The National Strategies

Management Information Systems (MIS) and pupil tracking: developers' guidance

Designing MIS to support pupil attainment tracking

**department for
children, schools and families**

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Introduction

The national focus on improving personalisation for pupils has been manifested in a range of policy initiatives and practical developments in schools. These demand effective systems for regularly assessing pupils' attainment and determining whether they are making expected progress throughout the term, the year and the key stage. Many schools have been prioritising improvements to their attainment tracking systems but evidence from the Prime Minister's Delivery Unit and the National Strategies suggests that few have robust systems in place for managing the flow of data from periodic teacher assessment and making best use of the information it can provide. In particular, too few schools are using the potential of their electronic school Management Information System (MIS) to support this.

This paper is intended to help MIS developers, and those designing MIS assessment modules, to ensure that their systems help schools to meet the demands being made upon them in this area.

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Improving assessment practice

As part of a commitment to achievement, a strong focus on tracking individual pupils' progress can help improve the way teachers personalise learning, make more effective use of resources committed to intervention and strengthen the central ethos of a school through exemplifying a shared commitment to personal success for all. Through the rapid identification of pupils who are failing to make expected progress and the triggering of appropriate, personalised support, overall levels of achievement can rise and attainment gaps be narrowed.

The DCSF Assessment for Learning Strategy, 2008[1] outlines a three-year strategy for strengthening teacher assessment and ensuring that all schools have in place effective systems to track pupils' progress. Guidance, training and support materials are being provided to help schools achieve this.

An important element of this support is the publication (jointly by QCA and the National Strategies) of the Assessing Pupils' Progress (APP)[2] materials. These provide assessment criteria to define National Curriculum levels of attainment for each assessment focus within a subject. A common scale is used through Key Stages 1 to 3. The materials are currently available for reading, writing and mathematics and will be extended to include speaking and listening and science at Key Stages 1 to 3 and to ICT and the other foundation subjects at Key Stage 3. Schools are encouraged to use APP to make periodic assessments of attainment (termly in the core subjects) that are focused, consistent and accurate. These assessments will form the heart of the progress tracking data.

As part of the DCSF Making Good Progress[3] pilot, a number of schools are piloting the use of single-level tests taken by pupils when their teachers have evidence that they are operating securely at that level. For these schools, accurate and accessible records of periodic assessment become even more significant. This document cannot pre-empt the outcomes of the pilot but it will clearly be necessary to consider the implications if and when arrangements for wider use of the tests are announced.

Effective pupil tracking uses regular, periodic assessments of individual pupils' attainments and compares these assessments with anticipated trajectories towards challenging but realistic targets. This means that successes can be recognised and built upon while those pupils experiencing difficulties can be supported to get back and stay on track. The following table outlines the core tracking processes.

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1   The Assessment for Learning Strategy, DCSF, 2008 can be downloaded or copies ordered at
     www.teachernet.gov.uk/publications. Search using ref: DCSF-00341-2008

2   Details of APP guidance and resources are available in the assessment sections of the National Strategies area of the Standards Site
     (www.standards.dcsf.gov.uk)

3   Further details of the Making Good Progress pilot can be found at
     www.teachernet.gov.uk/teachingandlearning/schoolstandards/mgppilot/

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Core processes for tracking individual pupil progress:

	MIS linked activities	Related activities
Beginning/end of the key stage	Use record of prior attainment with one or more predictive models to indicate likely future attainments (predictions).	
	Use predictions, with wider knowledge of pupil, to agree challenging but achievable end-of-key-stage targets.	Agree and share targets with pupils and parents/guardians.
	Set termly interim 'progress targets' using notional trajectory from current to end-of-key-stage target attainment level.	
Termly	Optional: Use MIS to record individual achievement against specific curricular targets.	Maintain regular assessment processes to support learning.
	Make and record termly teacher assessment of current attainment levels (KS1–3) or expected outcome levels (KS4).	Secure accuracy of internal assessments through use of APP and moderation processes. Report to parents/guardians.
	Analyse progress using standard tools: gap to target; actual vs predicted trajectory over time.	Identify and analyse underperformance and apply any interventions necessary to ensure that future targets are met.
	Follow up initial findings with bespoke analyses to explore and help explain the unexpected.	
	Revise targets (upwards) if appropriate.	

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Using MIS

MIS can be powerful in supporting pupil tracking through providing:

- efficient data entry with validation processes

- a single, central, shared version of the data

- a constantly up-to-date version of the data

- a set of standard reports, clearly labelled for future reference, that relate directly to the school's tracking processes

- the flexibility to use the data for topical, locally-defined analyses

- easy access, for all those who need it, to core data and reports

- links between attainment and other local pupil information

- links to national attainment and progress data

- links to school systems for reporting to parents/guardians

- efficient data transfer between schools.

It is schools' use of the last two benefits that is likely to be the most significant in improving pupil tracking in the short and medium term.

This paper indicates the minimum functionality that schools (and other users) should expect from their MIS to support pupil tracking. It also indicates additional MIS functionality desirable for more advanced users and areas where further development of policy and practice may lead to new demands in the future.

Effective MIS in schools depend upon more than just the provision of appropriate technical facilities. The potential of these must be understood, readily available and easily used by all those in schools who need to engage with the information and analyses described. Suppliers recognise the need to help schools make best use of their systems. Training, guidance manuals and online or telephone support are likely to be essential. These need to be appropriately targeted towards the range of different audiences involved: administrators, senior leaders, middle leaders, class teachers and others. Schools value the way some systems build in optional, sophisticated online help and prompts for novice users. These include 'intelligent' help menus, pop-up messages, 'control tips' and the ability to turn the cursor into a question mark, for example. Some developers provide site-based support and training as part of their contract with schools. Where this is informed by an understanding of the principles behind good assessment and tracking, this frequently leads to a rapid transformation in the way schools are able to use the information to improve learning. In many cases, the key role for developers and suppliers is less about making technical improvements to their systems, although some adjustments are likely to be necessary to meet the recommendations that follow, and more about ensuring that schools can make effective use of the available functionality.

This paper does not attempt to detail all the statutory requirements concerning related assessment matters such as reporting to parents/guardians, making national data returns or constructing the Common Transfer File (CTF). Similarly, although managers within school will want to use assessment data as part of their review and quality assurance processes, these are not the focus of this document. However, it is intended that the range of data generated and the systems used to support pupil tracking should merge easily with these other functions.

This paper concentrates on Key Stages 1 to 4. It is likely that further guidance on using MIS to manage data for pre Year 1 and post Key Stage 4 will follow.

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MIS pupil tracking function specifications

The following pages describe MIS functions, essential and desirable, linked to the assessment and tracking processes that schools are encouraged to use. The pages are structured to reflect the sequences outlined in the core processes table on page 4.

Attainment predictions

A.1 Predictions of future attainment recorded for individual pupils (Key Stages 1 to 3)

A.2 Predictions of future attainment recorded for individual pupils (Key Stage 4)

Target setting

B.1 Setting and recording targets for future attainment for individual pupils (Key Stages 1 to 3)

B.2 Setting and recording targets for future attainment for individual pupils (Key Stage 4)

B.3 Calculating notional trajectory of attainment (Key Stages 2 to 3)

B.4 Analysing and reporting on validity of individual targets (all key stages)

Periodic assessment

C.1 Recording individual pupil assessments (Key Stages 1 to 3)

C.2 Recording individual pupil assessments (Key Stage 4)

Analysing progress

D.1 Progress: attainment vs trajectory

D.2 Grouping the data

D.3 Summarising the data

D.4 Trends over time

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Transfer and transition

A. Attainment predictions

A.1 Predictions of future attainment recorded for individual pupils (Key Stages 1 to 3)

Commentary

Schools use national historical data to provide evidence of likely future performance based on prior attainment. National data that can be used in this way is provided by various bodies including RAISEonline, National Strategies, Fischer Family Trust and Specialist Schools and Academies Trust. Each uses a different model to link prior and future performance. Using these data to predict outcomes is statistically robust for sufficiently large cohorts but the process is often also applied to individuals.

Schools use these predictions as evidence for setting attainment targets for groups and individuals.

MIS should permit recording of predictions of future attainment for individual pupils, as in the table below. It is desirable that MIS incorporate one or more of the national prediction models so that it can be applied to prior attainment data records for individual pupils in a school to calculate predictions automatically. MIS should also facilitate easy importing (and exporting) of prior attainment data, based on the Common Transfer File, at individual pupil level.

Input and record

Predictions (Key Stages 1 to 3)

	Essential	*Desirable*
Key stage(s)	1, 2, 3	
What	Predicted attainment	
Who	Individual pupils	
Subjects	Core and foundation	School-specified curriculum domains (e.g. learning skills)
Measure	NC levels sub-divided: low, secure, high	School-specified scale
When	At end of year and end of key stage	School-specified interim periods
Updated	At any time	

Issues

There is frequent confusion among users between predictions and targets. This guidance makes a clear distinction between predictions, based on one or more statistical models linking aspects of a pupil's prior attainment to projected outcomes, and targets, which take account of the fuller picture available in school of a pupil's potential as well as the aspirations and commitments of the pupil and those working with them.

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A.2 Predictions of future attainment recorded for individual pupils (Key Stage 4)

Commentary

The principle of using prior attainment data to predict likely future performance applies at Key Stage 4 as at earlier key stages. However, because of the variety of types of accredited courses available at Key Stage 4, the range of data and models used are often different. Currently, the most common models (e.g. FFT) link prior attainment at Key Stage 2 and/or 3 to outcomes at GCSE. These can include grades in individual GCSE subjects and cumulative outcomes, notably 5+ high GCSE grades and 5+ high GCSE grades including English and mathematics.

MIS should permit recording of predictions of future attainment at Key Stage 4 in a range of accredited courses for individual pupils, as in the table below.

Input and record

Predictions (Key Stage 4)

	Essential	Desirable
Key stage(s)	4	
What	Predicted attainment	
Who	Individual pupils	
Subjects	All GCSE subjects Other accredited courses	School-specified curriculum domains (e.g. learning skills)
Measure	GCSE grades sub-divided: low, secure, high Other course accreditation scales	School-specified scale
When	At end of year and end of key stage	School-specified interim periods
Updated	At any time	

Issues

It is desirable that MIS incorporate one or more of the national prediction models so that it can be applied to prior attainment data records for individual pupils in a school to calculate predictions automatically. In particular, it should facilitate importing of data from RAISEonline and, where possible, Fischer Family Trust performance data.

In the future, prediction models for performance in Functional Skills (English, mathematics and ICT) and in Diplomas are likely to be developed.

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B. Target setting

B.1 Setting and recording targets for future attainment for individual pupils (Key Stages 1 to 3)

Commentary

MIS can support target setting both by providing and linking information (prior attainment, predicted outcomes, other personal data) on which to base targets and by recording targets once they are agreed, for future use by interested parties.

Schools commonly use models for predicting future attainment (see above) to influence their target setting. However, it is important that both predictions and targets for individual pupils can be stored, distinguished and used independently.

Input and record

Targets (Key Stages 1 to 3)

	Essential	*Desirable*
Key stage(s)	1, 2, 3	
What	Targets for attainment	
Who	Individual pupils	
Subjects:	Core and foundation	School-specified curriculum domains (e.g. learning skills)
Measure	NC levels sub-divided: low, secure, high	School-specified scale
When	At end of year and end of key stage	
Updated	At times predetermined by the school	

Issues

Schools are working to increase the number of pupils aiming to improve by at least two National Curriculum levels in the core subjects through the course of a key stage.

Schools may wish to place limits on who can revise individual targets and when.

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B.2 Setting and recording targets for future attainment for individual pupils (Key Stage 4)

Commentary

The comments about target setting for earlier key stages (above) apply.

Similarly, provision for the range of accredited courses at Key Stage 4, discussed in section A, will apply.

Input and record

Targets (Key Stage 4)

	Essential	*Desirable*
Key stage(s)	4	
What	Targets for attainment	
Who	Individual pupils	
Subjects	All GCSE subjects Other accredited courses	School-specified curriculum domains (e.g. learning skills)
Measure	GCSE grades sub-divided: low, secure, high Other course accreditation scales	School-specified scale
When	At end of year and end of key stage	School-specified interim periods
Updated	At times predetermined by the school	

Issues

Schools may wish to place limits on who can revise individual targets and when.

As increasing numbers of pupils undertake Key Stage 4 courses across more than one institution within a consortium, the facility to share individual targets in real time across institutions locally will become important.

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B.3 Calculating notional trajectory of attainment (Key Stages 2 and 3)

Commentary

Given a measure of prior attainment for a pupil and a target for future attainment, it is useful to have a notional trajectory that maps progress over the intervening period. Teachers can use this to help judge whether or not individuals are making the necessary progress over identified periods.

Because there is a common assessment scale for National Curriculum subjects in Key Stages 1 to 3, MIS should be able to calculate and present such trajectories for individual pupils. These will be based on an assumed 'straight line of progress'. For English and mathematics, and science in Key Stage 3, these should map attainment at the end of the previous key stage to the target for the end of the current key stage, showing notional 'progress targets' at the end of each intervening term. While the MIS should be able to calculate the termly 'progress targets' automatically, it should be possible to allow sophisticated users to adjust them (where the school so decides) to reflect local circumstances (for example, uneven lengths of terms or particular features of the programme of work).

Analyse and report

Trajectories (Key Stages 2 and 3)

	Essential	Desirable
Key stage(s)	2, 3	Include KS1 when appropriate models become established
What	Termly 'progress targets'	
Who	Individual pupils	
Subjects	KS2: reading, writing, English, mathematics	KS3: English, mathematics, science
Measure	NC levels sub-divided: low, secure, high	
When	Constructed when targets are set; showing 'progress targets' for each term	School-specified interim periods
Updated	If and when targets are revised	

Issues

The notional trajectory is described using termly 'progress targets'. In general, it is unwise to assume a 'straight line of progress' for all pupils, hence the term 'notional'. Termly 'progress targets' can only provide one part of the evidence for judging progress. The language used in MIS training and support needs to reflect this.

The straight-line trajectory may not yield precise NC sublevels for each term. Acceptable models include using the nearest sublevel (best fit) or using a pair of sublevels (e.g. 4a/4b) to allow for this. The approach used should be transparent.

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B.4 Analysing and reporting on validity of individual targets (all key stages)

Commentary

Local or national models used to predict likely outcomes based on prior attainment can also be used to evaluate the likely challenge attached to individual targets. MIS should indentify where individual targets appear to be unreasonably low and can flag this to users. In particular, they should signal an alert whenever a target is below prior or current attainment in the same curriculum area or course so that the target can be reviewed and, if appropriate, raised.

This process should be automatic when initial targets are set at the beginning of a key stage. As evidence is built up term by term from periodic assessments, a valuable and more sophisticated model would alert users to end-of-key stage targets that now look too low.

Analyse and report

Target validation (all key stages)

	Essential	*Desirable*
Key stage(s)	All	
What	Flag targets set below current or recent attainment in the same area of study	Flag targets that indicate progress below a rate set by the school (e.g. two levels of progress across the key stage)
Who	Individual pupils	
Subjects	NC core and GCSE subjects	Foundation subjects at KS3
Measure	Gap between target and current or recent attainment in same area of study	
When	When targets are set	
Updated	If and when targets are revised	

Issues

Managers will to want to analyse the cumulative picture of individual targets in order to compare it with overall school targets – see D.4 on page 20.

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C. Periodic assessment

C.1 Recording individual pupil assessments (Key Stages 1 to 3)

Commentary

Key to tracking attainment in order to monitor progress is the regular assessment of pupils' learning. Effective schools have coordinated systems with agreed timetables for recording assessments ('reviews'), common approaches to how judgements are made and recorded and clear lines for communicating the information. Individual reviews may involve one, some or all year groups. MIS can play a vital role in monitoring and managing the flow of data quickly and efficiently.

The timing and frequency of judgements will vary between schools but will typically be termly to coincide with requirements for reporting to parents and guardians.

Each pupil's attainment records should accumulate over time so that patterns of progress can be analysed.

Input and record

Periodic assessment (Key Stages 1 to 3)

	Essential	*Desirable*
Key stage(s)	1, 2, 3	
What	Current attainment level based on periodic teacher assessment	School-specified alternative (e.g. expected attainment level at end of year)
Who	Individual pupils	
Subjects	Core and foundation	School-specified curriculum domains (e.g. learning skills)
Measure	NC levels sub-divided: low, secure, high	School-specified scale
When	Termly	School-specified timetable
Updated	Dated assessments will not be modified; subsequent judgements will accumulate	

Issues

In Key Stages 1 to 3, most schools expect teachers to assess the level of pupils' current learning ('the level they are working at'). In some schools, teachers are asked to judge likely outcome levels, at the end of the year or key stage. (This is common in Key Stage 4). MIS should encourage schools to make clear precisely what is recorded.

Periodic assessments will normally be reported to parents or guardians at least termly. Increasingly, schools will be making such information available to parents online, on demand. MIS should facilitate appropriate use of the data for this purpose. A recent letter to schools from Jim Knight, Minister of State for Schools and Learners, describes the Government's intentions for exploiting ICT to improve parental engagement including online reporting (see www.teachernet.gov.uk/docbank/index.cfm?id=12680 for further details).

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The publication of the APP assessment criteria (currently for reading, writing and mathematics but to be followed by other core and foundation subjects), provides an opportunity for these to be included within MIS assessment modules for reference by teachers when recording their judgements.

Many schools are encouraging pupils to take a more active part in the processes of periodic assessment: recording their views on achievements and difficulties, identifying evidence of attainment and suggesting future learning goals. To further this close linkage between learning and assessment, MIS suppliers are encouraged to design assessment systems within their MIS that are compatible with, and facilitate easy sharing of information with, virtual learning environments (VLEs) in school.

C.2 Recording individual pupil assessments (Key Stage 4)

Commentary

Generally, in Key Stage 4, final assessment grades are not suitable for judging ongoing improvements in attainment through the Key Stage. Commonly, teachers' ongoing assessments will judge likely final grades in the light of past and current work. This is in contrast to the usual approach in Key Stages 1 to 3.

Again, the timing and frequency of judgements will vary between schools but will typically be termly to coincide with requirements for reporting to parents and guardians.

The record over time will accumulate so that patterns of progress can be analysed.

Data entry must be a quick and easy process for teachers.

MIS can usefully monitor the input of data, for example, by quickly flagging missing entries at the end of a specified review period.

Input and record

Periodic assessments (Key Stage 4)

	Essential	**Desirable**
Key stage(s)	4	
What	Periodic teacher assessments of likely outcomes at end of course	School-specified alternative (e.g. expected attainment level at end of year)
Who	Individual pupils	
Subjects	All GCSE subjects Other accredited courses	School-specified curriculum domains (e.g. learning skills)
Measure	GCSE grades sub-divided: low, secure, high Other course accreditation scales	School-specified scales (e.g. B+, A-)
When	Termly	School-specified timetable
Updated	Dated assessments will not be modified; records will accumulate	

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Issues

In addition to regular, ongoing teacher assessments, MIS should allow the inclusion of assessments resulting from more formal events such as mock examinations and module examinations.

As increasing numbers of pupils undertake Key Stage 4 courses across more than one institution within a consortium, the facility to share periodic assessments in real time across institutions locally will become important.

Issues

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D. Analysing progress

The main potential power of MIS to support schools' tracking of pupils' progress lies in their capacity to draw together a range of available data, undertake some automated analyses of it and indicate groups and individuals conforming, or not conforming, to predicted patterns. It should also offer the flexibility for schools and teachers to pursue their own lines of enquiry and identify their own analyses. Reports should be carefully designed to communicate the data and the results of analyses to the range of relevant audiences.

D.1 Progress: attainment vs trajectory

Commentary

Each review, (i.e. those times defined by the school when periodic teacher assessments are collated for one or more cohorts), provides the opportunity to compare a pupil's current attainment (or end of key stage projection in Key Stage 4) with their 'trajectory target' for that time. MIS should provide the facility to automatically flag (typically using colour coding) those pupils exceeding and those pupils falling below the trajectory target.

Analyse and report

Progress: attainment vs trajectory

	Essential	Desirable
Key stage(s)	All	
What	KS1 to 3: Gaps between current attainment and 'progress target' on notional trajectory with flags indicating higher-than-expected and lower-than-expected attainment KS4: Gaps between current outcome prediction and final target, flagged as above	More sophisticated flags (e.g. distinguishing between gaps of one and more than one sublevel)
Who	Individual pupils	
Subjects	NC core and foundation All GCSE subjects Other accredited courses	
Measure	As used for target setting and trajectory calculations	
When	At each review period – typically termly	
Updated	Dated assessments will not be modified; records will accumulate	

Issues

MIS should make it straightforward for teachers to link analyses of progress with other pupil data, for example attendance, when interrogating standard analyses.

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D.2 Grouping the data

As well as being able to report the periodic progress (attainment vs trajectory) data for individual pupils and each of their subjects, MIS should enable easy collating of the data for a variety of purposes. This should include the facility to group pupils and/or subjects in bespoke ways, as illustrated by the examples in the table *'Grouping data'*. The use of these sorts of analyses extends the focus from individual pupils' performance in individual subjects to considering performance in broader contexts.

Grouping data

Type of report	Typical audiences	Typical purposes
Combining all subject progress analyses for an individual pupil across all their subjects	Personal tutor or learning guide Head of year Key stage learning manager Pupil Parents/guardians	To compare progress across subjects for an individual to identify particular areas of success or difficulty To decide whether specific or general interventions to improve progress are required To evaluate impact of earlier interventions
Combining records for a subject for a whole year group	Subject lead Intervention coordinator SMT	Compare progress within the subject as a whole Compare progress across teaching groups
Other combinations of pupils and subjects defined by the school		Examples: pupils being supported by specific interventions in English; looked-after pupils; English and mathematics for recent arrivals in Year 5

D.3 Summarising the data

MIS should facilitate the summarising of pupil and subject-level data for some predetermined analyses and school-determined analyses. These summaries, designed primarily for senior managers, focus less on individual pupils and more on the overall picture of attainment and progress. Nonetheless, it should be possible to track individual pupils' contributions to them. Predetermined analyses should reflect current national priorities and include, for example, those data relating to national PSA targets.

A standard set of reports should include those in the relevant table(s) below.

Summary: Key Stage 1

Year groups	Analysis and report type
1, 2	Proportions of pupils with end-of-key-stage target L2+ in reading Proportions of pupils with end-of-key-stage target L2+ in writing Proportions of pupils with end-of-key-stage target L2+ in mathematics

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Summary: Key Stage 2

Year groups	Analysis and report type
3, 4	Proportions of pupils with end-of-Year-4 target L3+ in reading
	Proportions of pupils with end-of-Year-4 target L3+ in writing
	Proportions of pupils with end-of-Year-4 target L3+ in English
	Proportions of pupils with end-of-Year-4 target L3+ in mathematics
	Proportions of pupils with end-of-Year-4 target L3+ in English + mathematics
	Proportions of pupils with end-of-Year-4 target L3+ in science
5, 6	Proportions of pupils with end-of-key-stage target L4+ in reading
	Proportions of pupils with end-of-key-stage target L4+ in writing
	Proportions of pupils with end-of-key-stage target L4+ in English
	Proportions of pupils with end-of-key-stage target L4+ in mathematics
	Proportions of pupils with end-of-key-stage target L4+ in English + mathematics
	Proportions of pupils with end-of-key-stage target L4+ in science
	Proportions of pupils with end-of-key-stage target L5+ in reading
	Proportions of pupils with end-of-key-stage target L5+ in writing
	Proportions of pupils with end-of-key-stage target L5+ in English
	Proportions of pupils with end-of-key-stage target L5+ in mathematics
	Proportions of pupils with end-of-key-stage target L5+ in English + mathematics
	Proportions of pupils with end-of-key-stage target L5+ in science
	Proportions of pupils with end-of-key-stage target indicating two levels of progress over the key stage in English
	Proportions of pupils with end-of-key-stage target indicating two levels of progress over the key stage in mathematics
	Proportions of pupils with end-of-key-stage target indicating two levels of progress over the key stage in science

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Summary: Secondary

Schools will not be required to set statutory targets for 2010 on Key Stage 3 attainment measures, or for progress between Key Stages 2 and 3 or Key Stages 3 and 4. However if schools want to continue to set themselves whole-school targets to improve outcomes and progression at the end of Key Stage 3 (or Key Stage 4) the MIS system can be used to provide the analysis and reports. These guidance materials will be updated as soon as further information about statutory targets for 2011 is available.

Year groups	Analysis and report type
7, 8, 9, 10, 11	Proportions of pupils whose targets indicate they will achieve 5+ GCSEs (or equivalent)
	Proportions of pupils whose targets indicate they will achieve 5+ GCSEs (or equivalent) including English but not mathematics
	Proportions of pupils whose targets indicate they will achieve 5+ GCSEs (or equivalent) including mathematics but not English
	Proportions of pupils whose targets indicate they will achieve 5+ GCSEs (or equivalent) including English and mathematics

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For most of the above groups of statistics, where sets of pupils will overlap, Venn diagrams can provide powerful representations of the data. In all of the above, MIS should make it easy to access the names and attainment records of individual pupils within the defined groups, enabling users to drill down to individual profiles quickly.

The reports above focus on targets. These are particularly powerful where schools have effective systems for setting appropriate targets and robust approaches to achieving them. Where schools are regularly updating predictions of future attainment (for the end of the key stage, for example) based on recent progress, this set of reports can be replicated to show proportions of pupils *predicted* to achieve at each level.

Again, it should be possible for these summary data to be cut by the range of individual pupil characteristics discussed in D.2 on page 17.

D.4 Trends over time

As well as providing current analyses of progress, MIS should enable the construction of tables and charts, which show each of the analyses in section D over time.

Issues

Analyses of the sort described here can become complex and even with the simplest there are risks that the analyses may be misinterpreted. MIS reports (tables, charts and other forms) should encourage clear and accurate labelling and make provision for explanations of the data to be easily accessed by users.

Transfer and transition

Records of attainment and progress become particularly important at times of transition and transfer – when pupils move between teachers or between schools. Currently the Common Transfer File provides a structure for a cumulative record of Foundation Stage and National Curriculum assessments and latest teacher assessments. We would welcome MIS developers exploring the possibility of including space for current targets for pupils changing schools other than at the end of a key stage. These would include reading, writing and mathematics in Key Stages 1 to 3, plus science in Key Stages 2 and 3, and the full range of accredited courses in Key Stage 4.

It is worth noting that the assessment criteria built into APP are common across the key stages so level and sublevel judgements made using these should transfer directly, for example from Year 6 to Year 7.

As far as we are aware, all MIS have automated systems for updating records appropriately at the end of the school year. These are important for maintaining cumulative records of attainment for the purposes of tracking over the key stage and longer.

MIS vary in the ease and extent to which they facilitate processing and representing attainment data. Wherever possible, it is advantageous to schools that the assessment components of their MIS make this straightforward, to maximise the advantages outlined above. Nonetheless, there will be occasions when schools wish to export the data to other data handling software and MIS should permit exporting and importing of data to common spreadsheet applications.

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