

NCPDP Electronic and Digital Signature Recommendations for the E-Prescribing Environment

The recommended definition of electronic signature supported by NCPDP is as follows:

1. An “electronic signature is an electronic sound, symbol, data string or process attached to or logically associated with a record and executed or adopted by a person with the intent to sign the record”. NCPDP recommends the adoption of this definition of electronic signature so as to accept a variety of assurance solutions currently implemented in the industry and accepted by the state pharmacy boards.
2. NCPDP believes that current business practices for authenticating prescriptions, which include user registration and verification processes provided by trusted partners, user sign-on authentication processes, secure message transmissions, and auditing processes, are fully adequate for assuring the appropriate delivery of the prescriber’s intent to the dispensing pharmacy.
 - a. The utility of digital signatures depends on the development of a trust infrastructure, which reliably associates practitioners with public signature verification keys. To date, efforts to deploy PKI on an industry scale have been unsuccessful. Requiring digital signatures using authentication protocols such as PKI – either for all prescriptions or only for controlled substances – would significantly slow the adoption of electronic prescribing and, in NCPDP’s opinion, is unnecessary for securing the electronic prescribing process. Other auditing or monitoring processes that do not include digital signatures could be employed to provide additional protections against fraud and abuse for controlled substances.
3. NCPDP recommends that, for purposes of electronic prescriptions, a minimum set of required properties for electronic signatures and situational properties to be accessible for use by business partners.
4. NCPDP believes that there is no current requirement that the practitioner’s electronic signature satisfy strong forms of non-repudiation.
5. NCPDP recommends that the industry recognize that, for the purposes of an electronic signature on prescriptions, current assurance requirements can be satisfied by the imposition of a limited set of business rules upon parties utilizing the SCRIPT standard. The pharmacy needs assurance that the identified practitioner intended to issue the particular prescription communicated in the NCPDP SCRIPT message. The following business rules provide the required assurance:
 - a. The electronic prescription application’s user interface must present the completed prescription request to the practitioner for verification prior to transmission.
 - b. The electronic prescription application must protect against impersonation of the practitioner. Impersonation is precluded, in part, by a registration process that verifies the user’s identity and role in a way that reliably associates the user’s application access credentials with a practitioner’s attributes such as, name, medical license, DEA, NCPDP Provider Numbers and National Provider Identifier (NPI).
 - c. Protection against impersonation further requires user authentication procedures to guard against unauthorized access to the user application. Where the user authentication is accomplished across a communication network, use of a secure transmission protocol that protects against masquerading, eavesdropping and replay attacks is needed to prevent opportunities for impersonation.