consultation.

These data are the minimum required to conduct a GP consultation appraisal. Additional activities, services and resources may be identified when mapping the specific GP consultation and these shall be included, noting they are in addition to the minimum requirements in this guidance.

In some instances, it may not be possible to attribute consumables, equipment or facilities data directly to the GP consultation. In these instances, they shall be allocated to the consultation using the collected reference data (eg floor area and patient throughput). Allocation is described further in *Section 1.6*.

If the 'bottom up' data described above are not available, then financial data and cost allocation may be used as proxy to quantify consumables, equipment, facilities and travel data for a GP consultation.

1.4.2 Secondary Data

For activities identified in the process map that are outside the direct control of the organisation, suitable secondary data sources for activity data can be used. The collection of primary data is preferred where practicable. Secondary data are particularly useful to use where activities or modules are not deemed material to the study through a screening exercise or materiality assessment. General secondary data sources can be found in *Annex C* of the Main Document and on the GHG protocol website ⁽¹⁾.

Quick Estimate of GP Footprint

If some data are available, it may be useful to use the GP Footprint Reporter tool to conduct a quick assessment of the GP consultation. This tool may be particularly useful for materiality and screening exercises.

GP Footprint Reporter

<http://www.gpfootprinter.co.uk/>

GP Footprint Reporter is a tool to allow general practices to understand the GHG emissions and hotspots of their operations. It may be a useful tool to use for screening exercises to determine which activities are material to the care pathway appraisal. The tool contains Excel files for conducting staff and patient travel surveys. It also may be a useful source of emission factors.

1.5 EMISSION FACTORS

Once primary activity data or secondary activity data have been collected, they shall be combined with the appropriate emission factors to calculate performance against the sustainability metrics of the module.

A default list of emission factors is available in *Annex C* of the Main Document and should be used where specific emission factors are not available. An example of a specific emission factor is the quantity of GHG emissions associated with the manufacture of a specific type of surgical mask.

If 'bottom up' activity data could not be collected (eg quantities of types of consumables) then financial data may be used and combined with environmental extended input output (EEIO) analysis databases to calculate values for the sustainability metrics. Use of EEIO is considered to convey greater uncertainty and so using emission factors and primary activity data is preferable.

(1) GHG Protocol Third Party Databases, <http://www.ghgprotocol.org/Third-Party-Databases>

1.6 MODULE CALCULATION STEPS

Steps to appraise the module include the following.

1. Map the activities and services associated with the module.
2. Complete a materiality assessment using the module case study to understand the significance of activity data and the module to the pathway (if relevant).
3. If significant, identify sources from which to collect the required activity data. If not significant, use appropriate secondary or case study data and amend to the specific scenario.
4. Collect the required activity data relevant to the module scenario.
5. Identify how the activity data can be allocated to the unit of analysis (see Allocation section below).
6. Identify secondary data sources either in *Annex C* of the Main Document or specific to the activity data collected.
7. Perform allocation where necessary and combine the activity data and emission factors.
8. Interpret the findings and follow the guidelines in *Section 3* of the Main Document for reporting.

1.6.1 Allocation

In the first instance, one should seek to avoid allocation. However, this is often impracticable. Activity data collected for the module may need to be allocated to the particular module and to the unit of analysis. This is described below in order of priority.

- **Consumables and equipment used in the GP consultation.**
 - i. Collect activity data specific to the unit of analysis in the first instance.
 - ii. Identify consumables and equipment used in the GP consultation room specific to the condition and divide by the number of patients undergoing consultation with the specific condition.
 - iii. If the above is not possible, collect activity data on the consumables and equipment used in the GP consultation room and divide by the total throughput of all patients having a consultation for the defined time period.
- **Consumables and equipment used in shared general practice services.**
 - i. Where possible, identify consumables and equipment used throughout the shared services that are directly attributable to a GP consultation.
 - ii. Identify all of the consumables and equipment used by the services required to provide a GP consultation and allocate these across the total patient throughput of the general practice in the defined time period.
- **Facilities data for the GP consultation.**
 - i. Where possible, identify the facilities data (eg electricity) directly attributable to the consultation of a patient with a specific condition (eg by considering equipment use and the time it is used).

- ii. Identify facilities data for the general practice and use a technical expert (or use cost allocation processes) to estimate the percentage to be allocated to consultations in the general practice. Divide the resulting data by the total throughput of patients attending GP consultations.
 - iii. Identify facilities data for the general practice. Identify the floor space of the GP consultation rooms in the general practice and allocate based on this, and then divide by the number of patients attending GP consultations.
- **Facilities data for shared services.**
 - i. Where possible, attribute shared facilities data directly to the GP consultation. Identify and allocate any leased properties relevant to providing the GP consultation.
 - ii. Identify total facilities data for the general practice and allocate to the total patient throughput of the general practice.

1.7 EXAMPLE CALCULATIONS

An example of calculating GHG emissions, fresh water use and waste generated for the module is shown below. This has been calculated using data available in the Carbon Footprint Report for GP in a Health Centre Premises by NEP Energy Services ⁽¹⁾.

When conducting an appraisal of the module, additional effort should be taken when appraising the following categories as these are anticipated to be the most significant contributors:

- energy (eg electricity used within the general practice);
- consumables (eg items used in a consultation);
- staff travel (eg commuting).

Other hotspots may be identified when conducting an appraisal and all resources and emissions within the boundaries of the module should be considered for significance before excluding any data point.

The materiality of data should be considered when collecting and appraising information for the module. Materiality refers to the estimated significance of data to the module being appraised. It is recommended that no more than 10% of data contributing any impact appraised be excluded (eg 10% contribution to GHG emissions of the module). Further guidance on estimating significance can be found in the main document and annexes ⁽²⁾. Users may apply a different cut-off percentage (other than 10%) if justified, and this shall be reported along with the results of the appraisal.

(1) NEP Energy Services, Carbon Footprint for GP in a Health Centre Premises, 2013,

http://www.nottinghamcity.nhs.uk/images/stories/docs/GP_Portal/Practice_resources/Carbon_footprint_health_centre.pdf

(2) Refer to section 2.6.3 Materiality and Data Screening in the Care Pathways: Guidance on Appraising Sustainability: Main Document

Module GP Consultation

Unit of analysis An average patient (all ages & conditions) consultation in a GP surgery

Included activities

- ✓ Patient consultation
- ✓ Administration
- ✓ Staff commuting
- ✓ Use of consumables and equipment by the practice

Excluded activities

- × Pharmaceuticals administered by the GP during consultations (due to lack of data)

Assumptions The data reflects GP consultations 2011- 2012. The GP practice is located in a health centre and energy use is estimated based on the cost charged to the practice by the health centre.

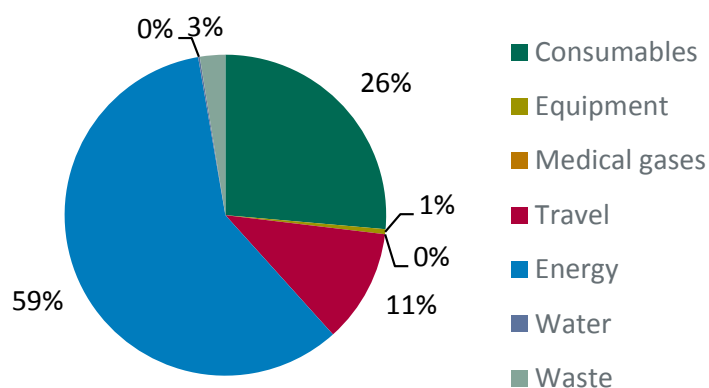
Data sources

- Carbon Footprint Report (2011-2012) GP in a Health Centre Premises Produced by NEP Energy Services Ltd
- Average distance travelled by purpose and main mode: England, 2013, National Travel Survey, Department for Transport statistics
- Data on consumables provided directly by the GP Practice

GP results (per patient visit)

<i>per visit</i>	GHG Emissions (kg CO ₂ e)	Fresh water use - direct (m ³)	Fresh water use - indirect (m ³)	Fresh water use - total (m ³)	Hazardous waste (kg)	Non-hazardous waste (kg)	Total waste (kg)
Consumables	0.30	x	0.65	0.65	x	x	x
Equipment	0.0057	x	0.065	0.065	x	x	x
Medical gases	x	x	x	x	x	x	x
Travel	0.13	x	0.33	0.33	x	x	x
Energy	0.67	x	1.2	1.2	x	x	x
Water	0.0019	0.0056	0.019	0.024	x	x	x
Waste	0.029	x	0.01	0.01	0.08	0.11	0.19
Total	1.14	0.0056	2.27	2.28	0.08	0.11	0.19

Contribution analysis GHG emissions



For further information or to provide feedback please visit:
www.sduhealth.org.uk/cspm

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