## INTERNATIONAL STANDARD

ISO 17090-1

Third edition 2021-02

## **Health informatics** — **Public key infrastructure** —

Part 1: **Overview of digital certificate services** 

Informatique de santé — Infrastructure de clé publique — Partie 1: Vue d'ensemble des services de certificat numérique



## ISO 17090-1:2021(E)



## **COPYRIGHT PROTECTED DOCUMENT**

© ISO 2021

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office CP 401 • Ch. de Blandonnet 8 CH-1214 Vernier, Geneva Phone: +41 22 749 01 11 Email: copyright@iso.org Website: www.iso.org

Published in Switzerland

Contents			Page
Fore	eword		v
Intr	oductio	n	vi
1	Scon	e	1
2	-	native references	
3	Terms and definitions		
	3.1	Healthcare context terms	
	3.2	Security services terms	
	3.3	Public key infrastructure related terms	
4	Abbı	eviations	9
5	Healthcare context		9
	5.1	Certificate holders and relying parties in healthcare	9
	5.2	Examples of actors	10
		5.2.1 Regulated health professional	
		5.2.2 Non-regulated health professional	
		5.2.3 Patient/consumer	
		5.2.5 Supporting organization employee	
		5.2.6 Healthcare organization	
		5.2.7 Supporting organization	
		5.2.8 Devices	11
		5.2.9 Applications	
	5.3	Applicability of digital certificates to healthcare	
6	Requirements for security services in healthcare applications		12
	6.1	Healthcare characteristics	
	6.2	Digital certificate technical requirements in healthcare	
		6.2.2 Authentication	
		6.2.3 Integrity	
		6.2.4 Confidentiality	
		6.2.5 Digital signature	13
		6.2.6 Authorization	
		6.2.7 Access control	13
	6.3	Healthcare-specific needs and the separation of authentication from data encipherment	1.4
	6.4	Health industry security management framework for digital certificates	
	6.5	Policy requirements for digital certificate issuance and use in healthcare	
7		ic key cryptography	
,	7.1	Symmetric vs. asymmetric cryptography	
	7.2	Digital certificates	
	7.3	Digital signatures	
	7.4	Protecting the private key	16
8	Depl	oying digital certificates	17
	8.1	Necessary components	
		8.1.1 General	
		8.1.2 CP	
		8.1.3 CPS	
		8.1.4 CA	
	8.2	Establishing identity using qualified certificates	
	8.3	Establishing speciality and roles using identity certificates	
	8.4	Using attribute certificates for authorization and access control	