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Guidance for Uploading HPV Vaccination Information on to NHAIS using Open Exeter and Viewing HPV Vaccination Coverage Data July 2017

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Executive summary

This document updates and amalgamates previous guidance on uploading HPV vaccination data for inclusion in young women's cervical screening records on the National Health Applications and Infrastructure Services (NHAIS) system using the Open Exeter interface. NHAIS is the system that runs call/recall for the NHS Cervical Screening Programme. Open Exeter gives access to NHAIS data to organisations outside of the call/recall department.

It is important that the vaccination status of individual women who have been eligible for HPV vaccine since its introduction in 2008 is accurately recorded on NHAIS because this will influence their management within the screening programme.

This guidance outlines how to access Open Exeter, how to upload HPV vaccination data from both Child Health Information Systems and GP systems, and how to view and download HPV vaccination coverage data for on-going monitoring.

Retrospective uploading of historic vaccination data may be required to improve the completeness of HPV vaccination status information for women who have been vaccinated since 2008. This must be completed **before July 2018** when cervical screening call/recall will be transferred from NHAIS to a replacement system developed by Capita for NHS England.

1 Introduction and Background

It is imperative that human papillomavirus (HPV) vaccination status information is recorded in women's cervical screening records on the National Health Applications and Infrastructure Services (NHAIS) system so that accurate data can follow individual women through the NHS. This will enable women to get a more tailored screening invitation schedule depending on their HPV vaccination status.

The majority of HPV vaccinations have been delivered through schools programmes and details should be recorded in Child Health Information Systems (CHIS). However, the initial catch-up cohort of young women aged 17-18 was mainly carried out through enhanced service arrangements with GP practices and therefore details of these vaccinations should be recorded in GP practice clinical systems. Additionally, girls who missed vaccination sessions in schools may have been vaccinated by their GP.

Recording of HPV vaccinations in the NHAIS system is achieved through the use of the Open Exeter system. This is a web based system developed by NHS Digital (formerly NHSCFH) which allows remote access to NHAIS databases through a secure interface. The system is already widely used by GP practices to complete and submit cervical screening information to Primary Care Support England (PCSE). Many Child Health Departments will already have access to Open Exeter to check children's registration details.

The purpose of this document is to provide Child Health Departments with a step by step guide on how to populate the NHAIS system with HPV vaccination data, utilising the facilities available through Open Exeter. These instructions could also be used by GP practices that are able to upload details of HPV vaccinations from their clinical systems.

This guidance will be updated in 2018/2019 when a new call/recall system developed by Capita for NHS England is scheduled to replace the NHAIS system functionality.

2 Format of Data File to be Produced from Child Health/GP Practice Systems

In order to upload the HPV vaccination details on to the Open Exeter system you will need to download the vaccination details from your system into a csv file.

When uploading on to Open Exeter there is a maximum limit on the file size of 5,000 records. If your file contains more than this, you should split it into several smaller files.

The file should contain five data items for each vaccination record and should not have a header row.

Details of the data items required and specific format for each are shown in the table below.

It is essential that the fields in your file are in the correct order i.e.-

NHS number, vaccination type, vaccination date, status, batch code

The following five data fields must be included:-

Data Item	Format	Mandatory
NHS Number	A valid NHS number in the 3 – 3 – 4 format E.g. 111 – 222 – 3333	Yes
Vaccination Type	C – Cervarix G – Gardasil V – Vaccine administered but type not known	Yes
Vaccination Date	DD,MM,YYYY,Zero padded e.g. 01.01.2009	Yes
Status	"D" indicating a dose, but in an unspecified sequence "1" indicating a first dose "2" indicating a second dose "3" indicating a third dose Note 1 – It is possible to upload more than 3 doses for a particular drug but a warning message asking you if this is what you want to do will be displayed before you are allowed to do so Note 2 – historic records may have included vaccine refusals. These are no longer included in cervical screening records	Yes
Batch Code	A legal Cervarix Batch Code is 10 digits long as follows: Characters 1 to 4 = "AHPV"; Characters 5 to 8 = Alphabetical Character	No

followed by 3 numerical digits to identify production batch;

Character 9 = Alphabetical Character identifying each filling number, e.g. "A" = first filling, "B" = second filling;

Character 10 = Alphabetical Character identifying each packaging run, e.g. "A" = first packaging run, "B" = second packaging run.

NB. There is no validation on batch codes for vaccines other than Cervarix.

Once you have produced the csv file you should save this on your PC.

NB. If there are more than 5,000 records, split the file into several smaller files and save each file.

3 How to Register to use Open Exeter for Recording HPV Vaccinations

NHAIS databases reflect the boundaries of former Health Authorities and therefore if your data relates to more than one of these you will need to obtain access to each NHAIS database relevant to your organisation.

If you already have access to Open Exeter you will need to contact the Access Control Manager (ACM) for the NHAIS system and request that your access is amended to include the "HPV Vaccination" application. You will need to do this for each member of your team who requires access.

If you do not already have access to Open Exeter or you need to obtain access to an additional NHAIS system you will need to complete a set of Data User Certification forms which can be obtained from the NHS Digital website:

https://digital.nhs.uk/NHAIS/open-exeter

Use the form 'Data User Certification Request Form for Access to Open Exeter (non-GP Practice organisations)'. Part A of the form should be completed for your organisation. A separate Part B should be completed for each user who requires access to the application.

Once you have completed the forms you should send them to the relevant ACM(s). You will need to submit a set of forms to the ACM for each NHAIS system to which you will need access. Details of ACMs are available on the Open Exeter web site: https://nww.openexeter.nhs.uk/nhsia/CipherQCodes/DataControllerList.jsp

It is possible to use the same user name for each of the NHAIS systems that you access. To do this, once you have registered with your main ACM and been given a user name, advise the other ACMs that you are already registered on the system and tell them your user name. You will then be set up on other databases with the same user name.

Within five days of sending your completed forms you should receive your User name and password to access the system. It is important that you access the system within seven days of being issued with your password as for security reasons your initial password will be set to expire within that timescale. Thereafter you will need to change your password every 30 days. Alternatively if you have a smart card you can register this as your password which means you will not have to update it. See Section 4 for the Open Exeter "Change Password Utility".

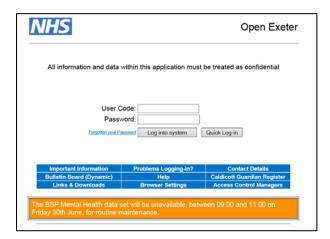
Note that Open Exeter can only be accessed from a PC with an N3 (NHS net) connection.

4 Accessing Open Exeter & Password Maintenance

Once you receive your password you need to access the system and change it within seven days, as when passwords are first issued they are set to expire after that time period.

Start Internet Explorer

Enter the address https://nww.openexeter.nhs.uk/nhsia/index.jsp (N.B. it may be worthwhile saving this as one of your favourites).



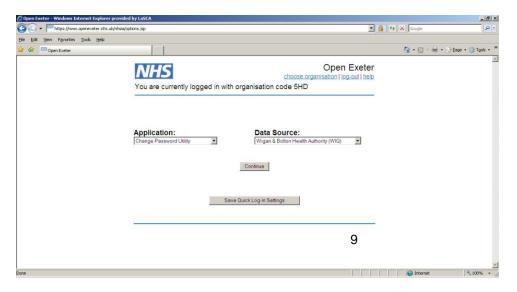
Enter your User Code and Password. These are case sensitive (do not mix upper and lower case, and ensure you note the differences between O and 0 and 1 and 1).

Click Log-in to system

The first time you log-in the message your password expires in seven days, please change it before then, will be displayed.

Click OK.

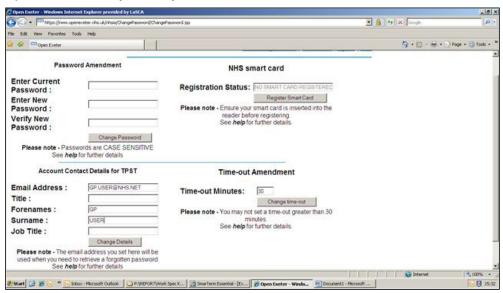
The screen below will then appear. Click on the Application: drop down menu and choose Change Password Utility from the list.



Click continue.

Enter your current password, then a new password, verify the new one is correct by entering it once again and click Change Password.

As an alternative to using your user name and password in future, if you have a smart card, make sure it is inserted into the card reader and follow the instructions to input your PIN number and click Register Smart Card. When you do this, you will be asked to approve the Open Exeter security certificate. Confirm this in order to avoid being asked to do this each time you access the system. This facility avoids having to change your password every 30 days.

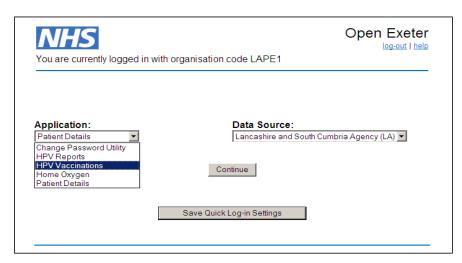


Note that Open Exeter User accounts will be disabled if they are not accessed for six consecutive months: Login support is available from the Help section of the Open Exeter website here:

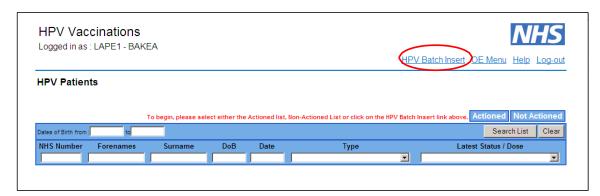
https://nww.openexeter.nhs.uk/nhsia/genhelp/index.jsp?ptr=loginHelp

5 Uploading HPV Vaccination Data to Open Exeter

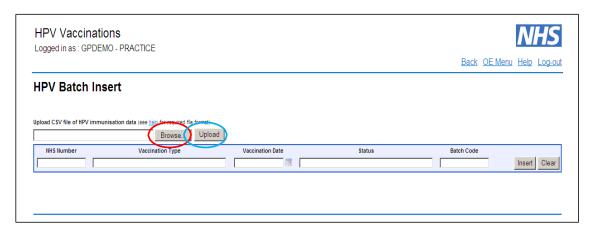
Access the Open Exeter system and select HPV vaccinations from the drop down menu under Application. As for Data Source the HPV upload file will check all Exeter databases you have access to.



The HPV vaccination screen will be displayed. From here you can upload your HPV vaccination data into the NHAIS system via the batch insert facility.



Click on batch insert. The following screen will be displayed:



Click on the **Browse** button. This will take you to your personal/team files on your PC.

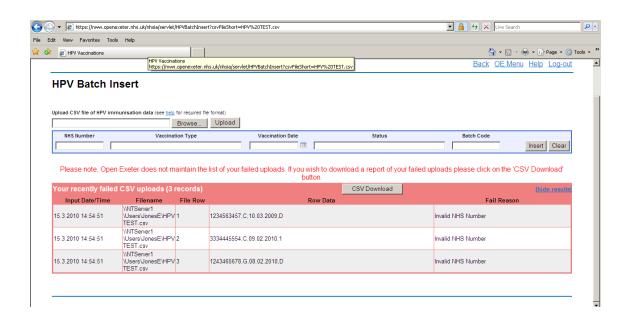
Select the csv download file that you wish to upload and double click. Once you have selected the file the filename will appear in the box next to the browse button.



Click on the **Upload** button to record vaccination data into Open Exeter.

This should only take a couple of minutes and when complete a message will be displayed advising you of the number of records successfully uploaded.

A list will also be displayed showing any vaccination records which could not be uploaded with a reason for the failure shown against each record.



The list of these patients whose records have not been uploaded to the system will need to be saved for uploading again when corrected. In some cases the errors will be information about the vaccinations, in which case the corrected information will need to be loaded back into the system. Press the CSV Download button to save the file containing records which have failed to update to your PC.

Correct the anomalies on the rejected records by referring to the instructions in Section 6.1 and repeat the upload process. You will be left with only records with reason "Invalid NHS Number". These will have been rejected because there is no evidence of the patient on the system.

The **Successful uploads** button will show Successful uploads – HPV vaccination data which has been recorded on the NHAIS database.



The National submissions button shows HPV vaccination data has been uploaded but the intended patient could not be identified on your local NHAIS database(s). In these cases the system will attempt to match HPV vaccination data that appear to be valid to the NHAIS database where the patient is located. See Section 6.2 for more information.

Details of vaccinations that have been accepted will be uploaded directly into the Open Exeter system and will be held against the young women's future cervical screening records on NHAIS.

In order to avoid excessive numbers of duplicate records, it is recommended to upload data on a monthly basis for vaccinations given in the previous month. An annual upload of all vaccinations given in the previous year can be carried out in case there has been a delay in recording any vaccinations on the Child Health system. Additionally, where available, retrospective data should be uploaded to improve HPV vaccination recording for women vaccinated in earlier years.

6 Troubleshooting

6.1 Failed uploads

Failed uploads will give one of the following error messages for each record:

Missing NHS Number	The NHS number is a mandatory field. Confirm the girl's correct number and populate your exception report spreadsheet
Invalid NHS Number	The NHS number could not be traced on the NHAIS system you were accessing. The number of exceptions will be minimised when you have run the download on all NHAIS systems
Missing Vaccination Type	Your file must contain a vaccination type i.e. C for Cervarix vaccination
Invalid Vaccination Type	You have recorded an incorrect vaccination type in your download. The type should be C if Cervarix vaccine was given, G if Gardasil vaccine
Missing Vaccination Date	You must include the date the vaccination was given
Invalid Vaccination Date	The date field in your file is in an incorrect format. The date must be recorded as DD.MM.YYYY
Missing Status	You must include the status in your download – see details at section 2 of this document
Invalid Status	The status field in your download file is not in the correct format. Refer to guidance at section 2. Correct the status and attempt to upload the file on to Open Exeter again
Invalid Cervarix Batch Code	The batch code is incorrect. Correct the batch code in your file and download the file into Open Exeter again
Duplicate Record	No action necessary as the vaccination details are already recorded
Invalid Vaccination Sequence	The System has detected that this specifically numbered does already exists for this patient. If the previously existing dose has been incorrectly sequences you must edit that record before attempting to enter this one again
You may only upload 5,000 records at a time	The input CSV file contains more than the maximum number of data. All records up to line 5,000 will be processed; all subsequent records will be ignored

Failed Upload	An unknown error has prevented the system from
	trying to upload

6.2 National Submissions - Submitter

The HPV National Submissions page for submitting users is accessible from the HPV Batch Insert page within the HPV Vaccinations application.

This part of Open Exeter concerns HPV records which you or a member of your organisation have attempted to submit but the intended patient could not be identified within the scope of your Open Exeter permissions. In this case the system will attempt to match any of these records that appear to be valid to the database where the patient is located.

The HPV National Submissions page shows the input data for each of these records submitted from your organisation along with the user who submitted the data, the submission date and the current status of that record. The meanings of the statuses are as follows:

Queued	The system has received the input data but has not yet attempted to identify a target database
Not Found	The system has received the input data but it could not assign a target database
Matching Pending	The system has received the input data and has assigned a target database. No reviewer for that database has attempted to approve or reject that record
Matched Approved	The system has received the input data and has assigned a target database. A reviewer for that database has approved that record
Matched Rejected	The system has received the input data and has assigned a target database. A reviewer for that database has rejected that record
Matched Failed	The system has received the input data and has assigned a target database. A reviewer for that database has attempted to approve that record but the approval has failed

The fact that these records could not be found in the original submission and entered this part of the system means that the patient is outside of the scope of your account. As such you will be able to see the status of the record but not told which database the patient was located on.

See the Help section of the Open Exeter web site (https://nww.openexeter.nhs.uk/nhsia/HPV/help/Index.jsp?ptr=0) for further technical support and advice or contact the Open Exeter helpdesk by email exeter.helpdesk@nhs.net or phone: 0300 303 4034

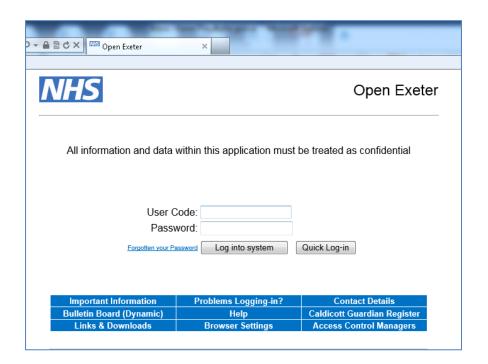
7 Guidance on Downloading and Analysing HPV Vaccination Coverage Data

7.1

Log on at https://nww.openexeter.nhs.uk/nhsia/index.jsp (Figure 1); log on details to access the national statistics can be obtained by downloading and completing the form entitled 'Cancer screening statistical reports data user certificate':

https://digital.nhs.uk/cancer-screening-programme-national-statistics

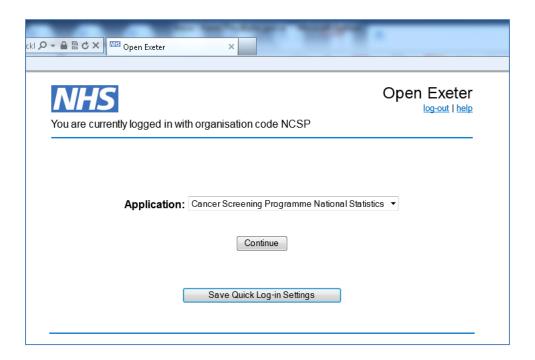
Figure 1: Open Exeter log on page



7.2

Select 'Cancer Screening Programme National Statistics' from the menu and press 'Continue' (Figure 2)

Figure 2: Open Exeter application menu



7.3

There are four vaccination report types, two by Primary Care Trust (PCT) and two by Lower Tier Authority (LTA) (Lower Tier Authorities are grouped by Upper Tier Authority in the report output):

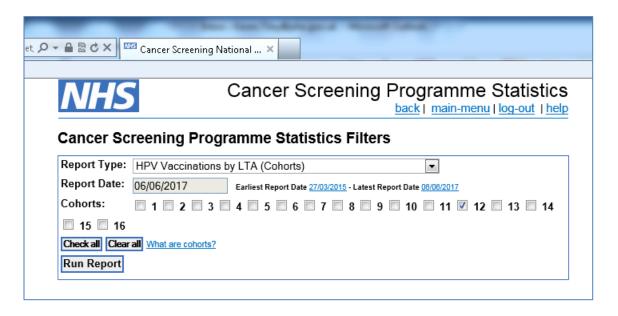
- HPV Vaccinations by PCT
- HPV Vaccinations by PCT (Cohorts)
- HPV Vaccinations by LTA
- HPV Vaccinations by LTA (Cohorts)

The data can be extracted by:

- Cohort this relates to the numbered routine and catch-up cohorts that have been scheduled for vaccination each year. HPV vaccination cohorts are described in full in the Appendix.
- Age this report extracts data for a specific age group relating to the calendar year of the report date i.e. a girl will be included in the cohort for an age band if they reach the age of the age band during the calendar year of the report date. For example, a report for age 12 run on 01/03/2017 i.e. during 2017 includes girls turning age 12 during Jan-Dec 2017. The report date can be selected from the date menu, but for academic year date it is simplest for view data by cohorts.

An example report is shown in Figure 3 – once the report type, date and cohort(s) have been selected click on "Run Report".

Figure 3: Report by Local Authority for Cohort 12 as at 6 June 2017



NB. Vaccination data is collected from each of the 86 NHAIS boxes around the country by means of a scheduled job which runs at approximately 10am each day. Do not run reports for today's date prior to 11am. If your site appears in the cipher list at the top of the report in red (you can see a list of Welsh sites which are always there as data is not collected from these sites) the data has failed to load for that day (it will not attempt to run again until the following day). Data can be downloaded for earlier dates at any point so it may sometimes be best to use the previous day's date for the extraction to avoid an incomplete record.

7.4

The report can be exported as a PDF or CSV (which enables viewing and manipulation in Excel). Select each cohort individually for export otherwise the data will be aggregated in the output.

Once in Excel a pivot chart can be used to group data by Upper Tier Local Authority. Data are presented in the download like this:

Α	В	С	D	E	F	G	Н	1	J	K	L	М
COHORT	Upper Tier Authority	Lower Tier Authority	ORG_C ODE	GIRLS_IN _COHOR T	GIRLS_IN_ COHORT_ WITH_DOS E_1	%_OF_GIRL S_IN_COH ORT_WITH _DOSE_1	GIRLS_IN _COHOR T_WITH_ DOSE_2	%_OF_GIRL S_IN_COH ORT_WITH _DOSE_2	GIRLS_IN_ COHORT_ WITH_DOS E_3	%_OF_GIRLS _IN_COHORT _WITH_DOSE _3	GIRLS_IN_ COHORT_ WITH_KNO WN_REFUS AL	%_OF_GIRLS _IN_COHORT _WITH_KNOW N_REFUSAL
12	XXX	XXX	XX	1437	56	3.9	1052	73.2	2	0.1	0	0

i.e. the columns F, H and J display girls who have received dose 1 only, 2 doses only, and 3 doses only respectively (as opposed to 'at least one dose' which is the way ImmForm data are presented and published), hence Dose 1 coverage is (F + H + J)/E, Dose 2 coverage is (H + J)/E and Dose 3 coverage is J/E.

Note that two-dose coverage is relevant for cohort 12 onwards. For cohorts 1-11 three-doses were required to complete the course. HPV vaccination cohorts are described in full in the Appendix.

7.6

ImmForm published data are available for comparison at: https://www.gov.uk/government/collections/vaccine-uptake#hpv-vaccine-uptake

Important points to note:

- The NHAIS and ImmForm data will never match exactly because they have different population definitions (school vs resident) and are being viewed at different time points (NHAIS data are updated daily, whereas ImmForm data were a snapshot in time) but they should be within 10% of each other.
- NHAIS data should show higher coverage than ImmForm over time, if all records are up to date and girls have continued to be caught up with immunisations.
- The data for the earliest cohorts (1-8) relate to girls aged >18 who have now moved onto universities etc. NHAIS data will show their current geographical location (i.e. where they are currently registered with a GP), whereas the published ImmForm data related to the geographical location of their school. These data cannot therefore be compared locally.

7.7

For questions about data interpretation and comparisons with ImmForm published data contact HPV@phe.gov.uk

For assistance with accessing and downloading data from the Open Exeter website there is a specific helpdesk: Email: exeter.helpdesk@nhs.net or phone: 0300 303 4034

8 Acknowledgements

The majority of this document is based on 'Recording of HPV Vaccinations' produced by Lancashire & South Cumbria Agency in 2010.

Additional information was obtained from 'Guidance for Uploading HPV Vaccination Information onto Open Exeter' produced by the QA Reference Centre – North East, Yorkshire & The Humber in 2011.

The table of cohorts in the Appendix was provided by Jo Ferrie, Screening and Immunisation Co-ordinator (South West)

Further information was reproduced from Open Exeter Help Text, available at: https://nww.openexeter.nhs.uk/nhsia/HPV/help/Index.jsp?ptr=0

9 Appendix

Table: HPV vaccination cohorts

		HPV three dose course introduced				Change from Cervarix to Gardasil vaccine		Change from three to two dose course	First catch up cohort entering screening					First routine cohort entering screening
						•	, A	CADEMIC Y	EAR			•		•
Date of birth	Cohort number	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/2015	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
1 Sep 2007 to 31 Aug 2008	18													Year 8
1 Sep 2006 to 31 Aug 2007	17												Year 8	Year 9
1 Sep 2005 to 31 Aug 2006	16											Year 8	Year 9	Year 10
1 Sep 2004 to 31 Aug 2005	15										Year 8	Year 9	Year 10	Year 11
1 Sep 2003 to 31 Aug 2004	14									Year 8	Year 9	Year 10	Year 11	Year 12
1 Sep 2002 to 31 Aug 2003	13								Year 8	Year 9	Year 10	Year 11	Year 12	Year 13
1 Sep 2001 to 31 Aug 2002	12							Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Age 18 - 19
1 Sep 2000 to 31 Aug 2001	11						Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Age 18 - 19	Age 19 - 20
1 Sep 1999 to 31 Aug 2000	10					Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Age 18 - 19	Age 19 - 20	Age 20 - 21
1 Sep 1998 to 31 Aug 1999	9				Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Age 18 - 19	Age 19 - 20	Age 20 - 21	Age 21 - 22
1 Sep 1997 to 31 Aug 1998	8			Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Age 18 - 19	Age 19 - 20	Age 20 - 21	Age 21 - 22	Age 22 - 23
1 Sep 1996 to 31 Aug 1997	7		Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Age 18 - 19	Age 19 - 20	Age 20 - 21	Age 21 - 22	Age 22 - 23	Age 23 - 24
1 Sep 1995 to 31 Aug 1996	1	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Age 18 - 19	Age 19 - 20	Age 20 - 21	Age 21 - 22	Age 22 - 23	Age 23 - 24	Age 24 -25
1 Sep 1994 to 31 Aug 1995	6	Year 9	Year 10	Year 11	Year 12	Year 13	Age 18 - 19	Age 19 - 20	Age 20 - 21	Age 21 - 22	Age 22 - 23	Age 23 - 24	Age 24 -25	Age 25 - 26
1 Sep 1993 to 31 Aug 1994	5	Year 10	Year 11	Year 12	Year 13	Age 18 - 19	Age 19 - 20	Age 20 - 21	Age 21 - 22	Age 22 - 23	Age 23 - 24	Age 24 - 25	Age 25 - 26	Age 26 - 27
1 Sep 1992 to 31 Aug 1993	4	Year 11	Year 12	Year 13	Age 18 - 19	Age 19 - 20	Age 20 - 21	Age 21 - 22	Age 22 - 23	Age 23 - 24	Age 24 -25	Age 25 - 26	Age 26 - 27	Age 27 - 28
1 Sep 1991 to 31 Aug 1992	3	Year 12	Year 13	Age 18 - 19	Age 19 - 20	Age 20 - 21	Age 21 - 22	Age 22 - 23	Age 23 - 24	Age 24 -25	Age 25 - 26	Age 26 - 27	Age 27 - 28	Age 28 - 29
1 Sep 1990 to 31 Aug 1991	2	Year 13	Age 18 - 19	Age 19 - 20	Age 20 - 21	Age 21 - 22	Age 22 - 23	Age 23 - 24	Age 24 - 25	Age 25 - 26	Age 26 - 27	Age 27-28	Age 28 - 29	
Academic year	Age													
Year 8	12 to 13			Routine col	nort - three	doses								
Year 9	13 to 14			Catch-up cohort - three doses										
Year 10	14 to 15			Routine cohort - two doses (delivery within Year 8 or over Years 8 and 9)										
Year 11	15 to 16			Entering screening										
Year 12	16 to 17													
Year 13	17 to 18		N.B. Assum	es ongoing	continuation	n of the two-	dose progra	imme						