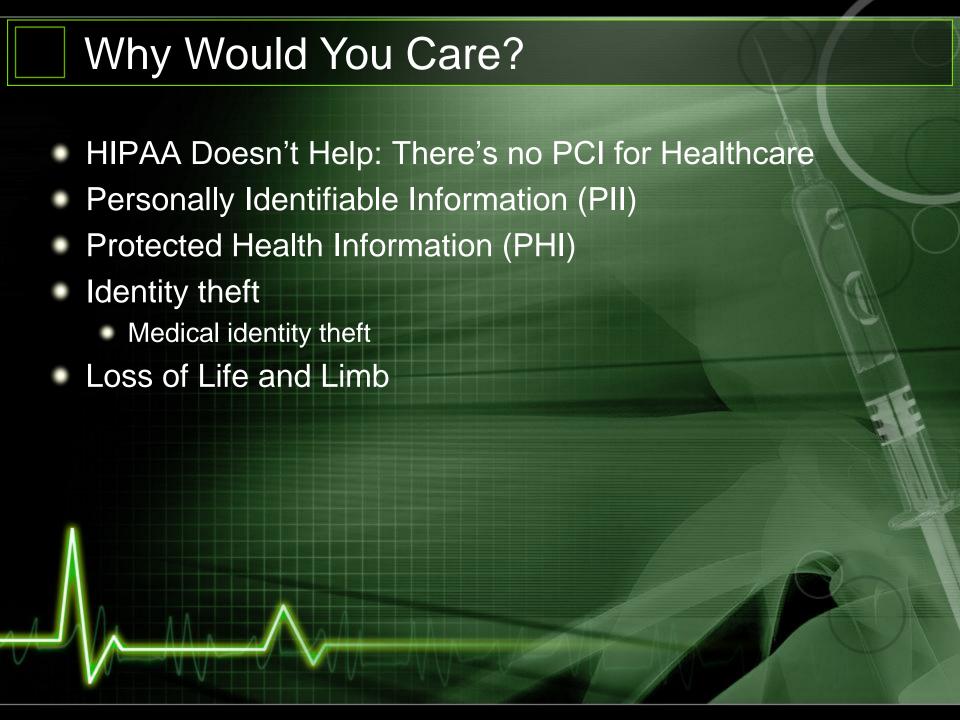
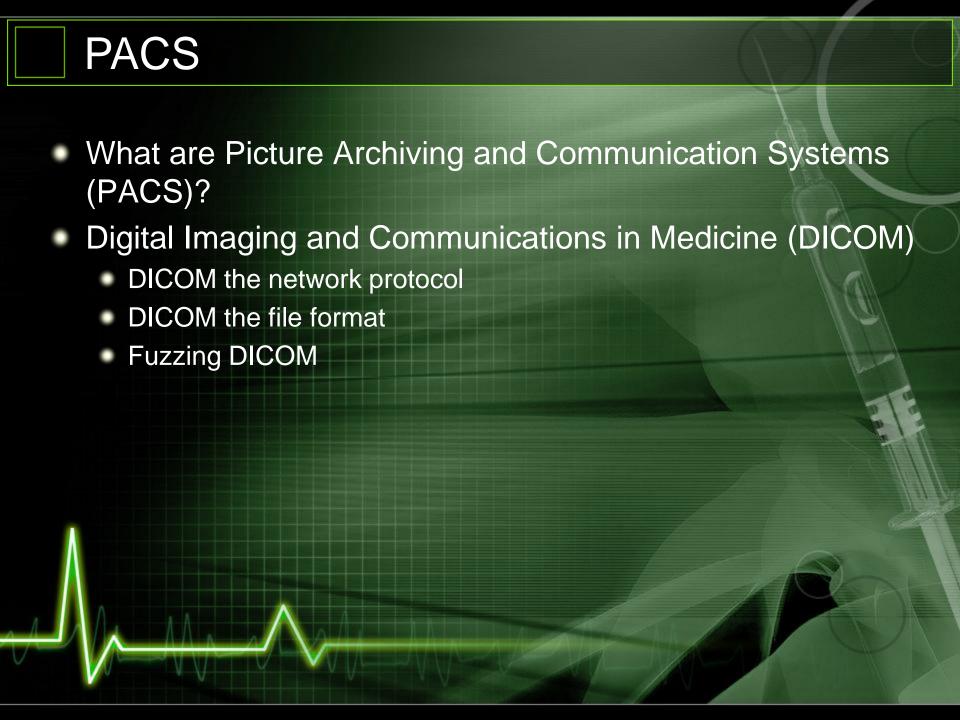


## About Us Tim Elrod – Penetration Tester for Fishnet Security Over 7 years pentesting healthcare systems Stefan Morris -Penetration Test for Fishnet Security Over 4 years Pentesting healthcare systems







## **HL7 Interface Systems**

- Health Level 7 (HL7) Protocol and Standards
  - Clear Text Protocol
  - Delimited fields contain either codes or data
  - Sub fields can also contain codes or data
- Centralized Data Storage and Structure of HL7 Systems
- HL7 Routers
- Fuzzing HL7

## Electronic Health/Medical Record Systems

- Medical Record Storage
  - Most medical records are stored in multiple systems across the healthcare environment
  - Health records can exist in databases as well as unstructured data files
- Front End Interfaces and Issues
  - Common web application issues
  - Logic flaws regarding user permissions





## Malicious Health Records (MHR)

- Records input into PHRs such as Google health and Microsoft health vault get parsed and acted upon by backend health systems such as HL7 Routers
- It is possible for an attacker to inject health records and then cause vulnerabilities to be triggered in backend systems



