

Measuring HPV vaccine uptake

Determining the annual denominator

Overview

The overall aim is to record, on an annual basis, the proportion of females who have had the HPV vaccination (the numerator) as compared to the total vaccination-eligible population of those females offered the vaccine (the denominator).

Arriving at a consistent denominator figure across all primary care trusts (PCTs) is not straightforward because:

- not all eligible females go to a school within their PCT
- not all PCTs are running school-based vaccination programmes
- not all eligible females go to school – some are educated at home, for example.

We will also be collecting uptake data on a monthly basis where the denominator will 'simply' be based on the school roll (for routine cohorts) or PCT population (for older catch-up cohorts). It will be agreed in advance with PCTs and will be used, even for those PCTs not running a school-based vaccination programme. Funding and vaccine allocation is also school rolls-based.

In summary, we are asking PCTs to submit vaccine uptake data for those females they vaccinate, whether they are 'responsible' for them or not¹. As most PCTs will be running schools-based programmes² this will be mainly females who go to school within their PCT, but not exclusively.

Rationale

The rationale for collecting the annual vaccine uptake data by 'females PCTs vaccinate' rather than 'those for whom they are responsible' is that:

- it reflects how many females each PCT will actually vaccinate, i.e. we are recommending PCTs vaccinate females who go to school within their PCT (which most PCTs appear to be planning to do)
- funding and vaccine allocation for each PCT will be based on school roll within that PCT for routine cohorts rather than the number of females for which they are responsible
- the figures will be closer to what we will be using during the year as compared to the provisional monthly vaccine uptake data (i.e. based on school roll alone).

As indicated above, there are two categories of PCT:

- those with a school-based programme
- those with a non-school-based programme, e.g. GP practice-based.

The tables at the end of this document give a breakdown of the sub-groups of the cohort. References to [A], [B], [C] etc in the definitions below refer to the columns in the tables at the end of the document. They are supported by a diagram of the various scenarios in which PCTs will find themselves.

¹Responsible population is defined as being registered with a GP within your PCT or not registered with a GP but resides within your PCT.

²For the purposes of the data collection, schools includes all schools managed by local authority or grant maintained, schools managed by voluntary or private agents, sixth form colleges, pupil referral units, young offender units and residential units. For an up-to-date list of educational establishments in England and Wales maintained by the Department of Children, Schools and Families, see the EduBase website (www.edubase.gov.uk).

PCTs implementing a schools-based programme

Annual denominator

The school roll in your PCT (i.e. all females attending school in your PCT, including those from your PCT's 'responsible population' and other PCTs), PLUS females in your PCT's 'responsible population' not otherwise offered the vaccine (i.e. those not on any school roll or those attending a school in another PCT without a schools-based programme), as of 31 August 2009.

In this case, the denominator will include:

$$A + G + B + C =$$

- all females on the school roll in that PCT, regardless of whether the PCT is 'responsible' for them [A] or whether they are the responsibility of another PCT [G]
- all females for whom this PCT is responsible if they are:
 - not on the school roll in this or any PCT [B]
 - attending school in a neighbouring PCT without a school-based programme) [C]

Females who moved into your PCT and/or a school within your PCT during the year and who are on your school roll or within your PCT's responsible population on 31 August 2009, should be included in the count for [A] or [G] respectively.

Females on the school roll who miss one or more doses at a school session should remain within your denominator, even if they receive further doses elsewhere (including in another PCT) as part of a mop-up process.

The annual denominator should exclude:

- females who attend school in a neighbouring PCT, and
 - started and completed a course of HPV vaccination within the PCT where they go to school [D]
 - started a course within the PCT where they go to school, but who completed their course as part of a mop up programme in your PCT [E]
 - though eligible and offered the vaccine, did not start or complete a course within the PCT where they go to school (e.g. because of absence) [F].
- females who moved out of your PCT or left school within your PCT during the year and who are no longer on your school roll or

within your PCT's responsible population on 31 August 2009. These females should be excluded in the count for [A] or [G] respectively.

Denominator (with reference to Table 1)

$$= A + G + B + C$$

The school roll in your PCT (i.e. all females attending school in your PCT), which comprises:

A = Females on the school roll from your 'responsible population'

G = Females who attend school in your PCT but are the responsibility of another PCT

B = Females in your PCT's 'responsible population' who are not on any school roll

C = Females in your PCT's 'responsible population' who attend school in another PCT that is not running a school-based programme, as of 31 August 2009.

Or (without reference to Table 1)
The school roll in your PCT (i.e. all females attending school in your PCT, including those from your PCT's 'responsible population' and other PCTs), PLUS females in your PCT's 'responsible population' not otherwise offered the vaccine (i.e. those not on any school roll or those attending a school in another PCT without a schools-based programme), as of 31 August 2009.

Annual numerator

This is the number of females in your denominator (as described above) who received one, two or three doses respectively of HPV vaccine between 1 September 2008 and 31 August 2009.

PCTs not implementing a schools-based programme

If a PCT is not running a schools-based programme, the denominator is this PCT's 'responsible'¹ population, excluding those on the school roll of a neighbouring PCT with a schools-based programme.

Annual denominator

Females from your PCT's 'responsible population' only, but EXCLUDING those on the school roll of neighbouring PCTs with school-based programmes, as of 31 August 2009.

The annual denominator should include:

- the females in your 'responsible population' who:
 - attend school in your PCT [A]
 - are not included in the school roll count (e.g. educated at home etc) [B]
 - attend school in a neighbouring PCT, but were not offered an HPV vaccination course at that school, as of 31 August 2009 [C]
- females who moved into your PCT during the year and are within your PCT's 'responsible population' (as described above) on 31 August 2009. These females should be included in the count for [A], [B] or [C] respectively.

The annual denominator should exclude:

- the females in your 'responsible population' who attend school in a neighbouring PCT and were eligible for vaccination as part of the other PCT's school-based programme, as of 31 August 2009 and
 - started and completed a course of HPV vaccination within the PCT where they go to school [D]
 - started a course within the PCT where they go to school, but who completed their course as part of a mop up programme in your PCT [E]
 - though eligible and offered the vaccine, did not start or complete a course within the PCT where they go to school (e.g. because of absence) [F]

- females who are the responsibility of a neighbouring PCT but attend school within your PCT [G].
- females who moved out of your PCT during the year and are no longer within your PCT's responsible population (as described above) on 31 August 2009. These females should be excluded from the count for [A], [B] or [C] respectively.

Denominator (with reference to Table 2)

$$= A + B + C$$

A + B + C = Females in your PCT's 'responsible population' who (and not vaccinated by another PCT), which includes those who:

A = Attend school in your PCT

B = Are not on your or any school roll

C = Attend a school in another PCT and have not been offered a vaccination at that school

but EXCLUDING females in your PCT's 'responsible population' on the school roll in a neighbouring PCT with a school-based programme [D, E & F], as of 31 August 2009.

Females who attend a school within your PCT but are the responsibility of another PCT are also excluded [G]

Or (without reference to Table 2)

Females from your PCT's 'responsible population' only, but EXCLUDING those on the school roll of neighbouring PCTs with school-based programmes, as of 31 August 2009.

Annual numerator

The number of females in your denominator who received one, two or three doses respectively of HPV vaccine between 1 September 2008 and 31 August 2009.

¹ These females (who go to school outside the PCT they reside in) will be included in the denominator for the PCT who started the HPV vaccination course. Please inform the PCTs at which the females attend school of these additional doses administered so that are not recalled for vaccination in subsequent school years.

PCT 1 (School based programme)

Table 1

Sub-group of cohort	Responsible population (Registered with a GP practice within the PCT, or not registered with a GP practice, but within the PCT)						Not responsible
	A	B	C	D	E	F	G
	Attend school in own PCT	Not on school roll in any PCT (e.g. educated at home, etc.)	Attend school in other PCT with no schools programme (or no reciprocal agreement)	Attend school in other PCT with a reciprocal schools programme	Attend school in other PCT with schools programme, but miss 1 or 2 doses (MOP UP)	Attend school in other PCT with schools programme, but miss all doses (MOP UP)	Responsibility of other PCT but attends school in the PCT
On PCT 1 school roll?	✓	✗	✗	✗	✗	✗	✓
Vaccinated in PCT 1?	✓	✓	✓	✗	✓	✓	✓
In annual denominator?	✓	✓	✓	✗	✗	✗	✓
In monthly denominator?	✓	✗	✗	✗	✗	✗	✓

Annual denominator for PCT 1 = A + B + C + G = school roll in PCT 1 (i.e. all females attending school in PCT 1, including those PCT 1 is responsible for [A] and those that are the responsibility of another PCT [G]), PLUS the remaining responsible population of PCT 1 not otherwise offered the vaccine (i.e. those not on any school roll [B] or those not attending a school in another PCT with no schools programme [C]), as of 31 August 2009.

Monthly denominator for PCT 1 = A + G = school roll in PCT 1, (i.e. all females attending school in PCT 1, including those PCT is responsible for [A] and those that are the responsibility of another PCT [G]) - agreed with DH in advance and fixed for all 12 months.

PCT 2 (NOT School based programme)

Table 2

Sub-group of cohort	Responsible population (Registered with a GP practice within the PCT, or not registered with a GP practice, but within the PCT)						Not responsible
	A	B	C	D	E	F	G
	Attend school in own PCT	Not on school roll in any PCT (e.g. educated at home, etc.)	Attend school in other PCT with no schools programme (or no reciprocal agreement)	Attend school in other PCT with a reciprocal schools programme	Attend school in other PCT with schools programme, but miss 1 or 2 doses (MOP UP)	Attend school in other PCT with schools programme, but miss all doses (MOP UP)	Responsibility of other PCT but attends school in the PCT
On PCT 2 School Roll?	✓	✗	✗	✗	✗	✗	✓
Vaccinated in PCT 1?	✓	✓	✓	✗	✓	✓	✗
In Annual Denominator?	✓	✓	✓	✗	✗	✗	✗
In Monthly Denominator?	✓	✗	✗	✗	✗	✗	✗

Annual denominator for PCT 2 = A + B + C = responsible population in PCT 2 [A+B+C], but EXCLUDES females on the school roll in a neighbouring PCT with a school based programme [D, E & F], as of 31 August 2009.

Monthly denominator for PCT 2 = A = school roll in PCT 2, including PCT 2's responsible population [A] but EXCLUDES all females that are the responsibility of neighbouring PCTs [G] - agreed with DH in advance and fixed for all 12 months.

Calculating the denominator for the HPV vaccination programme

KEY

vp vaccine programme

SB a PCT running a school-based HPV vaccination programme

NSB a PCT running a non-school-based HPV vaccination programme

? a PCT where it is not known if it is running a school-based or non-school-based HPV vaccination programme

→ female is included in the denominator of the PCT it points to

→ female goes to school in the PCT it points to

PCT1 example PCT running a school-based HPV programme

PCT2 example PCT running a non-school-based programme

PCTX HPV programme in any other PCT (other than PCT1 or PCT2)

✗ female does not go to school

→ Female receives one or more doses in the PCT it points to (where she lives) as part of a mop-up programme, but is not included in the denominator (remains in the denominator of the PCT it points away from)

✍ female attends school

■ ■ ■ receives all three doses at her school

■ ■ □ receives one or two doses at her school

□ □ □ receives no doses at her school

→ → → female moves to the PCT it points to and is included in that PCT's denominator

🏠 female is the responsibility of the PCT (registered with a GP practice in the PCT, or not registered with a GP practice but lives in the PCT)

■ ■ ■ receives all three doses where she lives

■ ■ □ receives one or two doses where she lives

□ □ □ receives no doses where she lives

○ female is included in this PCT's denominator

○ female is not included in this PCT's denominator

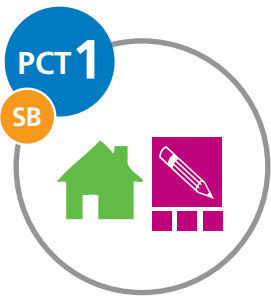
The letters [A] to [G] refer to those in the tables in the text

SCHOOL-BASED HPV PROGRAMME

Females to be included in the annual denominator

In these diagrams, PCT1 is running a school-based HVP programme (SB) and PCT2 is not running a school-based programme(NSB).

Scenario 1



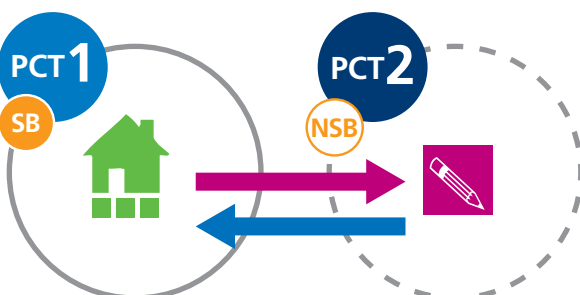
- Female is responsibility of PCT1
- Goes to vp-school in PCT1
- Offered school vaccination in PCT1
- Included in annual denominator PCT1 [A]

Scenario 2



- Female is responsibility of PCT1
- Does not go to school
- Offered vaccination in PCT1
- Included in annual denominator of PCT1 [B]

Scenario 3



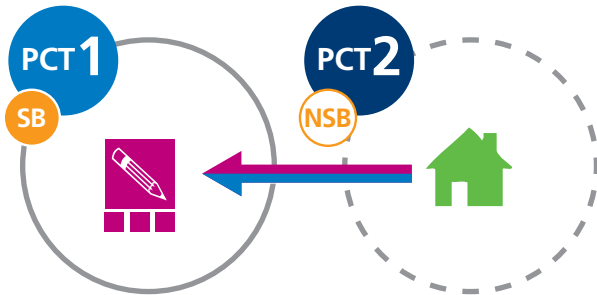
- Female is responsibility of PCT1
- Goes to non-vp-school in PCT2
- Offered vaccination back in PCT1
- Included in annual denominator of PCT1 [C]

CALCULATING THE DENOMINATOR FOR THE HPV VACCINATION PROGRAMME

SCHOOL-BASED HPV PROGRAMME

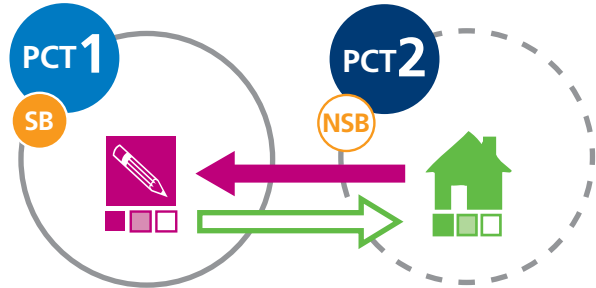
Females to be included in the annual denominator continued

Scenario 4a



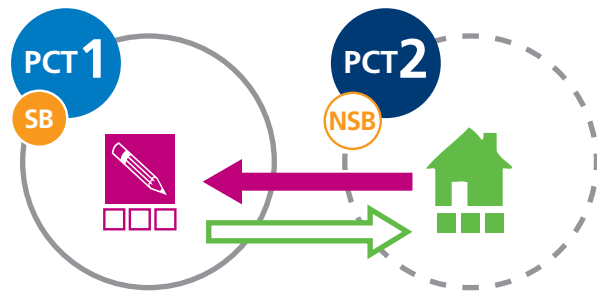
- Female is responsibility of PCT2
- Goes to vp-school in PCT1
- Included in school vaccination in PCT1
- Included in annual denominator of PCT1 [G]
- Not in annual denominator of PCT2 [D]

Scenario 4b



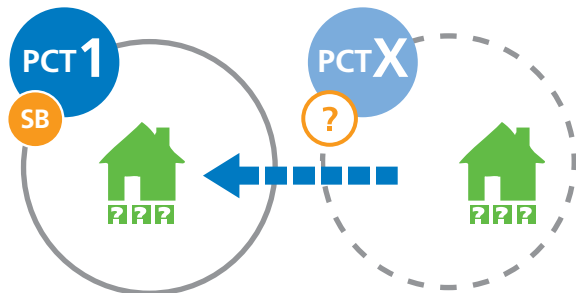
- Female is responsibility of PCT2
- Goes to vp-school in PCT1 but misses one or two doses
- Completes course as part of mop-up in PCT2
- Keep in denominator of PCT1 [G]
- Not in denominator of PCT2 [E]

Scenario 4c



- Female is responsibility of PCT2
- Goes to vp-school in PCT1 but misses all three doses
- Offered course as part of mop-up in PCT2
- Keep in denominator of PCT1 [G]
- Not in denominator of PCT2 [F]

Scenario 5

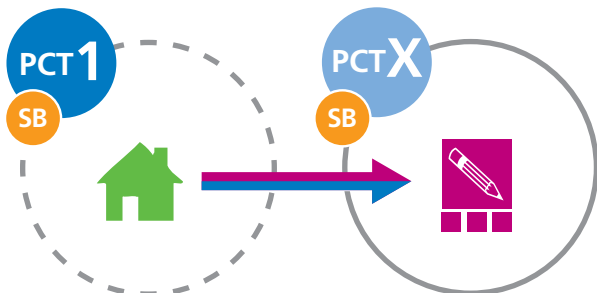


- Female moves into PCT1 during year ending 31 August 2009
- Included in annual denominator of PCT1 ([A], [B] or [C] as appropriate)
- Not included in denominator of PCTX

SCHOOL-BASED HPV PROGRAMME

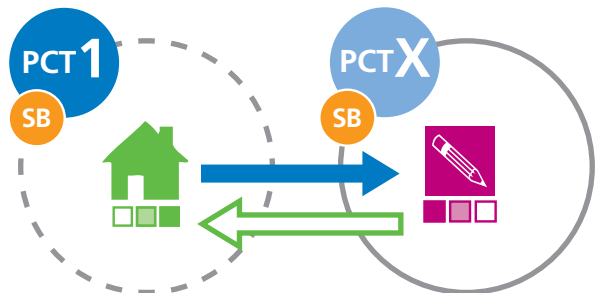
Females **NOT** to be included in the annual denominator

Scenario 6a



- Female is responsibility of PCT1
- Goes to vp-school in PCTX
- Starts and completes vaccination course in PCTX
- Not included in annual denominator of PCT1 [D]
- Included in denominator of PCTX [G]

Scenario 6b



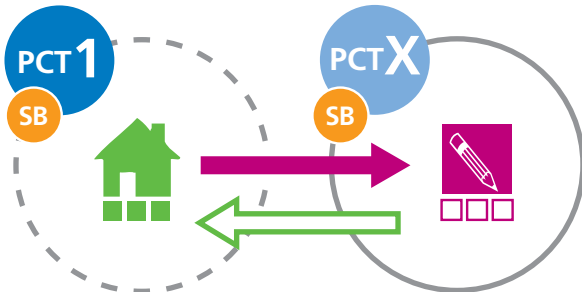
- Female is responsibility of PCT1
- Goes to vp-school in PCTX but misses one or two doses
- Completes course as part of mop-up in PCT1
- Not included in annual denominator of PCT1 [E]
- Keep in denominator of PCTX [G]

CALCULATING THE DENOMINATOR FOR THE HPV VACCINATION PROGRAMME

SCHOOL-BASED HPV PROGRAMME continued

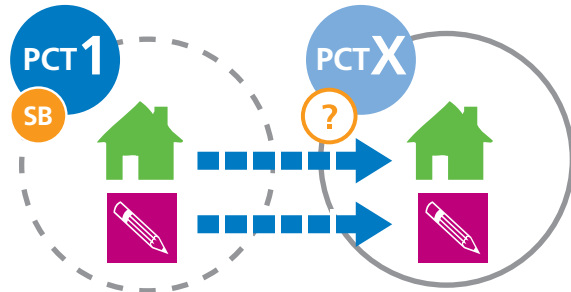
Females NOT to be included in the annual denominator

Scenario 6c



- Female is responsibility of PCT1
- Goes to vp-school in PCTX but misses all three doses
- Has course as part of mop-up in PCT1
- Not included in annual denominator of PCT1 [F]
- Keep in denominator of PCTX [G]

Scenario 7



- Female moves out of PCT1 or moves schools during the year ending 31 August 2009
- Female is no longer responsibility of PCT1 or on school's roll in PCT1
- Not included in annual denominator of PCT1
- Included in denominator of PCTX ([A] or [G] respectively)

NON-SCHOOL-BASED HPV PROGRAMME

Females to be included in the annual denominator.

In these diagrams, PCT2 is not running a school-based HPV programme.

Scenario 8



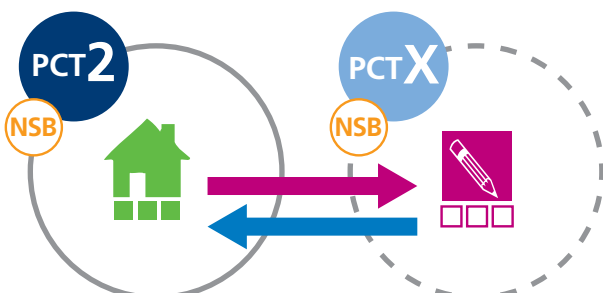
- Female is responsibility of PCT2
- Goes to non-vp-school in PCT2
- Offered vaccination in PCT2
- Included in annual denominator of PCT2 [A]

Scenario 9



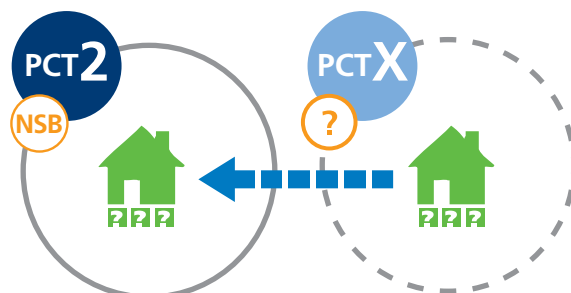
- Female is responsibility of PCT2
- Does not go to school
- Offered vaccination in PCT2
- Included in annual denominator of PCT2 [B]

Scenario 10



- Female is responsibility of PCT2
- Goes to non-vp-school in PCTX
- Offered vaccination back in PCT2
- Included in annual denominator of PCT2 [C]
- Not included in annual denominator of PCTX [G]

Scenario 11



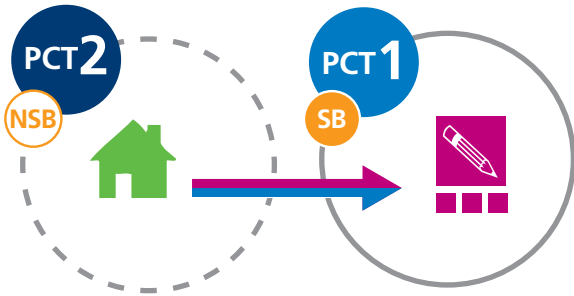
- Female moves into PCT2 during year ending 31 August 2009
- Included in annual denominator of PCT2 ([A], [B] or [C] as appropriate)
- Not included in denominator of PCTX

CALCULATING THE DENOMINATOR FOR THE HPV VACCINATION PROGRAMME

NON-SCHOOL-BASED HPV PROGRAMME

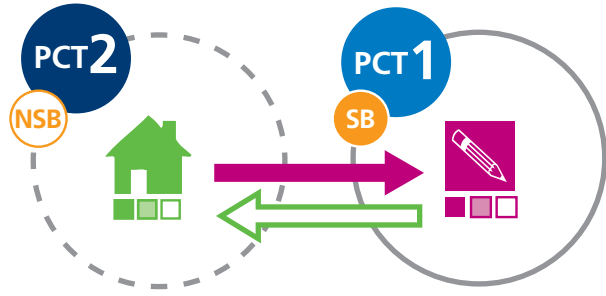
Females **NOT** to be included in the annual denominator

Scenario 12a



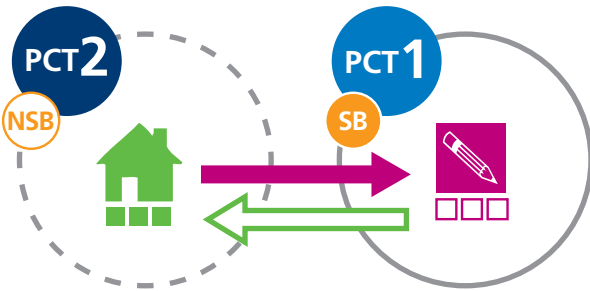
- Female is responsibility of PCT2
- Goes to vp-school in PCT1
- Included in school vaccination in PCT1
- Not included in annual denominator of PCT2[D]
- Keep in annual denominator of PCT1[G]

Scenario 12b



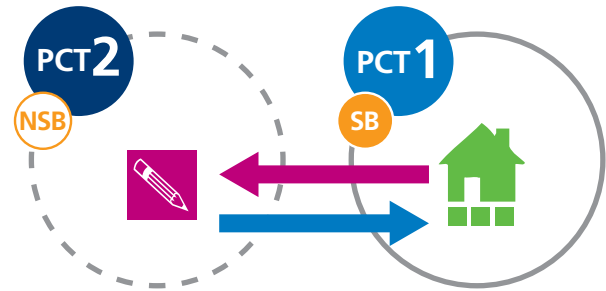
- Female is responsibility of PCT2
- Goes to vp-school in PCT1 but misses one or two doses (mop-up)
- Completes course as part of mop-up in PCT2
- Not included in annual denominator of PCT2 [E]
- Keep in annual denominator of PCT1 [G]

Scenario 12c



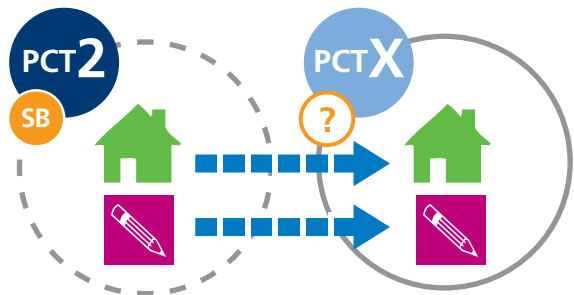
- Female is responsibility of PCT2
- Goes to vp-school in PCT1 but misses all three doses
- Offered course as part of mop-up in PCT2
- Not included in annual denominator of PCT2 [F]
- Keep in annual denominator of PCT1 [G]

Scenario 13



- Female is responsibility of PCT1
- Goes to non-vp-school in PCT2
- Not included in annual denominator of PCT2 [G]
- Included in annual denominator of PCT1 [C]

Scenario 14



- Female moves out of PCT2 or moves schools during the year ending 31 August 2009
- Female is no longer responsibility of PCT2 or on school's roll in PCT2
- Not included in annual denominator of PCT2
- Included in denominator of PCTX ([A] or [G] respectively)