

IS YOUR COVID-19 SCREENING THERMOMETER ACCURATE ENOUGH?

The COVID-19 pandemic has resulted in most Governments world-wide enacting measures to curb the spread of the deadly virus. One such regulation is the health screening through measuring the human body temperature, as fever is considered as one of the symptoms of the disease. The traditional temperature measuring instruments of the contact type are not desirable as they risk spreading the disease, hence the proliferation on non-contact type infra-red radiation thermometers. Have you ever wondered whether these devices are accurate? You have often noticed that your body temperature readings are inconsistent, and not so repeatable. How accurate should they be? How durable should the devices be and, better still, will the devices remain accurate after repeated use over weeks, months or years to come? How do you know if you have purchased a reliable instrument that will work correctly in your environment? Are you using it correctly? Is there trust in the device?



These questions can be answered within the context of existing national, regional and international quality infrastructures.

National authorities or regulators have the responsibility to ensure that products placed on the marketplace are safe and suitable for intended purposes. Most Regulators are generally knowledgeable in their mandates although they may lack specialized expertise in certain areas. Measuring instruments like infra-red thermometers used for medical purposes may be classified as medical devices and be subject to the control of medical regulatory authorities. One may purchase such a device off the shelf of a Pharmacy. Some countries may regulate such instruments through their national legal metrology bodies with mandates to regulate all measuring instruments used for any regulated purpose, or for the purposes of any law within the country. In order to ensure that the device is suitable or conforms to approved type, the regulator prescribes and enforces metrological requirements on the measuring device, based on international standards. Devices that have a bearing on health, safety and the environment should be adequately controlled.

Metrology is defined as the science of measurement and Legal Metrology is the application of legal requirements to measurements and measuring instruments. Controls imposed on measuring instruments should be based on international metrological practices.

Regulators should ensure that measuring instruments are accurate by requiring that they be *calibrated* by accredited calibration laboratories or by the national metrology institute (NMI) or *verified* or *inspected* by the national legal metrology authority or by designated laboratories. These conformity assessment services of calibration, verification and inspection are meant to ensure that the measuring instruments conform to requirements such as the accuracy levels that may be prescribed in regulations. These conformity assessment services are usually not adequate for a measuring instrument that is used by the ordinary person, under environmental conditions that may be harsh (e.g. outdoors) and operated over

prolonged periods of time before conformity can be *re-verified*. The regulator usually prescribes additional metrological requirements such as *type evaluation, approval* and *certification* and that the approved measuring instruments be *repaired* or *maintained* only by *registered* or *certified* persons.

In order to confirm the competence of the conformity assessment service provider and give assurance and confidence to the users or owners that the measuring instruments are accurate, it is imperative that the *conformity assessment services* be accredited by an accreditation body that is internationally recognized such as SADCAS. If the regulator undertakes any of the conformity assessment services, they must also be accredited. International best practice requires that technical regulations be based on harmonized international standards and that regulators utilize the existing internationally recognized quality infrastructure in order to ensure an appropriate level of credibility of measurement results in the national regulatory environment.

SADCAS is signatory to the African Accreditation Cooperation (AFRAC) and the International Laboratory Accreditation (ILAC) Mutual Recognition Arrangements (MRA) for the testing/veterinary and calibration/legal metrology laboratories accreditation schemes in accordance with ISO/IEC 17025 achieved in November 2015, and medical testing in accordance with ISO 15189 and inspection in accordance with ISO/IEC 17020 achieved in October 2017. SADCAS is also now signatory to the International Accreditation Forum (IAF) Multilateral Recognition Arrangement in the Main Scope Management Systems Certification (ISO/IEC 17021-1,) Sub-scope Quality Management Systems (ISO/IEC 17021-3), QMS (ISO 9001:2015) achieved in November 2019. Hence the accreditation certificates issued by SADCAS on 7 of the accreditation schemes on offer are all internationally recognized. Effectively this means that through internationally recognized accreditation SADC Member States serviced by SADCAS have better access to 103 foreign markets – A truly global reach.

