Comments on WHO Working Document QAS/19.819

Title of the document : GUIDELINE ON DATA INTEGRITY

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*Kindly complete the table **without modifying the format** of the document - thank you.*

Template for comments

General comment(s) if any :	**Originator of the comments**

# section	Line no.	Comment / Rationale	Proposed change / suggested text	Classification **L**= low **M**= medium **H**= high	Originator of the comments (for WHO use)
1.1	81	"Production and control of pharmaceutical products" may allow readers to exclude drug discovery, clinical trials, tech transfer etc. from DI requirements	Research, development, production and control of pharmaceutical products		
1.3	103-104	Introduction of the DIRA term (origin MHRA 2018 'GXP' Data Integrity Guidance and Definitions) itself brings a risk of 'silo thinking' i.e. the term DIRA suggests we can exclude risks to patient safety and product quality, that must be a different assessment process. Potential risks may fall between the cracks of the different assessments, at a time when a holistic	Stick with just "Risk Assessment" throughout the document and require the assessment to include risks to data integrity, product quality and patient safety as the scope. The ultimate objective of data integrity is to protect product quality and patient safety.		

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		approach is needed.			
2.6		Efficient risk based controls…..	We suggest as per 1.3 in the scope to incorporate Risk Assessment as a global policy for all the document. "Efficient Risk assessment is required for product quality, and patient safety, including data integrity.		
3	178	Data governance definition has the lost the requirement to ensure the record is complete, consistent and accurate – while this reflects the MHRA 2018 definition, it does lose the heart of the DI principles.	Reinstate original definition from TRS996 Annex 05.		
4.1	215	Just to state "there should be a written DI policy" does not reflect the central role such a document plays in the overall governance of the organisation	The need for a DI policy should be placed in context of other fundamental organisational tools for good governance practices. It is important to recognise that this policy is a key component of the way business will be conducted and is not just an add-on. It should be clear that the accountability for compliance with this policy rests at the highest level in the organisation		
4.5	231	Suggest adding "validation" in the list	"… consider the design, ***validation***, operation and monitoring of systems / processes…"		
4.7	243	Suggest switching focus from negative to positive.	Replace "… to minimise the potential risk to DI" with "… ***to ensure DI***"		
4.8	253	Suggest adding detail to the requirement for quality metrics and performance indicators as these can be a source of confusion and DI weakness	After "quality metrics and performance indicators" add: "***focussed on rewarding positive behaviours and supporting a quality culture***"		
4.12	281	"Significant DI lapses" is vague and leaves it to the reader to decide what is significant (meaning they all potentially could be classed as not significant!).	"Significant DI lapses ***potentially impacting patient safety and product quality***…."		
4.15	298	Suggest clarifying that audit trails must be permanently enabled	"enabling audit trails ***as always on***"		
4.15	299 /	We suggest that it is better to have data capture than to	"having automated data capture systems connected to		

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	301	focus on printing.	equipment and instruments in production and quality control ***or, where automated data capture is not possible, providing printing capability***" And remove bullet point in 301		
4.15	302	Recommend strengthening the requirement to USE the original electronic data, rather than just having access to it.	"ensuring access to, ***and routine working with***, original electronic data…"		
4.18	312	Consider clarifying as computerized systems	"***Computerized*** systems, procedures and methodology…"		
5.1	319	In addition to earlier comment about not using the term DIRA… suggest we need to cover more than just systems and processes that produce data.	"… systems and processes that ***acquire, record, process or store GXP data***…"		
5.1	319	Data criticality is used but not defined.	Sentence requires clarification please.		
5.2	321	Suggest the risk assessment should also address the underlying business process and any manual tasks.	"the computerized systems ***and manual tasks supporting the underlying business process***, and the personnel, training and quality systems ***involved in carrying out the business process"***		
5.2	321	Without a definition of computerized systems to include hardware, software, people, processes and procedures there is a need to add processes to this statement.	The risk assessment should include, for example, computerised systems, processes and procedures, supporting personnel, training and quality systems.		
5.3	324	There is no linkage in the QRM section to the impact on patient safety and product quality.	"Record and DI risks should be assessed ***for impact patient safety and product quality, documented***, mitigated, …."		
5.4	327	Guidance on prioritization could be helpful – many companies are overwhelmed with the scale of remediation needs and struggle to balance this with budget realities	Suggest adding a new sentence at 329 "***Prioritization should be based on achieving the maximum reduction on DI risks impacting patient safety and product quality, within the available budgetary and resource constraints.***"		

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5.5	339	Suggest replacing 'cover' with 'mitigate' or 'reduce'.	"Controls should ***mitigate*** risks to data."		
6.2	353	Remove specific reference to GLP	Remove specific reference to GLP		
7	359	Suggest an additional paragraph is needed relating to the importance of the contract giver reviewing and/or accessing the original electronic data rather than relying on summary reports.	Perhaps something similar to PIC/S Draft 3, 10.1.3: "***It is important for an organisation to understand the data integrity limitations of information obtained from the supply chain (e.g. summary records and copies / printouts), and the challenges of remote supervision."***		
8.1	382	A key word missing from this section is "Accountable"	"Personnel should be trained in DI policies and procedures***, and understand they are accountable for the integrity of the data they work with.***"		
9.2	399	It is confusing to have "other data set" in both line 399 and line 400 – not sure what is meant here.	Please clarify sentence – is this an oblique reference to static/dynamic data?		
10.2	416	Suggest replacing "functional controls" with "technical controls" to better convey the use of computerized system functionality e.g. searches, queries, analytics, machine learning, deep learning	"… procedural controls, organizational controls and ***technical*** controls".		
10.3	418	In the Glossary line 199, raw data is suggested as synonymous with source data. In line 418, they are listed as two separate items in a list "raw data, source data, metadata…" suggesting that both are needed.	Remove source data from line 418.		
10.4	422	Need a definition or explanation of "true copy"	Add definition of true copy – there was one in the last version		
10.6	440	Guidances since 2015 have lacked detail of what is meant by consistent. Does it relate to analytics (i.e. comparing a data set against itself to establish patterns and detect outlying or aberrant data), to validation (consistently meeting intended performance by validating computerized systems and calculatios), or simply that all the dates, times, steps etc. are in	Please expand on the meaning and expectation for consistent.		

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		sequence and look OK.			
10.7	444	Without an explanation of static vs. dynamic data this comment on original data glosses over all the complexity inherent in the need to review and retain dynamic data electronically.	Please reinstate definitions and importance of static vs. dynamic data.		
11	447	Good Documentation Practices in this draft deal only with paper records. This contravenes previous guidances that state that GDocPs apply equally to paper and electronic records (although obviously slightly different controls are needed depending on the record format).	Rename Section 11 to "Controls for paper records".		
12.2	473	Suggest replacing the word 'risks' with 'impact' as the sentence as is may confuse readers. Could also replace 'knowledge' with 'understanding'.	"… appropriate ***understanding*** of the ***impact*** that the system and users may have on the data".		
12.3	478	Some routine activities e.g. processing of chromatography data, inherently contain the potential for manipulation of data.	Suggest replacing the sentence with "***Any potential for manipulation of data should be identified within the data lifecycle, and where the possibility of such manipulation cannot be eliminated then additional controls and review rigor will be required."***		
12.6	490	The statement "Reduced effort and/or frequency [of review] may be justified" is potentially a game-change with a huge impact on the industry. It could be construed as saying it is no longer necessary to review all records.	Please consider either removing this statement, or substantially expanding on it to explain a) when and how reduced review can be justified, and b) the mechanisms that would allow this (e.g. validated exception-reporting processes). Suggest stating that reduced review should not increase risk to patient safety or product quality.		
12.7	490	Confusing to have a 'documented system' and a 'computerized system' in the same sentence.	Suggest rephrasing to "There should be ***formal documentation and configuration management processes*** in place to define ***and manage*** the access and privileges of users of computerized systems."		

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12.10	509	When is it not appropriate to have unique user names?	Suggest rephrasing to "Unique usernames and passwords should be used for **GxP** systems ~~as appropriate~~."		
12.11	511	Is the word programmes here meant to represent Software, or to represent Recipes/Libraries?	Suggest replacing Programmes with a more precise term to avoid confusion.		
12.11	513	The acquisition method is unrelated to the processing.	Suggest replacing "acquisition method" with "processing method / parameters"		
12.11	514	Suggest that reconstruction and replication are required (so the processing can be repeated using the same parameters)	"audit trails, details ***and stored method versions*** should allow reconstruction ***and/or replication*** of all data processing activities".		
12.12	516	There is no requirement for built-in checks on the validity of the transferred data e.g. checksums.	12.12 "Data transfer ***to another system*** should not result in any changes to the content or meaning of the data, ***and each transfer should be verified by built-in checks to confirm the data transferred was complete and accurate when received in the target system***."		
12.13	519	Data transfer process needs to be periodically verified.	Data transfer process needs to be validated and periodically verified.		
12.17	536	Please consider clarifying what should be reviewed in the audit trails e.g. audit trail entries relating to the data set under review.	Suggest "Routine review ***of a data set should include a review of audit trail entries related to that data set***."		
12.17	537	Evidence of review (of data or of audit trails) is a cause of confusion. Is an electronic signature approving the data including audit trail entries sufficient? Many companies have been printing the audit trail to paper to sign it as evidence which really doesn't help detect DI lapses. 12.22 seems to suggest a statement such as "By approving this report I certify that I have reviewed the data, metadata, manually entered values and the audit trail records associated with this data" above the signature could be sufficient.	Please clarify or provide expectations for appropriate 'evidence'.		

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12.18	544	This could be construed that EACH electronic signature must be validated.	Suggest removing the bullet point at 544, and rephrasing the first sentence as "Each electronic signature should be appropriately controlled***, with the electronic signature functionality validated as part of the computer systems validation.***"		
12.23	566	It would be very helpful to separate out backup from archive, to reduce the confusion caused by US cGMP. There are no definitions for backup and/or restore in the glossary.	Suggest rephrasing as "***Data should be backed up to prevent loss and can be restored from the backup copy in the event of disaster. Data can be archived to another system or location for long-term storage. There should be written procedures and controls covering backup and restore, and archiving, to ensure the protection of data and records***."		
12.24	569	It could be argued that data stored on a hard drive in a workstation PC in a QC lab is in a secure area.	Consider strengthening this para to "Data and records should be ***stored*** in a secure area ***remote from the originating department***. Access ***to the storage area*** must be controlled."		
12.26	574	Should there not also be records of what was destroyed, when and by whom?	Suggest "***Destruction of records should be governed by a written procedure defining when and why records can be deleted. A log or audit trail of data deletion is required."***		
12.27	577	This para deals with testing the restore from backup. Should there also be a para addressing periodic testing of retrieval from archive, including readability.	Suggest additional para 12.28 "***Archived data should be periodically checked for accessibility, readability and integrity by restoration into the original or alternate system capable of reading the electronic data***."		
13	582 - 590	Multiple references to GMP throughout the section rather the more appropriate generic term GXP	Replace GMP with GXP.		
13.1	582	Just a workplan is not sufficient, there must be some interim remediation also	Suggest adding a reference to para 5.4 requiring short-term measures.		
	611	ISPE Baseline Guides do not cover CSV or DI.	Suggest adding references to some or all of:		

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			GAMP5 ISPE GAMP Records and Data Integrity Guide ISPE GAMP RDI Good Practice Guide: Data Integrity – Key Concepts		
Annex 1	614 – 807	Appendix 1 of TRS 996 Annex 05 gave clear, better-defined examples.	Please consider reinstating Appendix 1 of TRS 996 Annex 05		
Annex 1	623	As this guideline is not just GMP specific the use of the acronym GMP is not appropriate	Update to GXP		
Annex 1	633	It is not clear how a matrix of 3 factors can be represented in a two-dimensional table.	Suggest GAMP5 Appendix M3 tables may be easier to understand		
	713	To ensure data and metadata are readable throughout the data life cycle it is important to verify that the data is still complete and accurate.	Add '…and periodically verified.'		
All	All	There is no mention of data quality in this draft, although it is included in the MHRA 2018 document. There has been much discussion and a level of confusion within the industry as to whether data quality is separate to data integrity, and if so what is it.	Please clarify if data quality is synonymous with data integrity, inherent in data integrity (as part of Accurate), or a separate requirement with a clear definition and discussion of expectations.		