Standard for the Quality Management of Clinical Research Sites

SASI-QMS:2023-2

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Contents

List of figures

Foreword

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- SASI Steering Group Project Managers
- Larry Kennedy, PhD
- Beth Leary DiGiulian, MSCS, CRQM
- Reg Blake, CRQM
- Mary Westrick, PhD, CRQM

SASI Steering Group Members:

- Terry L. Stubbs, MA, AS, CCRC, CRQM
- Benedict C. Albensi, PhD, BCMAS, CRQM
- Bradley E. Waite, DO, CIP, CRQM
- Ileana Karina Flores, BSBE, CRQM
- James E. Riddle, MCSE, CIP, CPIA, CRQM
- Laura Ardigo, MD, CRQM
- Bridget Gonzales, CCRC, CRQM
- Michael A. Ellis, BS, CCRP, CRQM
- Nonna Stepanov, MD, CCRC, CRQM
- Penelope M. Jester RN, BSN, MPH, CRQM
- Ruth E. Nemire, BSPh, PharmD, EdD, FCCP, CRQM
- Steven Hirschfeld, MD, PhD, CRQM
- Michael Brown, MD, CRQM
- Amanda Hiller, CCRP, CRQM

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Relationship with other publications

SASI-QMS:2023-2 has been developed to align with:

- ISO 9000:2015, Quality management systems – Fundamentals and vocabulary
- ISO 9001:2015, Quality management systems – Requirements
- ISO 9004:2018, Quality management – Quality of an organization – Guidance to achieve sustained success
- ISO 27500:2016, The human-centred organization – Rationale and general principles
- ICH 6E R3:2025, Guidelines for Good Clinical Practice
- KTP® Complete Quality Management, Quality Management Institute [2]

Information about this document

Use of this document

It has been assumed in the preparation of SASI-QMS:2023-2 that the execution of its provisions will be entrusted to appropriately qualified and experienced people, for whose use it has been produced.

Presentational conventions

The provisions of this private standard are presented in roman (i.e. upright) type. Its requirements are expressed in sentences in which the principal auxiliary verb is "shall".

Commentary, explanation and general informative material is presented in smaller italic type and does not constitute a normative element.

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0 Introduction

0.1 A global standard for clinical research

The SASI-QMS:2023-2 *Standard for the Quality Management of Clinical Research Sites* was a collaborative effort of the Alliance for Clinical Research Excellence and Safety (ACRES), its successor organization the Site Accreditation and Standards Institute(SASI), and BSI, an internationally recognized publisher of standards.

It has been developed to aid the user in assuring the protection of all clinical trial participants and to implement systems and processes to make certain that the results of any clinical trials are valued and valuable. It is intended as the basis for accountability in research wherever, whenever, and for whatever purpose the research is conducted.

Standards are widely accepted norms or minimums defined by an industry that are created to establish a baseline for determining compliance. SASI-QMS:2023-2 is an overarching standard and focuses on quality management fundamentals that assist in creating a culture of competence and conscience. This produces reliable and sustainable compliance. Along with risk mitigation and continuous improvement, the value proposition that it can bring to the clinical research enterprise includes:

- delivering simple, meaningful, actionable standardization leveraging what already exists within cross-stakeholder expertise;
- harmonizing practices from across the biomedical research and development (R&D) ecosystem, including clinical trial research sponsors, clinical research organizations, and clinical research sites (CRSs);
- defining the road map and platform to move towards voluntary accreditation of the research site, including a process beginning with clinical research site self-assessment and on-going performance evaluations for compliance with SASI-QMS:2023-2;
- enabling operational sustainability that directly benefits the clinical trial participant as well as all other stakeholders, ranging from those that fund research to those overseeing the safety, quality and efficiency of clinical research trials; and,
- producing consistent, reproducible and quality clinical research data that achieves the shared goals of rapid development, approval and time to market for life-improving treatments.

SASI-QMS:2023-2 and any related accreditation process can be foundational to building an open, integrated and global system of biomedical R&D, employing integrated information technologies and interoperable standardized policies and practices across the global biomedical development enterprise.

0.2 Quality management as a foundation for clinical research

Quality management is an educational technology with systems, methods, and language to help meet business goals. When properly implemented, it provides a thorough and complete system of thought to define desired outcomes and create processes to deliver products or services that are consistently conforming to the requirements of our enterprise.

A CRS is tasked with implementing the requirements set out in a clinical trial protocol. This is for the purposes of conducting a clinical research trial and providing high quality data, whilst protecting the safety, well-being and rights of clinical trial participants. Its job includes creating and implementing standardized procedures, also known as standard operating procedures (SOPs). These procedures enable a CRS to carry out processes and collect data in a reliable manner, with results that can then reliably be used for developing medicines, medical devices and medical treatments. In this context, it is critical that the conduct of clinical research trials is considered part of a quality continuum, beginning with the participant in a clinical trial, and ending after the product is developed with a patient receiving treatment and/or care.

Historically, quality management in a CRS has been limited to inspections, monitoring and compliance tasks that are implemented in isolation within the clinical research trial.

However, a complete portfolio of quality management initiatives and tasks provide both the environment and framework for a high-performing workforce. A workforce functioning with proven competencies and committed in delivering high-quality data can be used with confidence to make good decisions that produce safe and reliable treatments and therapies.

A CRS with a workforce that is properly focused on its part of the quality continuum is aware of how its actions affect a participant in a clinical research trial. If the clinical research trial data yields a successful outcome, the generation of accurate, detailed data as part of that quality continuum might ultimately lead to the treatment of a patient. It is important that the primary focus of all management and leadership actions is to develop the necessary competencies to enable high-quality outcomes and attain the profitability for the CRS required for ongoing sustainability.

The SASI-QMS:2023-2 provides a realistic framework for what needs to be done as well as comprehensive and informative annexes for the why and how. As such, it is both a standard for performance and for recommended training.

0.3 Alignment with other standards – what?

SASI-QMS:2023-2 has been developed to align with existing internationally recognized standards and guidelines for both quality management and good clinical practice. These requirements provide a framework for the quality management of clinical research sites, which is used for the purpose of running clinical research trials and thereby answering the question of what is required.

The documents with which SASI-QMS:2023-2 aligns include:

- ISO 9000:2015, *Quality management systems – Fundamentals and vocabulary*;
- ISO 9001:2015, *Quality management systems – Requirements*;
- ISO 9004:2018, *Quality management – Quality of an organization – Guidance to achieve sustained success;*
- ISO 27500:2016, *The human-centred organization – Rationale and general principles*;
- ICH E6 R3:2025, *Guidelines for Good Clinical Practice* [1];
- KTP® Complete Quality Management, Quality Management Institute [2].

The International Organization for Standardization (ISO) standards are consensus-based documents which have been internationally developed and accepted in quality management. The ICH E6 R3 guidelines [1], created by the International Council for Harmonisation of Technical Requirements for Pharmaceuticals for Human Use (ICH), is an industry accepted document covering good clinical practice.

0.4 A people-centred workforce – why? and how?

While processes and procedures that are built upon known requirements can substantially provide the what for a basis of quality management, the why and how are covered by the skills, values and characteristics (attributes) of a workforce. It is the people comprising the workforce who can create a culture in which quality is promoted and value is delivered to stakeholders and interested parties within the products and services produced.

Knowing why it is necessary to do things (the consequences to people, processes and outcomes, with or without compliance) provides a sustainable motivation for compliance and continual improvement. Knowing how to properly implement SASI-QMS:2023-2 enables the framework to create more reliable outcomes. These skills and attributes are covered either through the training requirements embedded within the main clauses of SASI-QMS:2023-2, or described in its informative annexes.

Within a CRS, the strategic significance of developing a workforce that is reliable, competent and responsive is based upon the need to get beyond a work culture defined as compliant with regulations and requirements to create one based on systems thinking and continual improvement as part of a holistic approach. It is the skills of the workforce in disciplines such as administration, project management and quality management leadership which are responsible for the successful implementation of quality management processes and procedures. Fundamentally, it is these skills which provide the basis for developing a competent and reliable culture and achieving high-quality outcomes.

As a support to, and to enable the required skills, the combined organizational, personal and professional values and characteristics of the staff members ultimately lead to a unified, focused and productive workforce. A work culture such as this not only advocates consistent commitment to the activities, behaviours and attitudes which produce quality, but it also creates an environment in which each staff member is engaged and motivated. In this way, quality can be maintained, and, through a combination of the processes, procedures and staff member attributes and skills, continually improved.

0.5 Quality management leadership and risk management

As critical as a bottom-up approach is for the successful quality management of a CRS, it is just as essential that those individuals leading quality management activities (who might be referred to as "quality managers") also have the skills and attributes necessary to effectively and efficiently manage the activities.

A quality manager has the objective of improving quality. This assists the clinical trial manager, who has the responsibility and objective of protecting all clinical trial participants on the quality continuum. This includes all processes related to the function of the site to support the first contact (recruitment) through to the last patient interaction, and all processes that occur after a participant's last visit to complete the clinical trial. These people need to be skilled at applying systems thinking, and its related methods and tools to the problems of risk analysis and management. The analysis and mitigation of risk is dependent upon the accurate review and analysis of work processes within a clinical research trial, and the effective implementation of quality management preventative actions. Risk management is a derivative of the quality of the processes that support the clinical research trial.

A quality manager benefits from having the ability to reasonably allocate resources to identify and prioritize risk, implement process improvement initiatives and assure the mitigation of risk and the integrity of research data. It is fundamental in ethics and quality management to effectively prevent defects and errors in the clinical research trial tasks, and in the collection and analysis of the research data that could lead to unintended harm.

It is a fundamental requirement of SASI-QMS:2023-2 that all personnel be properly trained, educated, and qualified to fulfil their roles. This can be confirmed by objective examination-based, competency-focused professional certifications, along with direct observation of clinical processes to demonstrate and confirm competence. A CRS that operates quality management through built-in quality, produces reliable outcomes and is growing in its competencies and sense of conscience is an appropriate goal for a high-performing work culture.

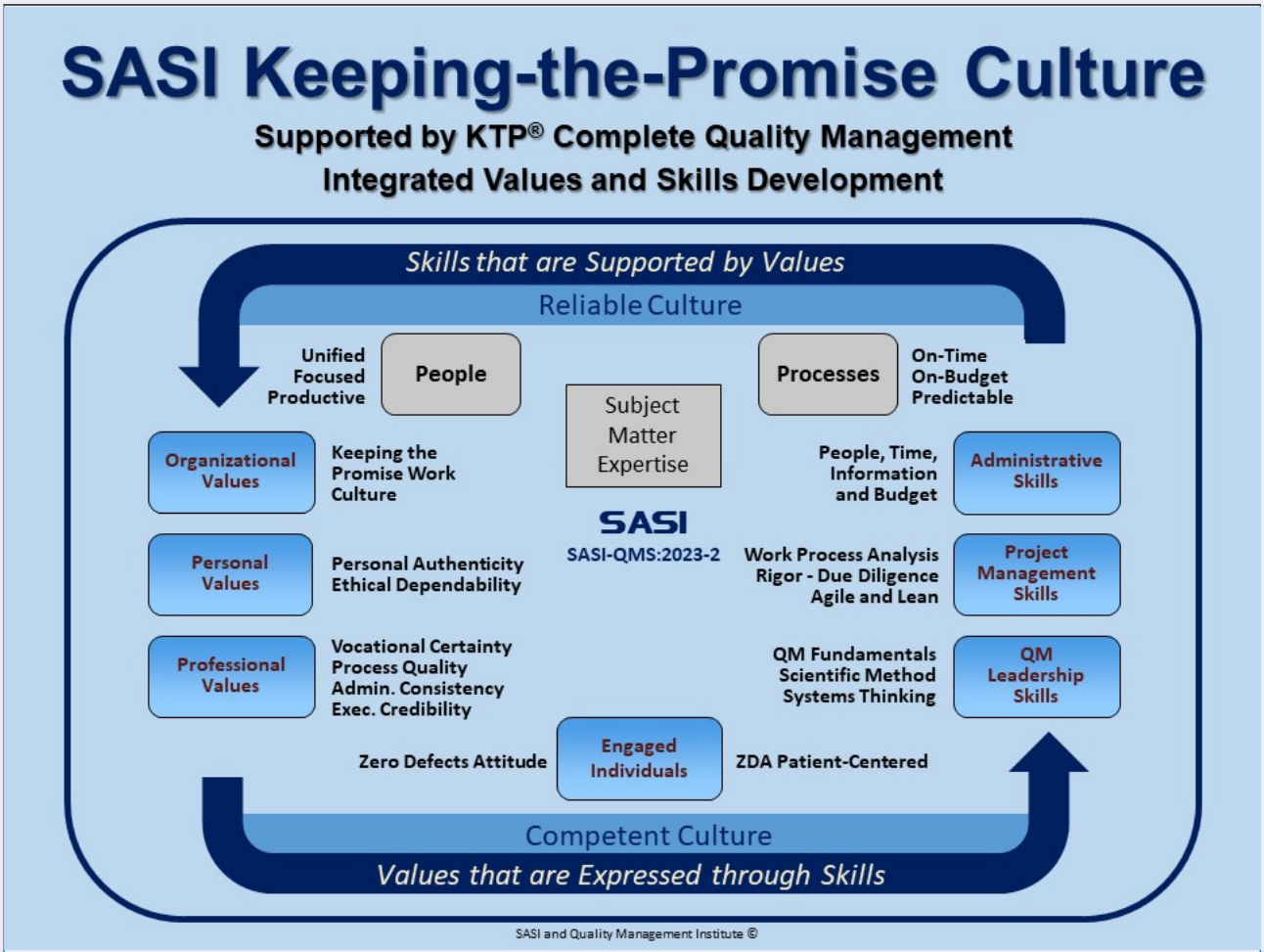
0.6 The KTP® Complete Quality Management training courses

The SASI-QMS:2023-2 has adopted the constructs of the Quality Management Institute's KTP® Complete Quality Management training courses. The KTP® curriculum is both a standard for performance and a standard for training that creates a positive quality management work culture. They support the production of accurate and detailed data by providing the competencies for a high-performing work culture.

There is a specialized Clinical Research Quality Manager (CRQM) professional certification for managers, and a QM-KTP Associate certification for staff. These QM courses provide CRS managers with the competencies required to develop a high-performing QM work culture, and the capacity to validate the QM competencies of their staff. When these resources are properly implemented, clinical trial managers can support the effective and efficient operation of a CRS and leverage the specialized subject matter expertise and clinical practice competencies required to conform to the requirements of the SASI-QMS:2023-2.

Figure 1 depicts how the KTP® curriculum builds competency and reliability into a workforce by teaching both values and skills. It shows the context within which the Clinical Research Quality Manager (CRQM) Certification and the QM-KTP Associate course can be used as resources for education and collaboration to implement the SASI-QMS:2023-2.

Figure 1 – Integrated values and skills development



NOTE 1 *Copyright is claimed in this illustration. Reproduction of this illustration/table and making products from it might infringe that copyright. Details of the copyright owner can be found in the Foreword.*

NOTE 2 *At the top of Figure 1 you can see that skills supported by values produce a reliable culture.*

NOTE 3 *At the bottom you can see how values that are expressed through skills produce a competent culture.*

NOTE 4 *On the left side of Figure 1 are the values of KTP® Complete Quality Management and how they are related to the organizational, personal and professional values of a reliable work culture. These values are people-oriented and they produce a unified, focused and productive workforce.*

NOTE 5 *On the right side are the skills that support competency and how they are categorized as administrative, project management and quality management leadership skills. They produce on-time, on-budget and predictable outcomes from processes and the professional capacity for risk assessment and mitigation.*

NOTE 6 *At the bottom, you can see that the foundational value that is required to create sustainability is engaged individuals that take pride in their work and are person-centred. The KTP® curriculum aims to produce a competent, engaged workforce with heart – factors that are essential in clinical research.*

NOTE 7 *The following annexes provide detailed descriptions and examples of the KTP® curriculum.*

- *Annex A lists the learning-competency objectives.*
- *Annex B gives the definitions and measures of the eight attributes/values of a quality manager.*
- *Annex C to Annex J give detailed descriptions of the eight attributes/values.*
- *Annex K and Annex L respectively present the impact of KTP® values and skills as project (clinical research trial) complexity increases.*
- *Annex M conveys the overall impact of KTP® competencies on a CRS.*

1 Scope

This private standard specifies requirements for the quality management of clinical research trials. It covers the management of clinical research trials within any medical specialty, which investigates new therapies (drug, device, diagnostic) for the improvement of human health, carried out by hospitals, universities, or specialist centres.

The private standard covers aspects of quality which can be defined and controlled by a clinical research site conducting clinical research trials. Such aspects of quality are maintained through the implementation of processes, procedures, and responsibilities pertaining to the management, governance, physical environment and the control and maintenance of systems, which are connected to the framework around the running of clinical research trials. The private standard also covers communications and interactions between clinical trial participants, and those staff members involved in the clinical research trials. In addition, this private standard includes requirements around ethics and risk.

This private standard does not cover the design of clinical research trials, or the design of the clinical trial protocol and risk management associated with the design of the clinical trial protocol. It also does not cover the ongoing treatment of patients.

This standard is for use by those responsible for managing clinical research sites which are engaged in conducting clinical research trials.

2 Normative references

There are no normative references in this document.

3 Terms and definitions, and abbreviations

3.1 Terms and definitions

For the purposes of SASI-QMS:2023-2, the following terms and definitions apply.

3.1.1 adverse event (AE)

untoward medical occurrence in a patient or clinical investigation subject administered a pharmaceutical product, and which does not necessarily have a causal relationship with this treatment

***NOTE** In some geographies, the term "Adverse Drug Reaction" may be used.*

3.1.2 assent

agreement or approval articulated through verbal or physical expression

3.1.3 candidate clinical research site

CRS in the process of preparing for a formal assessment, or in the process of initial assessment

3.1.4 case record forms/case report forms (CRF)

printed or electronic document designed to record information on all required protocol to be reported to the sponsor on each trial subject

3.1.5 clinical lead

qualified person responsible for all administrative aspects of a clinical research trial

***NOTE** Alternate titles for this role include clinical manager, nurse manager, clinical coordinator, project manager, study manager, study nurse, etc.*

3.1.6 clinical research site (CRS)

place where clinical research is carried out, and where clinical trial participants are evaluated and/or treated in accordance with the clinical trial protocol

***NOTE** Places include research centre, medical office, university, hospital, specialist centre, other healthcare facilities, etc.*

3.1.7 clinical research site (CRS) leaders

clinical and non-clinical staff members with management or leadership responsibilities

3.1.8 clinical research trial

investigation in human subjects intended to discover or verify the clinical, pharmacological and/or other pharmacodynamic effects of an investigational product(s), and/or to identify any adverse reactions to an investigational product(s), and/or to study absorption, distribution, metabolism, and excretion of an investigational product(s) with the object of ascertaining its safety and/or efficacy

***NOTE 1** The terms clinical trial and clinical study are synonymous.*

***NOTE 2** This is also known as a clinical research study. Clinical research studies can include outcome studies, natural history studies and behavioural studies.*

3.1.9 clinical research trial final report

written description of a trial/study of any therapeutic, prophylactic, or diagnostic agent conducted in human subjects, in which the clinical and statistical description, presentations, and analyses are fully integrated into a single report

3.1.10 clinical trial agreement (CTA)

written, dated, and signed agreement between two or more involved parties that sets out any arrangements on delegation and distribution of tasks and obligations and, if appropriate, on financial matters

***NOTE 1** A clinical trial agreement may also include financial arrangements and could also take the form of a contract.*

***NOTE 2** Clinical trial agreements may also be referred to as clinical study agreement or clinical research agreement.*

3.1.11 clinical trial facility

physical environment where a clinical research trial is undertaken

***NOTE** This might be the whole clinical research site or only the place where the clinical research trial takes place.*

3.1.12 clinical trial participant

individual person who participates as a subject in a clinical research trial

***NOTE 1** The term used for clinical trial participant in the ICH E6 R3 document is "subject".*

***NOTE 2** Clinical trial participants might also be classed as "customers".*

3.1.13 clinical trial product

product which may be medical, for therapeutic development, diagnostic, a device investigated in people

NOTE *This may also be called an "investigational product".*

3.1.14 clinical trial protocol

document and its amendment and updates, which describe the organization characteristics of a clinical research trial, including the scientific rational, objectives, design, methods and any statistics

3.1.15 clinical trial research sponsor

individual, clinical research organization/company or institution that takes responsibility for the initiation and management of a clinical research trial

NOTE *This may also include financing.*

3.1.16 college of surveyors

a core team comprised of senior SASI leadership consisting of 3 groups: Standards Review, Candidate Community and Qualification of Surveyors and Training

NOTE *The College of Surveyors is responsible for maintaining and revising the standard as necessary and operating the Candidate Community Forum. In addition, the College of Surveyors recruits, engages, trains, and assigns surveyors, conducts the site assessments and makes the recommendation for/against accreditation to the Accreditation Committee.*

3.1.17 communication plan

formal documented approach to providing stakeholders with information

NOTE *The communication plan formally defines who should be given specific information, when that information should be delivered and the communication channels that are to be used.*

3.1.18 consent

see "informed consent".

3.1.19 consent form

see "informed consent form".

3.1.20 continuous quality improvement

system that aims to improve the quality of services focusing on future results, including implementing goals for preventing future failures, and the setting of goals, education, and the measurement of results

3.1.21 documented consent

signature and date of clinical trial participant or their legally authorized representative on the IEC-approved consent form

NOTE *This may also be known as documented consent and/or documentation of consent.*

3.1.22 ethical dependability

consistent character traits and behaviours including communicating with honesty and fairness, exerting reasonable judgement, and the diligent fulfilment of roles and tasks

NOTE *See Annex I.*

3.1.23 executive credibility

trust obtained through leadership by consistently displaying professional competency along with fairness, sincerity, and care for people, holding people reasonably accountable, and remaining honourable whilst under pressure

NOTE *See Annex G.*

3.1.24 good clinical practice (GCP)

standard for the design, conduct, performance, monitoring, auditing, recording, analysis, and reporting of clinical trials that provides assurance that the data and reported results are credible and accurate, and that the rights, integrity, and confidentiality of trial subjects are protected

3.1.25 independent ethics committee (IEC)

independent body (a review board or a committee, either institutional, regional, national, or supranational), consisting of medical professionals and non-medical members, whose responsibility it is to ensure the protection of the rights, safety and well-being of human subjects involved in a trial

NOTE 1 *The legal status, composition, function, operations, and regulatory requirements pertaining to IEC may differ among countries but should allow the IEC to act in agreement with GCP as described in this guideline. May also be known as an "Institutional Review Board" (IRB) or Research Ethics Board (REB).*

NOTE 2 *They also provide public assurance of that protection by, among other things, reviewing and approving/providing favourable opinion on the trial protocol, the suitability of the investigator(s), facilities, and the methods and material to be used in obtaining and documenting informed consent of the trial subjects.*

3.1.26 information management plan

written document that defines the scope, format, and distribution of specific documentation

NOTE *This may include goals, business outcomes, cost estimates and risks.*

3.1.27 informed consent (IC)

process by which a participant voluntarily confirms their willingness to participate in a particular trial, after having been informed of all aspects of the trial that are relevant to the participant's decision to participate.

NOTE 1 *Informed consent is documented by means of a written, signed and dated informed consent form.*

NOTE 2 *See also* ***8.4****.*

3.1.28 informed consent form (ICF)

means of documenting a participant's informed consent for participation in the clinical trial (see "informed consent" above).

3.1.29 integration (of staff)

process of introducing a new staff member to their employer and assimilating them into the company and work environment

NOTE *Integration is linked to the orientation programme (see* ***3.1.41****).*

3.1.30 interested party

person, entity or organization with an interest in the clinical trial participant

NOTE *Interested parties might also be classed as "customers".*

3.1.31 investigational product (IP)/investigational drug product (IDP)

see "clinical trial product."

3.1.32 investigator

person, or designated team leader, responsible for the conduct of the clinical research trial at a CRS

NOTE *The term "investigator", as used within SASI-QMS:2023-2, represents an "investigator", a "principal investigator" or a "sub-investigator", as referred to in ICH E6 R3.*

3.1.33 investigator-initiated trials (IIT)

a clinical trial in which the investigator conceives the research, develops the protocol, and serves as sponsor investigator

3.1.34 investigator's brochure

clinical and non-clinical data compiled on the clinical trial product, as relevant to the clinical research trial

NOTE *This is generated by the clinical trial research sponsor.*

3.1.35 keeping the promise work culture (KTP)

organizational environment emphasizing ethics, conscience and competence in which the values of mutual respect, accountability and professionalism are modelled by the behaviour of its participants, resulting in a work culture that is focused on keeping the promises it has made to its internal and external customers

NOTE *See* ***4.1.1*** *which covers the vision, mission and values of the CRS, and Annex J which covers the keeping the promise work culture.*

3.1.36 leadership development programme

programme of education and personal development for leaders in the CRS

NOTE *This may include mentoring (see commentary on* ***7.5****).*

3.1.37 monitor

person with the scientific and/or clinical knowledge to oversee the implementation of the clinical research trial

NOTE *The monitor might be clinical or medical.*

3.1.38 no-blame culture

management-led culture that encourages staff members to speak openly about problems and mistakes without the fear of punishment; and rewards the discovery and resolution of errors and defects in work processes

NOTE 1 *This may also be known as a "fair culture", or a "just culture".*

NOTE 2 *See also* ***A.8*** *and* ***A.9*** *regarding ethical dependability and a KTP work culture.*

3.1.39 non-therapeutic clinical research trial

clinical research trial in which there is no anticipated direct clinical benefit to the clinical trial participant

3.1.40 open door policy

communication policy in which leaders leave their office door open as an indicator of their desire to encourage openness and transparency with their staff members

3.1.41 orientation programme

designed programme which aims at integrating a new staff member to their department, job role and work culture

NOTE *An orientation session may vary from one day to several days, depending on the size and complexity of the organization and role for the purposes of integration (see **3.1.29**). An orientation programme might also be referred to as "onboarding". See also Figure 1 and Annex A.*

3.1.42 people-centred culture

environment in which the engagement of people is prioritized through behaviours and initiatives, such as valuing stakeholders and staff members, creating meaningful work, open and trustworthy behaviour, promoting social responsibility and being open and inclusive

3.1.43 personal authenticity

practiced values which are the same as those stated or implied by a person's character

NOTE *See Annex H.*

3.1.44 preferred services provider

organizations vetted by SASI and known to provide consulting and support services to CRSs consistent with SASI ethics and values

NOTE *These organizations are selected in conformance with the Accreditation standard and contractual obligations*

3.1.45 principal investigator (PI)

individual with primary regulatory responsibility for the conduct of the trial; see also "investigator"

3.1.46 process quality

planning, budget setting and the determination of required resource to produce reliable products and services

NOTE *See Annex E.*

3.1.47 quality continuum

the continuous sequence of processes and procedures that span the operation of a CRS

NOTE 1 *All leadership and management decisions made in a clinical research trial and in all parts of the continuum are guided by sensitivity to these dual determinants for quality and safety.*

NOTE 2 *The 'quality continuum' refers to the fact that quality should be imbued into all processes and procedures within the CRS.*

3.1.48 recruitment

proactive outreach to subjects

NOTE *Not chart review or database search*

3.1.49 risk assessment

process including identification, analysis, and evaluation of risk to continually improve risk management

NOTE *See also ISO 31000:2009 regarding risk management.*

3.1.50 risk management framework

structure for the administration, control, and mitigation of risk, embedded throughout an organization, supported by policies, procedures, plans, resources, and processes

3.1.51 SASI Keeping The Promise Community (KTP Community)

a forum where Candidate CRSs and already Accredited CRSs can share best practices, collaborate, and help each other prepare for and maintain the highest quality in clinical research

3.1.52 SASIware platform (SASIware)

software platform where the CRS provides documentation or other evidence that the CRS conforms to the SASI-QMS:2023-2 standard, and where surveyors review and interact with the CRS regarding documentation

3.1.53 serious adverse event (SAE)

untoward medical occurrence that at any dose results in death, is life-threatening, requires inpatient hospitalization or prolongation of existing hospitalization, results in persistent or significant disability/incapacity or is a congenital anomaly/birth defect

3.1.54 site accreditation council

an objective, independent group of senior SASI members, appointed by the Executive Director, who review the work of the College of Surveyors and issue final decisions on Accreditation

3.1.55 skill-mix review

process for determining the combination of posts, grades, occupations, skills and competencies required in the CRS to be able to deliver the clinical research trial

3.1.56 societal responsibility

framework for an organization to act for the benefit of society

3.1.57 stakeholder

interested party in the clinical research trial as identified by the CRS leaders and specific for each clinical research organization/clinical research site

NOTE *A stakeholder might be a client, owner, shareholder, staff member, supplier, partner, the general public, investigator, clinical trial research sponsor, regulatory authority, or clinical trial participant. A stakeholder might also be classed as a "customer".*

3.1.58 strategy

plan and method for reaching goals and objectives over a defined period

3.1.59 surveyor

individual trained on this standard and in the systems approach to quality management, and assigned by SASI College of Surveyors to competently assess a CRS's Accreditation materials and processes for conformance with this standard and other defined and documented requirements for accreditation

NOTE *Depending on a CRS's complexity, SASI College of Surveyors may assign a survey team to adequately assess a CRS.*

3.1.60 suspected unexpected serious adverse reaction (SUSAR)

adverse reaction, the nature or severity of which is not consistent with the applicable product information

NOTE *e.g., investigator's brochure for an unapproved investigational product or package insert/summary of product characteristics for an approved product.*

3.1.61 systems thinking

holistic approach to research and analysis, which focuses on relationships between the different parts of a system and the functioning of a system as part of a larger system over a period of time

3.1.62 training plan

written document which addresses the training needs associated with the CRS's overall objectives, as well as the training needs in response to the role requirements for the clinical research trial, the results of the performance review of staff members, changes in practice, the law and new technology

NOTE *A training plan generally covers resources (including financial), facilities, equipment, expertise, people, and time. See also Figure 1 and Annex A as an example of a training curriculum for quality management.*

3.1.63 vocational certainty

proven competencies, alignment with, and dedication to the work in which an individual is employed

NOTE *See Annex D.*

3.1.64 vulnerable subjects/populations

individuals whose willingness to volunteer in a clinical trial can be unduly influenced by the expectation, whether justified or not, of benefits associated with participation, or of a retaliatory response from senior members of a hierarchy in case of refusal to participate

NOTE *Examples are members of a group with a hierarchical structure, such as medical, pharmacy, dental, and nursing students, subordinate hospital and laboratory personnel, employees of the pharmaceutical industry, members of the armed forces, and persons kept in detention. Other vulnerable subjects include patients with incurable diseases, persons in nursing homes, unemployed or impoverished persons, patients in emergency situations, ethnic minority groups, homeless persons, nomads, refugees, minors, and those incapable of giving consent.*

3.1.65 work process analysis (WPA)

method of systems thinking and analysis to evaluate the function(s) of a process

3.1.66 zero defects attitude

individual and organizational attitude of behavioural and performance norms to achieve excellence, assure safety and reduce defects and harm through preventative measures

NOTE *Having a "zero defects attitude" is the result of staff members being trained and motivated to prevent mistakes by developing a constant, conscious desire to do their job right the first time. "Quality is Free" [Crosby, 1979], is a work where he stated "DIRFT" ("Doing It Right First Time") as the key to free quality. In other words, Crosby stated that if you avoid producing products or services containing defects, then you will not incur the costs of finding and removing them. See also A.2 and Annex C.*

3.2 Abbreviations

For the purposes of SASI-QMS:2023-2, the following abbreviations apply:

AE	adverse event
ADR	adverse drug reaction
CRS	clinical research site
CQI	continuous quality improvement
DSMB	data safety monitoring board
GDPR	general data protection regulation 2016/679
HIPAA	health insurance portability and accountability act of 1996
IEC	independent ethics committee
IRB	institutional review board
KTP	keeping the promise
REB	research ethics board
SAE	serious adverse event
SOP	standard operating procedure
SUSAR	suspected unexpected serious adverse reaction
WPA	work process analysis

4 CRS management and leadership

4.1 CRS leadership

4.1.1 Mission, vision and values

In consultation with stakeholders the CRS leaders shall establish the mission, vision and values for the CRS.

***NOTE** The mission, vision and values should be agreed with, and accepted by, the CRS stakeholders, as appropriate.*

4.1.2 Strategy

4.1.2.1 General

*COMMENTARY ON **4.1.2.1***

The ethos of executive credibility underpins how the mission, vision and values are realized. This also includes the values of respect, accountability and professionalism and how these are established within an organization. Further information regarding executive credibility and a KTP work culture can be found in the Quality Management Institute's KTP® Complete Quality Management training course, Annex G and Annex J.

The values should be people-centred, ethical, and support and motivate innovation and improvement. See also Annex C and Annex D.

The CRS shall undertake a review of previous/current CRS strategies and note any lessons learned for incorporation into future strategies.

The CRS shall document its strategy to cover, as a minimum:

a) the mission, vision and values and how these can be realized;
b) the organizational structure and relationships with both an internal and broad external view of its functionality;
c) a commitment to quality management, i.e. overall system and leadership is committed to all aspects and the initiatives to support it;

***NOTE** The CRS should determine the scope of its quality management, for example for the management of clinical research trials and for the whole organization. Further information regarding the scope of a quality management system may be found in ISO 9001:2015, **4.3**, for example.*

d) resource requirements including the need for new technology and associated budgets;
e) needs and expectations of stakeholders and interested parties; and
f) policies required to support organizational practices.

4.1.2.2 Implementation

The CRS shall have processes for implementation of the strategy, including:

a) planning;
b) resources including any outsourcing to approved sources;
c) implementation, evaluation, analysis and reporting; and
d) staff member training (see **7.5**).

***NOTE** This may be included in an annual operational plan.*

4.1.3 Roles and responsibilities

*COMMENTARY ON **4.1.3***

*Responsibilities can take into consideration leadership and commitment, for example, as detailed in a management system standard, such as ISO 9001:2015, **5.1**. This person might be called a "quality manager" (see also commentary on Clause **6**).*

*The management of suppliers and partners should be controlled, further information may be found in ISO 9001:2015, **8.4**.*

The CRS shall have appointed CRS managers, deputies and/or leads or their equivalent. The CRS leads shall define management responsibilities and authorities within the CRS that include responsibility for:

a) risk management and risk mitigation;
b) ensure the right people have been assigned with appropriate roles and responsibilities;
c) quality management, innovation and improvement;
d) health, safety and staff member well-being; and

***NOTE 1** Health, safety and staff member well-being should include clinical and non-clinical management. The roles and responsibilities may be in the form of an organizational chart. See also Annex E.*

e) staff member training.

The CRS shall communicate the defined management responsibilities and authorities to staff members, relevant stakeholders and interested parties.

***NOTE 2** Relevant stakeholders are decided by the CRS leaders.*

The CRS shall require its leads to identify suppliers and partners required to meet the strategic needs.

4.2

4.2.1 Organizational ethics

The CRS shall document and implement an ethical framework through:

a) an ethical statement;

b) a code of conduct for staff members;

c) a statement on societal responsibility (see **3.1.56**); and

d) a policy on open and inclusive leadership.

NOTE 1 *Examples of open and inclusive leadership might include an open-door policy, high visibility of leaders, listening to, and consultation of, stakeholders and interested parties.*

NOTE 2 *See also **A.8**, Annex B, Annex D, Annex E and Annex G.*

4.2.2 Independent ethics committee (IEC)

The CRS shall implement a policy and procedure for review and approval by an independent ethics committee (IEC) for each clinical research trial.

NOTE *If the CRS has the option to choose the IEC, it should follow reasonable procedures consistent with any other vendor acquisition.*

4.3 Communication

4.3.1 General

NOTE 1 *See also **8.4.2**, **8.5.2** and Annex **B**.*

The CRS shall implement internal and external communication processes to identified stakeholders and interested parties, the clinical trial research sponsor and the CRS management, and staff members. These processes shall include the methods of communication to each recipient and be documented in a communication plan.

NOTE 2 *Communication methods should be human-centred, accessible and usable by people with varying abilities. See ISO 27500:2017 for further information.*

The information communicated shall include, but not be limited to:

a) the CRS strategy, in accordance with **4.1.2**;

b) information relating to new statutory, regulatory and other specific requirements affecting clinical research;

NOTE 3 *Attention is drawn to applicable regulations, given by organizations such as the U.S. Food and Drug Administration (FDA), the National Institutes of Health (NIH), and the European Medicines Agency (EMA).*

c) reports required by the clinical trial protocol (see also **4.4**);

d) lessons learned from Adverse Events (AEs), Serious Adverse Events (SAEs), errors or potential errors caught ("near misses") and successes (see also **6.4** and Clause **5**);

e) lessons learned from reported clinical trial protocol deviations or violations, those planned and unplanned;

f) feedback from stakeholders;

g) feedback from staff members;

h) updates on quality, safety and governance; and

i) results of quality improvement planning.

The CRS shall establish and document a procedure for staff members to raise concerns.

NOTE 4 *This should be in a documented procedure which all staff members are made aware of to enable them to be able to raise their concerns about maladministration, questionable or poor practice, breaches of codes of conduct and accountability, and other concerns of an ethical nature without fear of blame.*

4.3.2 Clinical research trial communications to staff members

The CRS shall implement communication processes to inform staff members of the clinical research trial.

These communications shall include:

a) information from the clinical trial protocol;

b) staff members:

   1) clinical research trial-related duties, as identified in the clinical trial protocol;

   2) functions and/or role in the clinical research trial;

c) any responsibilities for supervision;

d) details of the clinical trial research sponsor-appointed expert to contact for clinical research trial-related questions;

e) details of the clinical trial research sponsor-appointed monitor; and

f) scheduled meetings for staff members.

4.4 Clinical trial protocol

*COMMENTARY ON **4.4***

*A clinical trial protocol is an essential document for conducting a clinical research trial. Its purpose is to describe how a clinical research trial should be conducted and to control the safety of the clinical trial participants and the quality of the data obtained from the results of the clinical research trial (see **3.1.8**). While the design of the clinical trial protocol itself, along with any risk management associated specifically with the clinical trial protocol, is outside of the scope of SASI-QMS:2023-2, its use for communicating the requirements for the clinical research trial and for controlling its various aspects and key points is covered within this standard (see also **4.5, 4.6.2, 4.7.3, 4.7.5.1, 6.3.1, 6.4, 7.5, 9.1** and **9.4**).*

Responsibility for conducting a review of the clinical research protocol falls to the IEC. They conduct a review of the clinical trial protocol covering issues including ethical, regulatory and formal requirements, payment, where applicable, communications and roles and responsibilities. It is ultimately the IEC that is responsible for the approval not only of the original clinical trial protocol but also its continual review and approval of amendments and changes to its content.

*The clinical trial protocol might also include other information such as deadlines for obtaining documented consent and requirements relating to the clinical trial participant, see Clause **8**.*

The CRS is expected to be aware of local regulations and good clinical practice guidelines in accordance with recognized good practice (see ICH E6 R3, Appendix B, regarding the clinical trial protocol and any clinical trial protocol amendments).

As part of the clinical trial protocol development, a risk assessment is undertaken to identify risks critical to the clinical trial processes and data. This risk assessment includes identification of risks for:

- *the management of the clinical research trial at the CRS;*
- *the design; and*
- *the clinical trial participants, including informed consent.*

The CRS shall conduct the clinical research trial in accordance with the clinical trial protocol, including any updates and amendments.

The clinical trial protocol and any amendments, modifications and deviations shall be approved by the IEC (see also **4.2.2** and **5.2**).

The CRS shall include the clinical trial protocol as part of the security management and control of documents (see also **5.1**.)

4.5 Pre-entry into the clinical research trial

Prior to acceptance of a clinical research trial, the CRS shall have a documented procedure for the review of the clinical research trial for feasibility, including financial implications for becoming involved in the trial for investigator initiated trials, as well as requests from clinical trial research sponsors. This information shall be taken into consideration as part of acceptance criteria. The procedure shall, as a minimum, cover:

a) review of the clinical trial protocol;

b) review of the clinical, and non-clinical data on the clinical trial product;

c) clinical trial product information and its use;

d) other information, as provided by the clinical trial research sponsor (or by the PI for Investigator Initiated Trials (IIT); and

***NOTE 1** Other information should include safety information on the clinical trial product.*

e) a review of any identified risks associated with the clinical research trial.

The CRS shall identify and maintain the regulatory requirements and industry standards and guidelines applicable to the clinical research trial.

The CRS shall implement systems to verify compliance with identified and applicable regulatory requirements, and industry standards and guidelines.

***NOTE 2** Other standards and guidelines which might be applicable include, for example, ICH E6 R3.*

***NOTE 3** See also **6.3** regarding start-up of clinical research trial risk assessment.*

4.6 Clinical trial agreement for compliance with the clinical trial protocol

4.6.1 General

The CRS shall have documented procedures for reviewing the clinical trial agreement so that it is aware of the requirements prior to confirmation of the clinical trial agreement.

The clinical trial agreement shall be signed by the clinical trial research sponsor representative and an authorized representative from the CRS.

4.6.2 Content

The clinical trial agreement shall include:

a) the defined, established and allocated duties and functions relating to the delivery and management of the clinical research trial;

b) financial aspects including risks and identified payments to selected clinical trial participants;

NOTE 1 *Any changes, amendments, and addendums to the clinical trial agreement should be reviewed for consistency with the original contract negotiations and approved by CRS as well as the sponsor.*

c) requirements for the quality assurance and quality control of the clinical research trial;

NOTE 2 *The clinical trial research sponsor should be responsible for documenting quality assurance and quality control requirements; these may be in the clinical trial protocol or in the clinical trial agreement.*

d) the procedure for reporting in accordance with the clinical trial protocol (see **4.3.1** and **4.4**); and

NOTE 3 *Reports may be interim, monitoring and final (see also **4.7.5.1** regarding the information management plan).*

e) requirements for termination and suspension decisions. The stakeholder responsible for the decision shall inform the other stakeholders in writing with an explanation of the reasons, retention of records and documentation (until informed by the clinical trial research sponsor that these are no longer required or else in accordance with other formal requirements or obligations).

NOTE 4 *Records should be retained for whichever is the longest period required, although attention is drawn to applicable local regulations and statutory requirements which might dictate specific record retention periods.*

4.6.3 CRS responsibilities

*COMMENTARY ON **4.6.3***

*The representative of the CRS should have legal authority to sign clinical trial agreements. Changes could include logistics or changes to key staff members. Such clinical trial agreements might be used for allowing third party inspection and audit, including any required IEC review and regulatory inspection. See also **4.7.5.3**.*

The clinical trial agreement shall state that the CRS shall, as a minimum:

a) adhere to the clinical trial protocol and regulatory requirements;

b) comply with requirements for data recording and the archiving of clinical research trial- related documents (see also **10.3**);

c) notify the clinical trial research sponsor of any changes within the CRS since signing the clinical trial agreement; and

d) allow access to data and documents for monitoring, inspection, and audit purposes.

4.7 Clinical research site trial management

4.7.1 General

NOTE 1 *See also **4.1.3** regarding roles and responsibilities.*

The CRS shall identify and define roles and responsibilities for the management of the clinical research trial.

The CRS shall determine any qualifications, competencies and training required for each role and associated responsibilities.

NOTE 2 *See Figure 1 and Annex A.*

The CRS shall delegate the identified and defined responsibilities to staff members who have the qualifications, competencies and training necessary to conduct the clinical trial. The recruitment of clinical trial participants shall be in accordance with **4.7.4**.

The CRS is responsible and accountable for the clinical trial product at the clinical research trial site. Where responsibility for any part of the clinical research trial is delegated, this shall be documented (see also **4.7.2**).

NOTE 3 *Responsibilities could be delegated to an individual who is deemed to be trained and competent and who works under supervision of the clinical trial lead. See also Annex G.*

The CRS holds responsibility for vendor arrangements initiated by the CRS. Where the CRS has a documented agreement(s) for any outsourced specific study process to a third party, the documented agreement shall include:

- packaging, transport and storage in accordance with any specification;

- data and reporting processes;
- communication of adverse and/or abnormal results; and
- reporting arrangements.

NOTE 4 *The CRS may outsource procedures but is still held accountable for the quality of the data and processes (e.g. laboratory tests, imaging studies) performed by the third parties.*

4.7.2 Records

Where the CRS delegates defined clinical research trial responsibilities to staff members, records of the delegations and staff members shall be kept (see **4.7.1**).

The CRS shall keep records of the dose of clinical trial product administered and/or prescribed to the clinical trial participants. The records shall include the batch/serial numbers, expiration dates (if applicable), and the unique code numbers of the clinical trial participants receiving the clinical trial product (see **9.4**).

4.7.3 Assuring conformity

The CRS shall implement a procedure for assuring that the clinical trial product is used in accordance with the clinical trial protocol.

NOTE *The frequency of assurance required is included within the clinical trial protocol. See also **4.4** and **8.5.2**.*

Any identified non-conformity shall be reported and managed responsibly. See **5.5.1** and **5.5.2**.

4.7.4 Recruitment of clinical trial participants

The CRS shall document a policy for the recruitment of clinical trial participants in accordance with the clinical trial protocol and ethical norms.

NOTE *Ethical norms might be covered by organizations such as the U.S. Food and Drug Administration (FDA), the National Institutes of Health (NIH), and the European Medicines Agency (EMA).*

The CRS shall document and implement procedures in accordance with the policy and the clinical trial protocol for the recruitment of clinical trial participants.

The procedures shall include:

a) rules for entering clinical trial participants who cannot provide documented consent themselves;
b) risks to the individual clinical trial participants;
c) risk-benefit ratio for the clinical trial population;
d) review of the applicable laws and their impact (if any) on the clinical trial participants for the specific type of clinical research trial;
e) approval by the IEC of the clinical trial population selected; and
f) how clinical trial participants are to be managed; and

NOTE 1 *Further information regarding monitoring can be found in ICH E6 R3, Annex 1, 3.9.*

g) criteria for withdrawing clinical trial participants.

NOTE 2 *Non-therapeutic clinical research trials should only be conducted with clinical trial participants who are capable of giving documented consent themselves, with the following exceptions:*

- *when clinical trial participants have the disease or condition for which the clinical trial product is intended; or*
- *where there is no choice, in that the disease, age and mental capacity does not allow the individual to give documented consent; and*
- *there is no known risk of serious harm to the clinical trial participants.*

*In the case of the examples given, documented consent may be provided by a legal representative. See also **8.4**.*

4.7.5 Information management

*COMMENTARY ON **4.7.5***

*See also **4.3** regarding communication.*

4.7.5.1 Information management plan

*COMMENTARY ON **4.7.5.1***

Guidance should be given by the clinical trial research sponsor as part of the clinical trial protocol which may include the authorship of the final report, if this is not the responsibility of the CRS.

It is recommended that the list of documents is in accordance with ICH E6 R3, Appendix C, Essential Records. Attention is drawn to applicable statutory requirements, legislation and clinical trial research sponsor requirements with regard to the retention of records. Attention is also drawn to applicable statutory requirements and legislation regarding the protection of personal data.

*Staff members might be notified of the information management plan at staff meetings. See **4.3.2**.*

The CRS shall document and implement an information management plan for each clinical research trial.

This shall be based upon the requirements given in the clinical trial protocol and include:

a) any identified milestones or deadlines;
b) identification and traceability of source data;
c) allocation of unique code numbers to clinical trial participants;

d) records required by the clinical trial protocol (see also **4.4**);
e) media for the case report form;
f) data to be reported;
g) procedure for reporting discrepancies in data;
h) procedure for the urgent reporting of any changes deemed to affect the way the clinical research trial is conducted, and/or increasing the risk to clinical trial participants;
i) procedure for reporting SAEs, AEs and SUSARs including data defined for expedited reporting;
j) frequency of reporting to the clinical trial research sponsor;
k) any requirement for reporting to a Data Safety Monitoring Board (DSMB);
l) list of documents associated with the clinical research trial, their version, revision history and dates of approval;
m) rules to maintain source documentation so that documentation is Attributable, Legible, Contemporaneous, Original, Accurate, and Complete (ALCOAC);
n) recording changes/corrections;
o) safe-keeping, security and retention period for all clinical research trial-related documents;
p) how the clinical research trial records are made available to those with permission to view them;
q) frequency of the review and assessment of the management plan to ensure it meets items a) to p); and
r) requirements for the clinical research trial final report and its distribution.

The CRS shall inform staff members of the information management plan.

4.7.5.2 Information management system

Where an electronic information management system(s) is used for the collection of clinical trial-related data, it shall be:

a) documented that the system(s) has been validated and verified to relevant and applicable regulatory requirements;
b) protected and safeguarded from unauthorized use, tampering and loss of data; and
c) checked for compliance with data protection regulations.

NOTE *Attention is drawn to applicable statutory requirements and legislation with regard to the protection of personal data. Attention is also drawn to applicable statutory requirements and legislation regarding the retention of records.*

4.7.5.3 Supporting procedures and documentation

Where an information management system(s) is used (see **4.7.5.2**), its use shall be supported by documented and implemented procedures for:

a) setup, installation and use;
b) maintaining data confidentiality;
c) maintaining data integrity;
d) maintaining data availability;
e) data back-up and recovery;
f) system maintenance; and
g) business continuity and disaster recovery.

The CRS shall provide staff members using the information management system(s) with training in accordance with **7.5**.

A list of staff members who have authorized access shall be retained by the CRS. This shall include the date when access commences and when it is removed.

Clinical research trial records shall be made available to monitors, auditors, IEC and/or regulatory authorities, as applicable.

NOTE *Attention is drawn to applicable statutory requirements and legislation regarding the protection of personal data. Attention is also drawn to applicable statutory requirements and legislation regarding the retention of records.*

5 Quality

5.1 General

The CRS shall plan its activities in order to complete the clinical research trial and produce reliable data within the agreed period defined in the clinical trial agreement (see **4.6**).

The CRS shall maintain a list of all documents required by the clinical trial protocol and SASI-QMS:2023-2.

These documents shall be subject to document control and made available to:

a) staff members involved in the clinical research trial; and

b) if requested:

   1) the clinical trial research sponsor;

   2) IEC; and

   3) regulatory authorities.

NOTE 1 *Attention is drawn to applicable statutory requirements and legislation regarding the protection of personal data. Attention is also drawn to applicable statutory requirements and legislation regarding the retention of records.*

NOTE 2 *For more information on document control see ISO 9001:2015, **7.5**.*

5.2 Management of deviations

The CRS shall implement a documented procedure for the management of non-conformances or errors within the clinical trial protocol. This shall include:

a) keeping a record of all non-conformances or errors;

b) circumstances when the risk to clinical trial participants is severe and requires immediate action;

   NOTE 1 *The risk to clinical trial participants is assessed as part of their clinical review.*

c) process to manage when action has been taken to minimize immediate risk without prior permission;

d) where the clinical research protocol requires randomization procedures, and these are not carried out in compliance with the clinical trial protocol;

e) accidental unblinding and/or unblinding due to a SAE; and

f) reporting of non-conformances, or errors as per the clinical trial protocol.

NOTE 2 *The reason for the deviation should be communicated to the IEC and approval sought, where required, from the clinical trial research sponsor. Attention is also drawn to the need to identify the requirements of any relevant regulatory authorities. An unplanned deviation is when immediate action is necessary as there is an immediate hazard to the clinical trial participant or a failure to strictly adhere to the clinical trial protocol.*

5.3 Clinical research trial record management and confidentiality

The CRS shall implement a procedure for the management and confidentiality of clinical research trial records including:

a) storage;

b) retrieval;

c) transmission;

d) amendment;

e) archival; and

f) destruction.

NOTE *Attention is drawn to the need to identify any regulatory requirements that might apply to the management and confidentiality of records.*

5.4 Quality planning

The CRS shall implement processes for the planning, management, communication [see **4.3.1**g)] and reporting of quality improvement. The planning shall determine:

a) resources;

b) responsibilities;

c) timescales;

d) evaluation methods; and

e) how changes are to be agreed upon and implemented (see **5.5**).

NOTE *Processes should assess the risks as well as the benefits of the planned improvements and ensure that they are beneficial to the CRS. See also Annex C, Annex E and Annex F.*

5.5 Continuous quality improvement (CQI)

5.5.1 General

The CRS shall implement processes for continually assessing and improving the quality of its current and future services. These processes shall include, but not be limited to, these items:

a) internal audit;
b) self-assessment (against SASI-QMS:2023-2);
c) non-conformity reporting and management;
d) complaints management;
e) feedback from stakeholders and interested parties (see **10.2**);
f) analysis of information generated and gathered from items a) to e); and
g) how staff members receive training [see also **7.5**g)].

The CRS shall allocate resources to support the implementation of processes for innovation and improvement.

NOTE 1 *The CRS should use lessons learned from CQI and innovation to educate and motivate staff members to use the knowledge to move towards an organization with a zero defects attitude.*

NOTE 2 *See also **5.5.3**, **7.6**, Annex A, Annex B, Annex C, Annex D and Annex F.*

5.5.2 Corrective actions

The CRS shall implement documented procedures and systems for the management of corrective actions when a non-conformity has been identified, including:

a) identification of corrective actions from items b) to f) given in **5.5.2**;
b) investigation into the non-conformity;
c) cause and effect as a result of the non-conformity;
d) assessment of identified risks;
e) selected actions to correct the identified non-conformity; and
f) corrective action to eliminate recurrence.

5.5.3 Innovation

The CRS shall implement processes for innovation and improvement to:

a) improve the CRS's performance;
b) improve learning, skills and competence;
c) encourage collaboration;
d) enable staff members to identify and participate in innovation projects; and
e) involve staff members in problem solving.

6 Managing and mitigating risk

*COMMENTARY ON CLAUSE **6***

*Individuals leading quality management activities, such as quality managers, should apply systems thinking and its related methods and tools to the problems of risk analysis and systems management, with the objective of protecting all clinical trial participants on the quality continuum. The analysis and mitigation of risk is dependent upon the accurate review and analysis of work processes within a clinical trial and the effective implementation of quality management preventative actions. Risk management is thus a derivative of the quality of the processes that support the clinical trial. See also **A.4, D.2.4** and Annex E.*

*Those within the CRS who are responsible for risk and quality (see **4.1.3**) should have the ability to reasonably allocate resources to identify and prioritize risk, implement process improvement initiatives and assure the mitigation of risk. It is fundamental of ethics and quality management to effectively prevent defects and errors in the clinical research trial tasks, and the collection and analysis of the research data that could lead to unintended harm.*

6.1 Risk management framework

The CRS shall implement a framework for managing risks associated with the clinical research process that includes:

a) risk identification;

b) risk assessment;

c) risk treatment; and

d) risk control.

***NOTE** See also Annex C and Annex E.*

6.2 Risk management governance

The risk management framework shall include the creation and implementation of supporting documentation covering the following:

a) policy;

b) procedure;

c) risk management criteria;

d) risk assessment process;

e) training for staff members on carrying out risk assessments; and

f) where identified from risk assessments, a safety plan to mitigate identified risks.

***NOTE 1** The risk management framework should be developed in accordance with ISO 31000. See also ISO 27500 for information on risks associated with human-centred principles.*

***NOTE 2** The safety plan might be for the clinical trial product.*

6.3 Start-up of clinical research trial risk assessment

6.3.1 General

*COMMENTARY ON **6.3.1***

Supporting documentation may include investigator's brochure, technical specifications, and specific information for clinical trial participants.

Attention is drawn to local regulations regarding approval of clinical research trials.

An example of protecting the CRS and clinical trial participants against claims is implementing third-party insurance. Attention is drawn to applicable statutory requirements and legislation regarding requirements covering insurance.

Prior to the initiation of a clinical research trial, before recruitment starts, the CRS shall:

a) carry out and document a risk assessment and analysis of the impacts, consequences, and benefits to clinical trial participants to protect their rights, safety and well-being; and

b) check processes are in place to protect the CRS and clinical trial participants against claims as a result of the clinical research trial, including malpractice and/or negligence.

6.3.2 Communications

Communications shall be conducted in accordance with **4.3**.

The CRS shall implement a documented procedure for written communications to staff members and any subcontractors involved in a clinical research trial prior to its commencement, which covers the following:

a) identified risks and benefits to clinical trial participants (see also **6.3.1**);

b) dosage regimen, dosage, methodology of administration and treatment period (see also **8.5.2**);

c) demographic of the required clinical trial participants; and

d) clinically significant information and reference materials.

6.4 Adverse events (AEs) and serious adverse events (SAEs)

The CRS shall document and implement a procedure detailing how AEs/SAEs and/or other information as defined within the clinical trial protocol (see **4.4**) are reported, managed and investigated within the CRS, and how the results are reported to the clinical trial research sponsor or PI within defined timescales.

NOTE 1 *AEs and SAEs may include events and/or laboratory abnormalities identified in the clinical trial protocol as critical to safety, unplanned medical care and reported deaths of clinical research trial participants. The clinical trial protocol can define adverse events of special interest or special situations, for example, cancer or pregnancy.*

NOTE 2 *The defined timescales may be included in the clinical trial protocol, and/or might be a requirement of regulatory bodies and other legal requirements.*

AE and SAE notifications shall be followed up with a written report, which includes the following:

a) clinical trial participant unique identifier;

b) details of the AE/SAE, including any known relatedness and severity;

c) investigation, if appropriate into the AE/SAE; and

d) laboratory, autopsy, and medical reports relevant to the AE/SAE.

NOTE 3 *The procedure should take into account the reporting requirements of the clinical trial protocol and the applicable regulatory requirements for the clinical trial product.*

7 A people-centred workforce

7.1 People management

7.1.1 People-centred culture

The CRS shall document and comply with a process to promote a people-centred culture for their staff members. This process shall cover the following aspects:

a) ethics;

b) inclusivity; and

c) societal responsibility.

***NOTE** See also Figure 1, Annex A and ISO 27500:2016. In ISO 27500 "societal responsibility" is also referred to as "social responsibility".*

7.1.2 Implementing a people-centred culture

The CRS shall incorporate the following into the process:

a) knowledge-sharing;

b) teamwork and teambuilding; and

c) problem-solving.

***NOTE** Staff members should be encouraged and enabled to demonstrate these aspects in their work.*

7.2 Skill-mix review

The CRS shall undertake and document a skill-mix review to determine the following which are required to manage and participate in the delivery of the clinical research trial:

a) staff member numbers;

b) type;

c) competences; and

d) qualifications.

***NOTE** See also **4.7.1**, Figure 1, Annex A and Annex D.*

Based on the results of the skill-mix review, the CRS shall determine and provide the staff members necessary for the effective implementation of the clinical research trial and allocate responsibilities for:

1) overall conduct of the clinical research trial;

2) management and verification of the clinical research trial data;

3) statistical analyses; and

4) preparation of the clinical research trial reports.

7.3 Qualifications and competences (role requirements)

7.3.1 General

The CRS shall identify the qualifications, experience and training required for specific roles within a clinical research trial.

***NOTE 1** See also **4.7.1**, Figure 1, Annex A and Annex D.*

The CRS shall appoint staff members for each role required for the clinical research trial based upon their:

a) qualifications;

b) experience;

c) training; and

d) skill mix review conforming to **7.2**.

***NOTE 2** Attention is drawn to applicable statutory requirements and legislation with regard to the recruitment of experienced, qualified and trained staff members to manage clinical research trials, and also with regard to recruitment procedures which cover issues such as human rights, racism, gender disparity and equal opportunities.*

7.3.2 Records and evidence

The CRS shall maintain records of the qualifications and competences of its staff members.

Where applicable, at the request of external bodies, the CRS shall provide evidence of staff members' qualifications, competence, experience and training.

***NOTE 1** External bodies might include the IEC or regulatory authorities.*

***NOTE 2** Attention is drawn to applicable statutory requirements and legislation regarding the protection of personal data. Attention is also drawn to applicable statutory requirements and legislation regarding the retention of records.*

The CRS shall update the external bodies and/or stakeholders of any changes in principal staff members during the life cycle of the clinical research trial, and supply evidence of staff members' qualifications, competence, experience and training. The CRS shall record who has been appointed as the physician(s) responsible for the medical decisions for each clinical trial, including:

a) medical care of clinical trial participants during the clinical research trial;

b) review of test results that impact the well-being of the clinical trial participant;

c) communicating to the clinical trial participant any requirement for additional care (see also **8.4.2**); and

d) information on any SAEs (see also **6.4**).

NOTE 3 *The physician(s) cited above should be qualified for the type of clinical research trial being undertaken. See also **7.2** and **7.5**.*

7.4 Orientation, integration, awareness and rights

The CRS shall document and complete an orientation and integration programme for new staff members, which includes:

a) orientation into the CRS;

b) integration into their role (see also **3.1.29**);

c) awareness of policies, procedures, processes and how to access them; and

   NOTE *See also Annex D and Annex E.*

d) their rights as a staff member, including their right to:

   1) complain (see **7.7**);

   2) raise concerns anonymously; and

   3) be involved in innovation and improvement (see **5.5**).

The CRS shall communicate the requirements of the clinical trial protocol to staff members with allocated responsibilities for a clinical research trial. On completion of the orientation and induction, staff members shall evaluate the content and any improvements recommended shall be implemented as reasonable.

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7.5 Training

*COMMENTARY ON **7.5***

The training should include internal and external training resources, for example, experienced staff members and external technical experts. Resources should be planned for training in terms of time, equipment, and staff member availability. See also Figure 1, Annex A, Annex C and Annex D.

The leadership development programme might cover new clinical leads, ongoing competence, and the development of succession planning for clinical leads. The leadership development programme might also include assigning mentors for clinical leads.

Relevant leadership competences might include fulfilling their responsibility for the effective delivery of the CRS. CQI techniques may also include communicating with staff members, acquiring and evaluating production data, identifying problems and creating reliable solutions. For further information see Annex F for administrative consistency. See also Figure 1 and Annex A.

The CRS shall carry out an assessment of training needs and a gap analysis of the existing and required competences for the management and delivery of a clinical research trial.

The results of the assessment shall be used to develop, continue and refine a training plan. The training plan shall be based on the following information:

a) requirements of the clinical trial protocol (see **4.4**);

b) data from previous training evaluations;

c) requests from staff members;

d) results of performance reviews (see **7.6**);

e) information technology systems (see **4.7.5.2**);

f) equipment, systems, and new technologies;

g) lessons learned from previous training;

h) specific techniques relating to risk and CQI (see **5.5** and Clause **6**);

i) any legislation, regulation, and professional standards with which the CRS is compliant;

j) financial resources;

k) any constraints on resources; and

l) how training is to be evaluated.

The CRS shall document and implement a leadership development programme to support clinical leads in their role by assessing, maintaining and developing further competences.

7.6 Staff members' performance review

The CRS shall implement and document a performance review for all staff members.

The frequency of the performance review shall be documented and made known to all staff members.

***NOTE** The performance review should be inclusive and recognize individuals and teamwork. See also **7.1**. The CRS may wish to establish a recognition scheme to reward excellence and innovation from its staff members. See also **5.5.1** and Annex B.*

7.7 Staff members' well-being

The CRS shall protect the health, safety and well-being of its staff members' by:

a) carrying out health and safety risk assessments;

b) planning proactive well-being programmes;

c) encouraging a no-blame culture;

d) implementing and encouraging comments, suggestions and complaints mechanisms; and

e) implementing effective communication processes (see also **4.3**).

***NOTE 1** Attention is drawn to applicable statutory requirements, legislation, and safety instructions regarding the health, safety and the well-being of staff members.*

The CRS shall implement an open-door policy for the CRS leaders to manage staff member concerns in a confidential and non-punitive manner. Where concerns are raised, the CRS leaders shall act upon any concerns, suggestions, comments or complaints and record the response and course of action.

***NOTE 2** The CRS leaders should set response times for acknowledging concerns, comments or complaints, for example within one working day. See also Annex A, Annex D and Annex E.*

8 Person-centred care for clinical trial participants

8.1 Entry into a clinical research trial

*COMMENTARY ON **8.1***

*See also **6.3** regarding risks associated with pre-entry into the clinical research trial. The clinical, and non-clinical data on the clinical trial product is often contained in an investigator's brochure and is developed by the clinical trial research sponsor.*

*Other information for clinical trial participants might include diaries and questionnaires. These documents might be subject to document control (see **5.1**).*

Prior to entering a clinical research trial, the CRS shall obtain written approval from the IEC of:

a) documented consent form with informed consent for the clinical research trial;

b) procedures and processes for the recruitment of clinical trial participants (see also **4.7.4**); and

c) information to be provided to clinical trial participants, as detailed in the clinical trial protocol.

8.2 Consent to data sharing

The CRS shall be responsible for obtaining documented consent from the clinical trial participant to pass on information to other interested parties. The consent to data sharing shall be documented in the clinical trial participant's clinical research record through the approved consent form [see **8.1**c)].

***NOTE 1** Stakeholders and interested parties might include general practitioners, primary physicians, and dentists.*

***NOTE 2** Attention is drawn to applicable statutory requirements and legislation regarding the protection of personal data. Attention is also drawn to applicable statutory requirements and legislation regarding the retention of records.*

8.3 Clinical trial participant rights

8.3.1 Withdrawal

The CRS shall allow the clinical trial participant the right to withdraw from a clinical research trial at any time.

When a clinical trial participant withdraws or is withdrawn from a clinical research trial, the reasons for the withdrawal are documented. If the clinical trial participant refuses to provide a reason for withdrawal, that refusal will be documented.

The CRS shall have a documented process for the management of participants that are "lost to follow-up".

8.3.2 Early termination or suspension

When the Sponsor notifies the CRS of the termination or suspension of the clinical trial, the CRS shall inform the clinical trial participants that the trial is terminated early or suspended and offer them resources. The CRS shall inform the clinical trial participants of any clinical research trial that is terminated early or suspended and offer them any applicable:

a) therapy where appropriate; and/or

b) follow-up, where appropriate.

***NOTE** The applicable therapy and follow-up will depend on the type of clinical research trial and the clinical research protocol requirements.*

8.4 Informed consent

8.4.1 Policy and procedure

*COMMENTARY ON **8.4.1***

*The standardized consent form should be based upon the ethical principles that have their origin in the Declaration of Helsinki for obtaining valid and documented consent from clinical trial participants (or the legal representative of the clinical trial participant for those without the capacity to understand; see **8.4.4**), in clinical research trials. The ICH E6 R3 guidelines might also be referred to for further information.*

Attention is drawn to the country's regulatory authorities and local regulations which might need to be applied before giving the informed consent form to the clinical trial participant.

*See also **8.4.3** regarding obtaining informed consent.*

Emergency situations should be considered as appropriate to the type of clinical research trial and may include clinical trial participants who are in a coma, require immediate action due to an existing condition.

Attention is drawn to local regulations that might require witnesses to be present when consent is obtained.

The CRS shall create a documented policy and implement a procedure for staff members regarding how to obtain documented consent and/or assent. The procedure shall include how refused consent and/or assent shall be recorded.

The CRS shall also implement an approved IEC consent form. The documented policy and procedure shall include:

a) what to do in emergency situations when prior documented consent is not practicable;
b) situations for waiver of documentation of consent prior to entry in the trial;
c) situations involving vulnerable individuals and those with limited capacity to provide informed consent; and
d) situations when verbal consent with an independent witness or legal representative, is sought.

8.4.2 Communications with clinical trial participants

*COMMENTARY ON **8.4.2***

*General communication is covered in **4.3**. Specific communications regarding risks are covered in **6.3.2**. The informed consent discussion, written information and consent form should cover the information included in the Integrated Addendum to ICH E6 R3, Annex 1, 2.8.*

The information provided to clinical trial participants should be written in terms which are clear, concise, free from technical jargon, and may be provided in other formats for accessibility issues (e.g. for illiterate/ non-native language speakers).

*When a clinical research trial (therapeutic or non-therapeutic) includes clinical trial participants who can only be enrolled in the clinical research trial with the consent of the clinical trial participant's legally acceptable representative (e.g. minors, or people with severe dementia) the clinical trial participant should be informed about the clinical research trial to the extent compatible with the clinical trial participant's understanding. If capable (see **8.4.3**), the clinical trial participant should sign and personally date the consent form.*

The CRS should inform the clinical trial participant and/ or their legal representative before their next appointment/intervention is due to enable an informed decision on continuing or not. The timing will be influenced by when the CRS receives of any updated information.

The CRS shall provide information to clinical trial participants in writing as a minimum regarding the clinical research trial, as part of the informed consent process. The information shall:

a) be HIPAA, GDPR or other applicable privacy regulations compliant and:
   1) not infer that any legal rights are waived; and
   2) not release the CRS from liability for negligence.
b) include:
   1) all aspects of the clinical research trial relevant to the clinical trial participant; and
   2) a statement that there may be unknown risks.

The information provided to clinical trial participants shall be subject to review, revisions and updates as and when new information is made available which is relevant to the informed consent of the clinical trial participant. The updated information shall be subject to approval by the IEC prior to dissemination.

The clinical trial participant and/or their legal representative shall be informed of the updated information as soon as is practicable and their willingness to continue or not shall be documented.

8.4.3 Obtaining informed consent

The CRS shall instruct the trained staff members obtaining and documenting informed consent and assent to allow the clinical trial participant and any legal representatives:

a) the opportunity to ask questions in a private or confidential setting;
b) time to review the information prior to providing documented consent;
c) to confirm that the clinical trial participant and/or legal representative understands the risks involved (see also Clause **6**);
d) to agree to consent by signing and dating the consent form along with the staff member obtaining the documented consent; and
e) to understand that the individual clinical trial participant's informed consent, assent or dissent is documented.

The CRS shall instruct staff members obtaining documented consent that clinical trial participants are not to be coerced or influenced to participate in a clinical research trial.

***NOTE** Attention is drawn to the country's regulatory authorities and local regulations on obtaining informed consent, including the use of witnesses, if applicable.*

8.4.4 Capacity to provide documented consent

For those who do not have the capacity to provide documented consent themselves, the CRS shall obtain the informed consent or reconsent from a legally authorized representative.

***NOTE** This might be in the presence of an independent witness who is required to sign the consent form along with a legal representative, as appropriate to local requirements or regulations.*

8.4.5 Post-informed consent documentation

The CRS shall give the following information to the clinical trial participant after they have given documented consent, and prior to their participation in the clinical research trial:

a) a copy of the consent form, signed and dated;

b) written information for clinical trial participants; and

c) new information for clinical trial participants, including updates and revisions after the initial consent.

***NOTE** The information given might have an impact on the clinical trial participant's willingness to partake in the clinical research trial.*

8.5 Undertaking the clinical research trial

8.5.1 Recorded information

The CRS shall record key information that includes the following:

a) clinical trial protocol title, identifying number, version number and date, and current investigator's brochure or equivalent documentation;

b) name, address and contacts within the clinical trial research sponsor; and other departments or organizations involved in the clinical research trial.

***NOTE 1** Other departments and organizations might include laboratories and technical departments.*

***NOTE 2** Attention is drawn to applicable statutory requirements and legislation regarding the protection of personal data. Attention is also drawn to applicable statutory requirements and legislation regarding the retention of records.*

This key information shall be disseminated to the staff members responsible for the management of the clinical research trial in accordance with **6.3.2**.

8.5.2 Study procedures for clinical trial participants

The CRS shall document and implement the study procedures for clinical trial participants that include:

a) inclusion and exclusion criteria specific to the clinical research trial;

b) withdrawal criteria and subsequent actions to be taken;

c) monitoring of clinical trial participant compliance;

d) actions to be taken in the event of any deviation to study procedure compliance, SAEs and change in health status of the clinical trial participant; and

e) actions to be taken at the culmination of the study to inform the clinical trial participant of any next steps.

The CRS shall document and implement a procedure for the collection, management, storage, analysis, transportation and reporting of specimens as required in the clinical trial protocol.

***NOTE** Information on best practice can be sourced from the International Society for Biological and Environmental Repositories.*

9 Clinical trial facility (physical environment)

9.1 General

*COMMENTARY ON **9.1***

The requirements of the clinical trial facility might change depending on the type of clinical research trial, the clinical trial specification and number of clinical trial participants required.

The work environment should meet health and safety requirements; this might also include the use of natural light, recycling, environmental protection, and the safe management of waste.

A work environment should encourage productivity, creativity, and the well-being of people. See ISO 9004:2018 for more information.

An appointed monitor might carry out the review to determine clinical trial facility compliance.

The CRS shall determine the space and work environment required to conduct the clinical research trial.

The CRS shall provide a work environment that supports the well-being of staff members and clinical trial participants.

Based on the requirements of the clinical trial protocol (see **4.4**), the CRS shall review and determine whether the CRS clinical trial facility meets the requirements of the clinical trial protocol for the specific clinical research trial.

9.2 Resources and infrastructure

*COMMENTARY ON **9.2***

Infrastructure can include:

a) buildings and associated utilities;

b) equipment, including hardware and software;

c) transportation resources; and

d) information and communication technology.

Resources may be people as well as consumables. See also Annex C and Annex E.

The CRS shall provide and maintain the resources and infrastructure necessary to carry out the clinical research trial.

The CRS shall have a documented maintenance programme for the identified resources and infrastructure.

9.3 Medical equipment

*COMMENTARY ON **9.3***

*See also **7.3** regarding competencies for the person carrying out the calibration and checks, and Annex **C** regarding having workforce with a zero defects attitude. A staff member may be responsible for carrying out the checks or this may be outsourced to a specialist organization. Equipment used in the calibration and/or checks should be fit for purpose. See ISO 9001:2015, **7.1.5.2**, for information.*

Medical equipment may include sphygmomanometers, weighing scales, infusion pumps, electrocardiographs, laboratory equipment, resuscitation equipment (crash carts) etc.

The CRS shall create and maintain the following information:

a) a list of medical equipment that requires scheduled calibration and/or checking prior to use and the documentation of differentials out of specification;

b) the frequency of calibration and/or checks;

c) who is responsible for carrying out the calibration and/or checks;

d) the traceability of the equipment used for the calibration and/or checks; and

e) records of the calibration and/or checks and the equipment used.

Where medical equipment is identified as being defective, the CRS shall implement a documented procedure to prevent it from being used until it has been deemed fit for purpose. The CRS shall implement scheduled checks and confirm that medical equipment is valid prior to use.

9.4 Clinical trial product

9.4.1 General

The CRS shall implement documented procedures for the receipt, storage, transport and management of the clinical trial product.

This procedure shall include:

a) record of receipt of the clinical trial product;
b) identification of the clinical trial product, including:
    1) quantities;
    2) batch/serial numbers;
    3) expiration dates (if applicable); and
    4) unique code numbers.
c) responsibilities of staff members assigned to the management of the clinical trial product, including:
    1) dispensing, including blinding;
    2) transportation to the recipient; and
    3) maintaining the integrity of the clinical trial product whilst in transit.

9.4.2 Storage and stock control

The CRS shall provide storage for the clinical trial product in accordance with the specification/instruction in the clinical trial protocol or the pharmacy manual.

The CRS shall maintain stock control of the clinical trial product, including:

a) monitoring of expiration dates, for a first-in, first-out system;
b) management of expired medication to reconcile clinical trial product received against what was used;
c) disposal or return of any unused, damaged or contaminated clinical trial product in accordance with the specification/instruction from the clinical trial protocol (see **4.4**); and
d) management of access to the clinical trial product.

NOTE *Access might be only to designated staff members.*

10 Evaluations, assessments and audits

10.1 Key performance objectives

The CRS shall define, implement, and measure key performance objectives.

NOTE 1 *Key performance objectives are determined from the strategy (see **4.1.2**).*

NOTE 2 *For more information on performance objectives and indicators see ISO 9004:2018.*

10.2 Monitoring progress

The CRS shall put in place processes to monitor its progress in meeting the defined key performance objectives.

These processes shall include:

a) collection of data and information;

b) feedback from staff members, other interested parties and stakeholders (see **5.5.1**);

c) internal review and audit; and

d) mechanisms for review and reporting of progress.

NOTE *See also Annex D and Annex F.*

10.3 Data collection

The CRS shall determine the data to collect to monitor the quality and performance of the services provided and how it shall be:

a) measured;

b) monitored;

c) analysed;

d) reported;

e) evaluated; and

f) used in decision making.

NOTE *See also Annex C and Annex F.*

Annex A (informative)
The learning-competency objectives of the KTP® curriculum

A.1 General

It is a fundamental requirement of SASI-QMS:2023-2 that all professional personnel be properly trained, educated, and qualified to fulfil their roles. This can be confirmed by objective examination-based, competency-focused professional certifications. It is essential that those individuals leading quality management activities (who might be referred to as a "quality manager") also have the skills and attributes necessary to embed and manage the quality management activities.

The Quality Management Institute's KTP® Complete Quality Management curriculum and its specialized Clinical Research Quality Manager (CRQM) professional certification can provide clinical research site managers with the competencies that are required to develop a high-performing work culture. **A.1** to **A.9** gives an overview of the competency objectives covered in the KTP® training course.

A.2 Foundational value: zero defects attitude

The training course teaches both why and how to:

- create and implement reasonable standards for quality that can raise reliability and avoid the trap of perfectionism;
- employ competent, engaged, and clinical trial participant-focused individuals, which is a foundational and strategic necessity in operating clinical research trials;
- enable the competencies for achieving all organizational objectives with quality management methods, values and language; and
- relate to and control profitability in either a for-profit or a non-profit venue through quality.

A.3 Professional value: vocational certainty

The training course teaches both why and how to:

- identify a person's vocational strengths, weaknesses, character and personality;
- define and achieve reasonable standards for excellence;
- increase productivity and prevent errors by applying the fundamentals of human motivation in the workplace; and
- identify and define obstacles to workplace efficiency and calculate the costs to eliminate them.

A.4 Professional value: process quality

The training course teaches both why and how to:

- apply work process analysis (WPA) as a tool of systems thinking and project management to create lean, reliable business solutions;
- evaluate an idea for a product, service, or process improvement, and use lists to manage the project;
- research the design and demand for a project and choose reasonable development actions;
- calculate the costs of the resources for implementing a project and create a pro-forma budget;
- eliminate the guessing about the management of work processes and unfounded financial assumptions that create risk and project failures;
- convert the research and design data into reliable steps for project implementation; and
- apply WPA in a KTP® environment, ensuring consistency with the organizing principles of agile development, and eliminate gaming and data manipulation.

A.5 Professional value: administrative consistency

The training course teaches both why and how:

- KTP® communication skills can establish reliable business processes, relationships and increase productivity;
- to apply due diligence to workplace routines and details and how they affect the leadership skills required to manage risks;
- to apply the five methods for monitoring defects and use business metrics to isolate and eliminate their causes;
- the four absolutes for choosing reliable people can help you build a team that is unified around common goals; and
- applying the four strategic disciplines for managing time and information can help you measure the value of an agenda.

A.6 Professional value: executive credibility

The training course teaches both why and how:

- to apply the three motivational principles for creating an open and accountable work culture, and discover new levels of teamwork;
- to identify and manage the consequences of personal behaviours rooted in fear, insecurity and pride;
- to measure the reliability of information, avoid presuming, test and prove the facts, and act responsibly, and
- reliable workplace relationships can create opportunities for great success.

A.7 Personal value: personal authenticity

The training course teaches both why and how:

- three simple legal and fiduciary principles can stabilize an enterprise and make managing people and processes more certain;
- to make effective workplace decisions by applying the scientific method to personnel and process issues; and
- workplace ethics impact an enterprise, its customers and shareholders or contributors.

A.8 Personal value: ethical dependability

The training course teaches both why and how:

- five attributes of reliable communicators create beneficial effects on product and service processes, as well as a person's leadership influence;
- to identify and eliminate workplace negligence, its causes and the increased business costs and risks associated with it; and
- to identify the personal factors that complicate business judgments and undermine leadership.

A.9 Organizational value: keeping the promise (KTP® work culture)

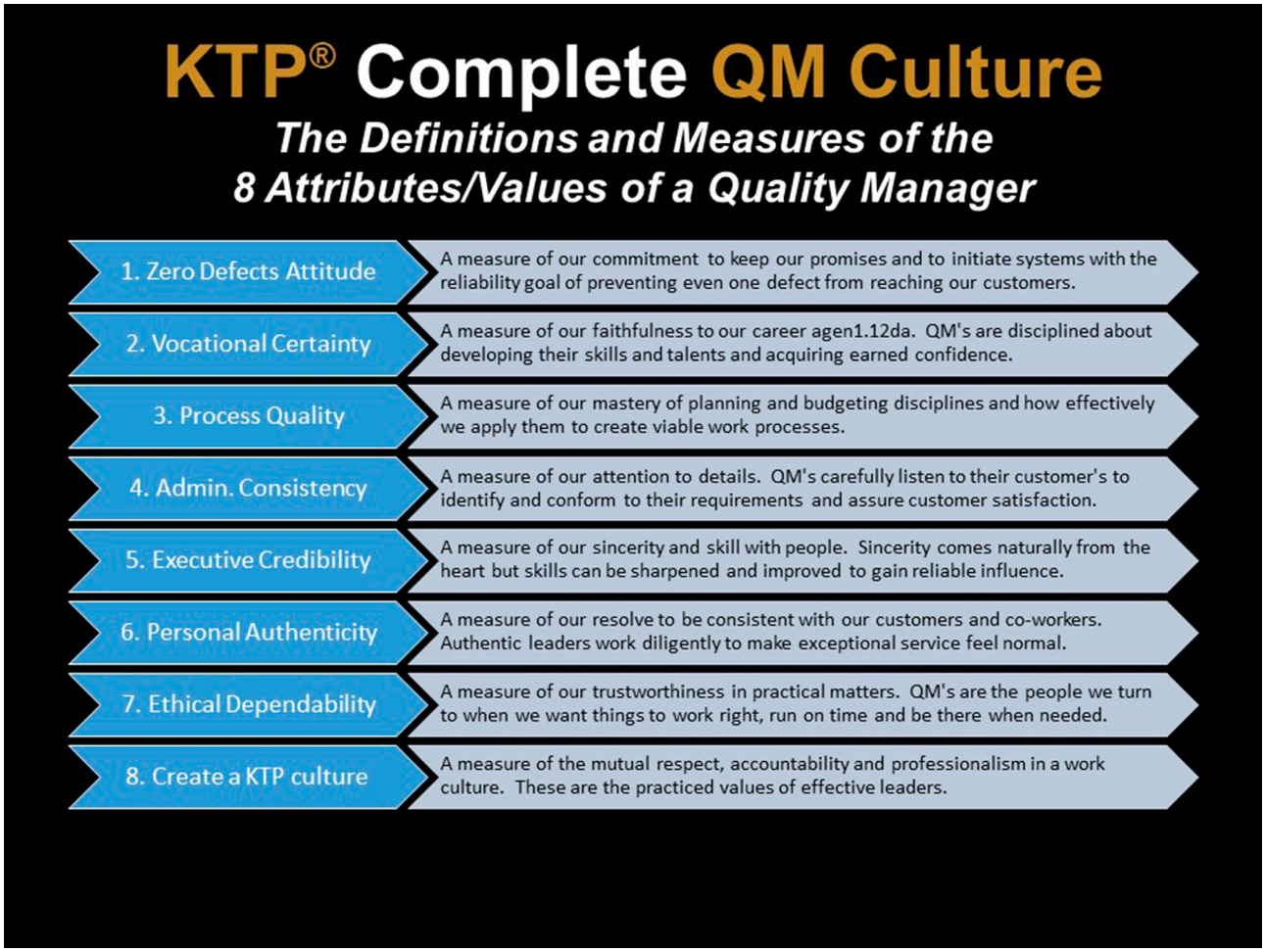
The training course teaches both why and how to naturally and professionally model the values of a quality management keeping the promise work culture and become a change agent.

Annex B (informative)
The definitions and measures of the eight attributes/ values of a quality manager

Figure **B.1** states the organizational, professional and personal values of the KTP® curriculum as eight attributes or values that define the quality manager as a person – and how the presence of the value is measured in individuals and work cultures.

Detailed descriptions of each of the attributes/values can be found in Annex C to Annex J.

Figure B.1 – The definitions and measures of the 8 attributes/values of a quality manager



Annex C (informative)
Zero defects attitude

C.1 A zero defects attitude as a foundational value

Zero defects is a greatly misunderstood term. It is often believed that improvement is simply related to goodness, caring deeply, empathizing and working harder or longer hours, putting forth more effort and spending more energy. Although working hard can be a virtue, it does not necessarily assure improvement.

A person with a zero defects attitude has committed to making each customer's experience as close to what was promised as is possible. A zero defects attitude expresses a desire to improve processes and lower the number of defects in performance, and when practicable, eliminate the defects. The key to improvement is knowledge: knowledge is power and with enough information anyone can make good decisions.

C.2 The three areas of knowledge

The knowledge required falls into three areas. Firstly, there is process knowledge. In essence, this is knowledge of how things are meant to be working, what is wrong and what needs to be improved.

Secondly, there are the methods of quality management for creating increased certainty in processes and outcomes. This includes quality control which enables us to take bad things out of processes by editing, inspecting, testing, monitoring, and auditing; and quality assurance which enables us to put good things into processes, such as reliable human resources, equipment, tools, supplies and financial capabilities.

Thirdly, there is knowledge of the values required to work together as a team and have reasonable discussions that enable us to collaborate effectively, and create reliable, effective and efficient solutions.

C.3 Support and training

Those involved in leading quality management need to be supported through training to equip themselves with the knowledge required to implement the ethos and culture of doing the right things in the right way. Training should include effective leadership, team management skills, dealing with difficult situations and stress management.

It is not always practicable to eliminate all defects; however, organizations should have processes in place to review when defects do occur and how to minimize these.

A defect may be of varying degrees of severity and importance, but to all customers any defect is important, and organizations need to recognize this, assess the risks and act accordingly.

The party defined as the customer might change at different parts of the process, and this needs to be considered when defining who the customer is at key points of a process.

Annex D (informative)
Vocational certainty

D.1 Vocational certainty as an attribute

Vocational certainty as an attribute greatly impacts not only the quality of products and services but also the quality of work life.

Vocational certainty is derived from the word vocation as "the work in which a person is employed." It is usually the kind of work in which one is engaged in; the kind of work that has attracted an individual's interest and that is supported by natural skills. The word certainty refers to how sure or certain an individual is of something based on evidence; to be certain means there is no guessing.

Vocational certainty is a measure of faithfulness to the agenda. To be faithful is to be devoted to fulfilling one's duties, keeping promises to the work agenda and being faithful to fulfil the requirements of job description, career path, and how individuals learn and grow. Vocational certainty might be included in the organization's stated values.

D.2 Facilitating vocational certainty

D.2.1 General

To enable vocational certainty in the workforce, leaders need to foster a culture of learning and growing, and support staff with stability when faced with daily responsibilities. This can be implemented through processes such as performance review (see Clause **7**), no-blame culture (see **7.7**), open door policies (see **4.2.1** Note) and feedback (see **4.3** and **5.5.1**), which in turn allow effective discussions to enable positive results. It is important that leaders learn from their lessons learned and continuously strive to improve quality.

D.2.2 Emotional maturity

When recruiting staff members (see also Clause **7**), part of the process should be the determination of the emotional maturity required of the position, and what is reasonable to expect of the individual. An emotionally mature person demonstrates an ability to respond to people, events, circumstances, victory, failure, stress, and fatigue with behaviours that would be reasonably expected of a person of a certain age and position of responsibility. This can be reflected in the ability to identify issues, take steps to improve or change and to present realistic solutions, with inclusive discussions about doing the right things in the right way with respect to working relationships.

D.2.3 Performance review

Through the implementation of an effective performance review system, individuals can reflect on their performance with honesty and identify solutions for improvement through training and development. Organizations might wish to recognize the achievements of individuals through a formal recognition scheme or rewards for personal excellence.

D.2.4 Risk management and the three legal principles

Leaders need to be aware of risks in the responsibilities of managing people and processes. These can be linked to the three principles in law: discovery, due diligence, and reason.

These three principles create increased situational awareness that allows for the containment and management of risk and should be considered as part of the risk management framework (see also Clause **6**).

First, the principle of "discovery" is best described as the legal responsibilities of individuals and managers. It takes place at the moment of "discovery" of a fact or event. This might be upon seeing or hearing the event; or it might be when it has been directly reported.

Second, the principle of "due diligence" is best defined as giving every fact, event, issue, or problem the "diligence" it is "due." This includes the actions that should be expected of a person who was being diligent to fulfil his or her duties. These actions should be guided by a zero defects attitude (see Annex **C**) and include the management and mitigation of risks.

And third, the principle of "reason" is best described as the measure by determining whether a person's actions were appropriate for the circumstance. In other words, when actions that are taken are examined, would they be considered reasonable? The standard for reason is what any reasonable person would say or do in the same situation.

Annex E (informative)
Process quality

E.1 Process quality as an attribute

Process quality is the effective planning, budget setting and the determination of required resource to produce reliable products and services. Work process analysis helps the level of process knowledge, so that an accurate perspective on the probable benefits, costs, risks, and consequences of the actions is produced when considering a project.

By allocating resources (such as time and training) to support the implementation of processes for innovation and improvement, leaders have a reliable framework for evaluating opportunities, organizing projects, and accurately predicting the resources required.

E.2 The four fundamental principles of work process analysis

Work process analysis is guided by four fundamental principles.

Firstly, every idea ultimately requires work of someone, therefore the vision of what is to be done should be defined and include the expected outcome.

Secondly, all work takes place in steps (or segments) that together are called processes with a beginning, an end, and logical segments of activity in between. These processes may require expertise in the delivery. Those involved in the process should be consulted and have input into the plan to confirm that the facts are correct and that the perceived outcomes are beneficial.

Thirdly, resources flow through processes to produce specific outcomes. These include the specific product, service or process improvement envisioned in the work process analysis. This step includes the development of budgets, suppliers and those required to deliver the process. Metrics for measurement are also set.

Fourthly, each step in a process depends upon the successful completion of the previous step.

NOTE *The implementation of a plan includes the development of documentation, training of staff members, carrying out identified checks in the plan, feedback and acting on any identified corrective actions. The metrics and measurement data, including financial information are analyzed and reported as part of the process.*

Annex F (informative) Administrative consistency

F.1 Policy and standard operating procedures

Any project requires coordination and to be translated into its fundamental values and strategies with documentation and reasonable discussions that can enable those involved to perform effectively. This is the purpose of policies and standard operating procedures. A policy is the document that describes the reasoning supporting a course of action. The steps that will be taken to fulfil the policy are described in a procedure. A complete picture of a project is often called a Policy and Procedure Manual. It includes the specifics of the vision, each staff member's job description and benefits, and all the processes within the organization. It should describe how and when to do things, and the resources that will be required. To gain the understanding that will enable them to implement the policies and procedures, staff members require training and support.

F.2 Non-conformance

F.2.1 General

As part of the quality management system, the implementation of processes to identify and monitor defects (non-conformities) is an important factor in constantly producing quality products or services. Monitoring can be achieved through a number of practical methods:

a) receiving customer feedback (see **F.2.2**);
b) monitoring by walking around (see **F.2.3**);
c) receiving employee feedback (see **F.2.4**);
d) establishing process evaluations (see **F.2.5**); and
e) creating reliable business metrics (see **F.2.6**).

F.2.2 Receiving customer feedback

Customer feedback should be an opportunity for improvement. Defining who the customer is and gathering reliable information is useful in discovering patterns and trends for how defects are occurring and where to start looking for root causes.

F.2.3 Monitoring by walking around

Through observing the work environment through monitoring by walking around, leaders can identify defects or prevent defects from happening. This also allows leaders to be visible and approachable.

F.2.4 Receiving employee feedback

Employee feedback should come through formal and organized channels, be anonymous, treated with impunity and acted upon.

F.2.5 Establishing process evaluations

Writing down what is done in policies and procedures allows for the evaluation of processes by checking what is documented with what is carried out. This can be achieved by implementing a formal audit schedule and training staff members in audit techniques.

F.2.6 Creating reliable business metrics

By defining "normal" rates of production, costs, or other standards for an event or process, abnormal conditions can be identified as they occur. The types of measurements can range from simple counts of activity by a process during a given period, to the average cost per customer to deliver the product or service.

F.2.7 Tips and techniques

Time management is an essential component of any manager's day, therefore effective delegation is a key attribute.

Effective systems should be designed for keeping records, including personal records and notes.

Time should be set aside for reflection as well as data collection.

Annex G (informative) Executive credibility

Executive credibility is achieved through;

a) openness and inclusivity;
b) effective delegation;
c) risk management and risk mitigation;
d) innovation and improvement; and
e) providing a workplace environment which protects the health, safety and staff member well-being.

Leaders who foster open and accountable relationships depend upon “due process” that is fair and just, with a no-blame culture to create good working relationships and a committed workforce. Any bullying or aggressive behaviour is not tolerated in a people-centred culture.

Annex H (informative) Personal authenticity

Personal authenticity is an attribute required for leaders in successful decision making by applying the principles of due diligence. Acting with due diligence is giving every fact, event, issue, or problem the diligence it is due to make smart and reliable decisions by applying due diligence before deciding on a course of action to take.

The scientific method is a way of sifting through facts in undertaking research, problem solving and investigations in risk management. This method provides a framework for systematic thinking, as it subjects the facts to rational and impartial analysis that provides an unbiased outcome and can be implemented to help achieve personal authenticity.

Annex I (informative) Ethical dependability

Creating a culture of ethical dependability is reliant on the individual's intellectual integrity. Having a code of conduct for staff members sets out the requirements that are expected of them. This allows leaders to test the faithfulness of their staff members, their intellectual integrity, and their ethical dependability.

Annex J (informative) Creating a quality management keeping the promise work culture

The cornerstone of commerce is the promise made between a buyer and a seller, an employer and employee, or a CRS and clinical research participant in a clinical research trial that they will exchange value for value. The clinical trial participant promises to follow instructions through the consent process as defined by the clinical trial protocol, and the CRS promises certain incentives and the commitment to acquire valuable research data through their collaboration. The keeping the promise work culture is a top-down initiated environment in which the values of mutual respect, accountability and professionalism are modelled by the behaviour of a leader, and which result in a work culture that is focused on creating and effectively executing processes and tasks that keep the promises made to internal and external customers.

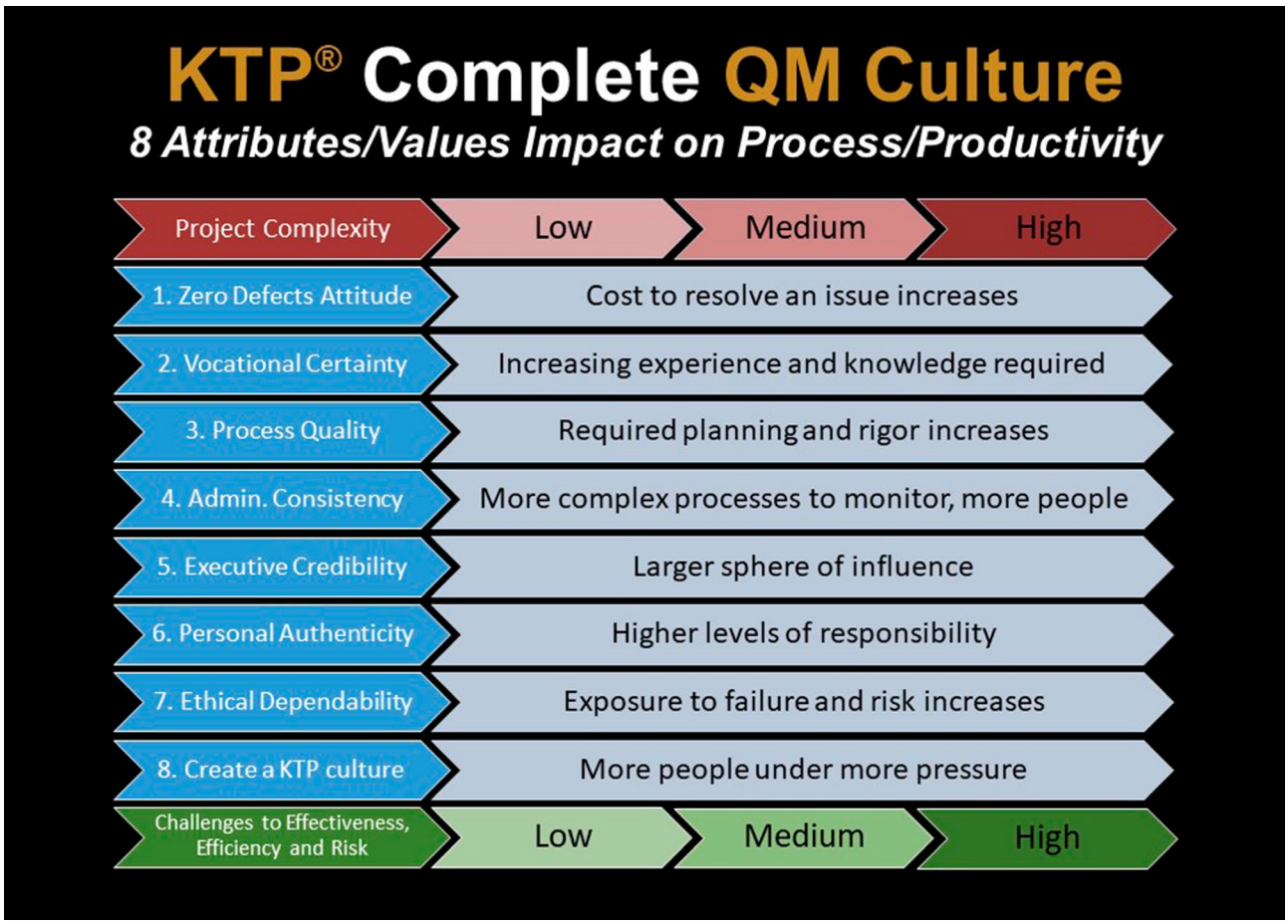
Annex K (informative)
The impact of KTP® values as project (clinical research trial complexity increases)

Figure K.1 depicts the impact of KTP® values as the complexity of a project (clinical research trial) increases and the challenges that a work culture without them can create for the effectiveness and efficiency of processes and their eventual product outcomes.

As an example, the need for vocational certainty increases because the need for "increased experience and knowledge are required" with increased complexity. The lack of vocational certainty causes the project to be challenged in its effectiveness and efficiency – with defects, adjustments, and other costly errors – as the complexity of the project increases.

As a further example, with project complexity often comes increased workforce variables, higher responsibility and a larger sphere of influence which will require the executive credibility and personal authenticity required to coalesce co-workers into trusted colleagues and a productive team.

Figure K.1 – The impact of attributes/values on process and productivity



Annex L (informative)
The impact of KTP® skills as project (clinical research trial complexity increases

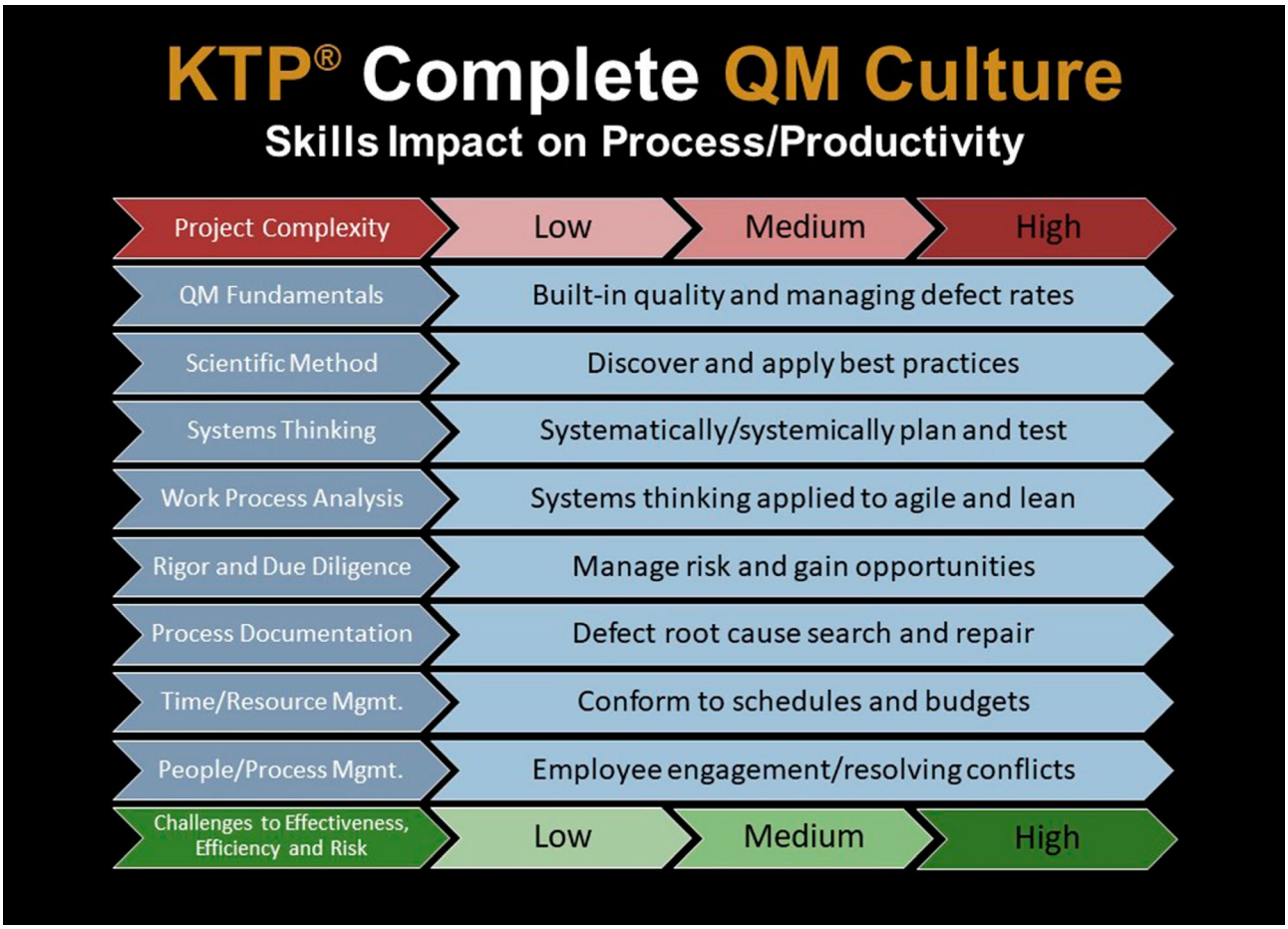
Figure L.1 depicts the impact of KTP® skills as the complexity of a project (clinical research trial) increases and the challenges their presence or absence create to the effectiveness and efficiency of processes and their eventual product outcomes.

As an example, the lack of knowledge of KTP® Complete Quality Management Fundamentals can limit the ability of the manager to see beyond the simple tests and monitors required by contract. This inspection-limited viewpoint undermines the capability of creating built-in quality systems and the culture to support them.

As a further example, the need for systems thinking increases because of the increasing need to plan and test and differentiate between systematic testing and systemic integration as projects progress.

The lack of rigor and due diligence can cause the project to fail to manage risks and gain opportunities and become a challenge to its effectiveness and efficiency – with defects, adjustments and other costly errors – as the complexity of the project increases.

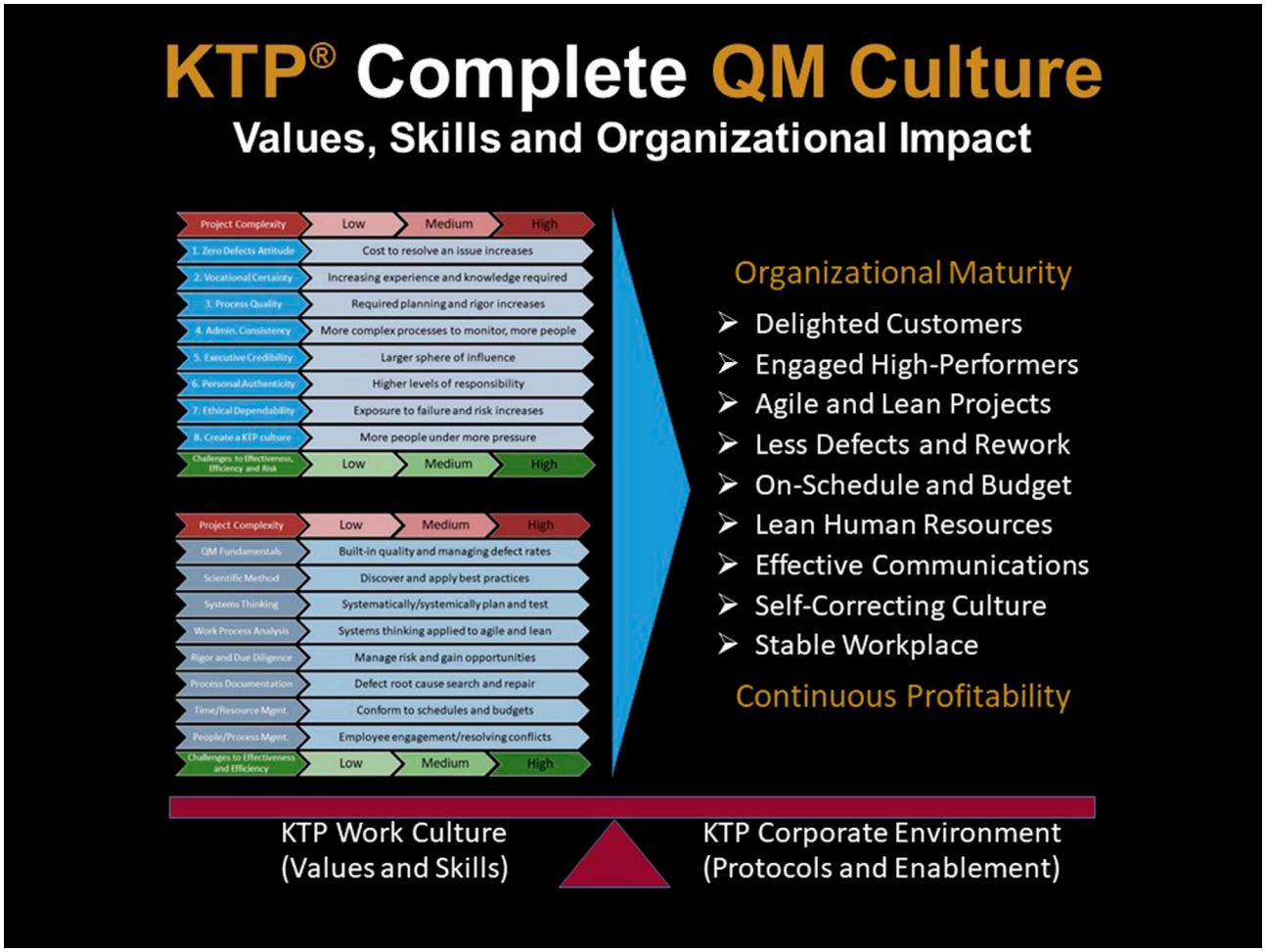
Figure L.1 – Skills impact on process and productivity



Annex M (informative)
The overall impact of KTP® competencies on an enterprise

Figure M.1 depicts the aspects of organizational maturity that are produced (along with continuous profitability) when KTP® values and skills are introduced to a work culture and are supported by the appropriate corporate protocols and environment.

Figure M.1 – Values, skills and organizational impact



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Further reading

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