



Interoperability and Integration An HIE Perspective

Robert M. Cothren, PhD
Executive Director

Workshop on Key Operational Characteristics and
Functionalities of a State-of-the-Art Patient
Scheduling System

16 May 2019

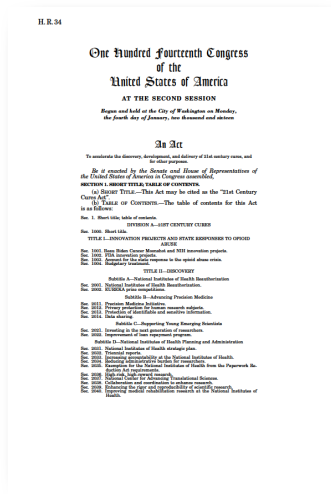


Interoperability

Title IV, Section 4003 of the 21st Century Cures Act defines interoperability as

“...such health information technology that—

“(A) enables the secure exchange of electronic health information with, and use of electronic health information from, other health information technology without special effort on the part of the user;





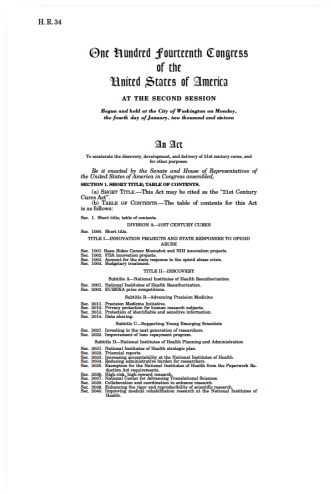
Interoperability

Title IV, Section 4003 of the 21st Century Cures Act defines interoperability as

“...such health information technology that—

“(B) allows for complete access, exchange, and use of all electronically accessible health information for authorized use under applicable State or Federal law; and

“(C) does not constitute information blocking”





Interoperability

Complete... secure... access, exchange, and use of all electronically accessible health information... without special effort on the part of the user

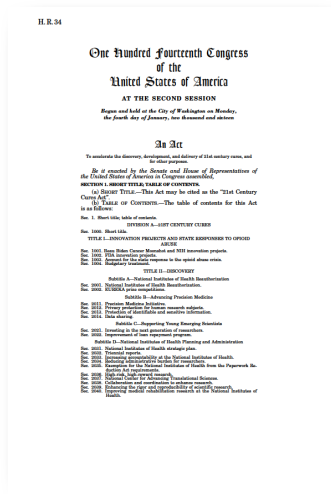


Information Blocking

Title IV, Section 4004 of the 21st Century Cures Act defines information blocking as

“...a practice that—

“(A) except as required by law or specified by the Secretary pursuant to rulemaking... is likely to interfere with, prevent, or materially discourage access, exchange, or use of electronic health information;





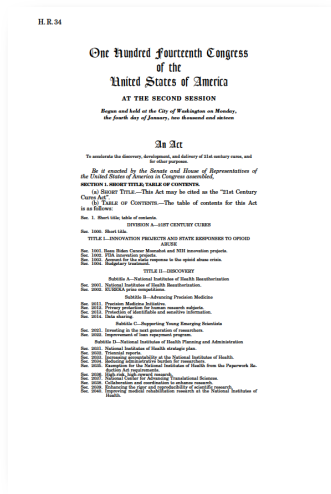
Information Blocking

Title IV, Section 4004 of the 21st Century Cures Act defines information blocking as

“...a practice that—

“(B)(i) if conducted by a health information technology developer, exchange, or network...;
or

“(ii) if conducted by a health care provider...”

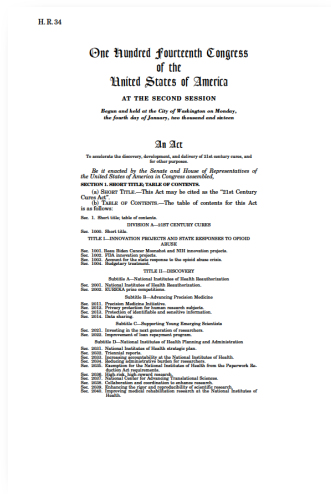




Information Blocking

Title IV, Section 4004 of the 21st Century Cures Act defines information blocking as

“The information blocking practices... may include—
“(A) practices that restrict authorized access, exchange, or use... of such information for treatment and other permitted purposes...;

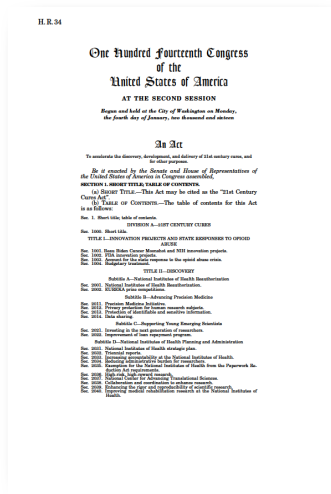




Information Blocking

Title IV, Section 4004 of the 21st Century Cures Act defines information blocking as

“The information blocking practices... may include—
“(B) implementing health information technology in nonstandard ways that are likely to substantially increase the complexity or burden of accessing, exchanging, or using electronic health information;





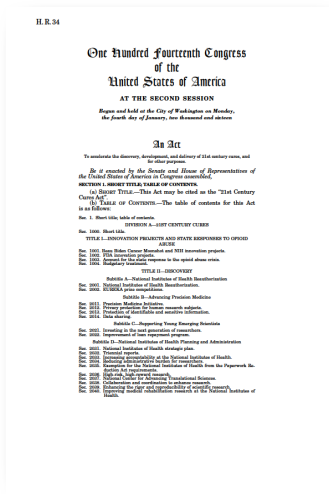
Information Blocking

Title IV, Section 4004 of the 21st Century Cures Act defines information blocking as

“The information blocking practices... may include—

“(C) implementing health information technology in ways that are likely to—

“(ii) lead to fraud, waste, or abuse, or impede innovations and advancements in health information access, exchange, and use, including care delivery enabled by health information technology.”





Interoperability

Complete... secure... access, exchange, and use of all electronically accessible health information... without special effort on the part of the user...

...in a way in which...

...HIT developers, exchanges, networks, and providers... do not discourage... or restrict authorized access,... or impede innovations and advancements...



Electronic Health Information

§ 171.102 Definitions in the ONC NPRM defines Electronic Health Information (EHI) as

- “(1) Electronic protected health information; and
- “(2) Any other information that identifies the individual... and is transmitted by or maintained in electronic media... that relates to the past, present, or future health or condition...; provision of health care...; or payment for the provision of health care to an individual”

7424 Federal Register / Vol. 84, No. 62 / Monday, March 4, 2019 / Proposed Rules

DEPARTMENT OF HEALTH AND HUMAN SERVICES
Office of the Secretary
45 CFR Parts 171 and 172
Electronic Health Information Exchange

45 CFR Parts 171 and 172
Electronic Health Information Exchange

Summary: This proposed rule would implement certain portions of the 2016 ONC Health Data Privacy and Security Rule, including the requirements for health information exchange (HIE) participants to protect the confidentiality of the information they exchange. The rule would also require HIE participants to protect the confidentiality of the information they exchange. The rule would also require HIE participants to protect the confidentiality of the information they exchange.

Authority: 42 USC 1320b, 1320b-2a, 1320b-2b, 1320b-2c, 1320b-2d, 1320b-2e, 1320b-2f, 1320b-2g, 1320b-2h, 1320b-2i, 1320b-2j, 1320b-2k, 1320b-2l, 1320b-2m, 1320b-2n, 1320b-2o, 1320b-2p, 1320b-2q, 1320b-2r, 1320b-2s, 1320b-2t, 1320b-2u, 1320b-2v, 1320b-2w, 1320b-2x, 1320b-2y, 1320b-2z, 1320b-2aa, 1320b-2ab, 1320b-2ac, 1320b-2ad, 1320b-2ae, 1320b-2af, 1320b-2ag, 1320b-2ah, 1320b-2ai, 1320b-2aj, 1320b-2ak, 1320b-2al, 1320b-2am, 1320b-2an, 1320b-2ao, 1320b-2ap, 1320b-2aq, 1320b-2ar, 1320b-2as, 1320b-2at, 1320b-2au, 1320b-2av, 1320b-2aw, 1320b-2ax, 1320b-2ay, 1320b-2az, 1320b-2ba, 1320b-2bb, 1320b-2bc, 1320b-2bd, 1320b-2be, 1320b-2bf, 1320b-2bg, 1320b-2bh, 1320b-2bi, 1320b-2bj, 1320b-2bk, 1320b-2bl, 1320b-2bm, 1320b-2bn, 1320b-2bo, 1320b-2bp, 1320b-2bq, 1320b-2br, 1320b-2bs, 1320b-2bt, 1320b-2bu, 1320b-2bv, 1320b-2bw, 1320b-2bx, 1320b-2by, 1320b-2bz, 1320b-2ca, 1320b-2cb, 1320b-2cc, 1320b-2cd, 1320b-2ce, 1320b-2cf, 1320b-2cg, 1320b-2ch, 1320b-2ci, 1320b-2cj, 1320b-2ck, 1320b-2cl, 1320b-2cm, 1320b-2cn, 1320b-2co, 1320b-2cp, 1320b-2cq, 1320b-2cr, 1320b-2cs, 1320b-2ct, 1320b-2cu, 1320b-2cv, 1320b-2cw, 1320b-2cx, 1320b-2cy, 1320b-2cz, 1320b-2da, 1320b-2db, 1320b-2dc, 1320b-2dd, 1320b-2de, 1320b-2df, 1320b-2dg, 1320b-2dh, 1320b-2di, 1320b-2dj, 1320b-2dk, 1320b-2dl, 1320b-2dm, 1320b-2dn, 1320b-2do, 1320b-2dp, 1320b-2dq, 1320b-2dr, 1320b-2ds, 1320b-2dt, 1320b-2du, 1320b-2dv, 1320b-2dw, 1320b-2dx, 1320b-2dy, 1320b-2dz, 1320b-2ea, 1320b-2eb, 1320b-2ec, 1320b-2ed, 1320b-2ee, 1320b-2ef, 1320b-2eg, 1320b-2eh, 1320b-2ei, 1320b-2ej, 1320b-2ek, 1320b-2el, 1320b-2em, 1320b-2en, 1320b-2eo, 1320b-2ep, 1320b-2eq, 1320b-2er, 1320b-2es, 1320b-2et, 1320b-2eu, 1320b-2ev, 1320b-2ew, 1320b-2ex, 1320b-2ey, 1320b-2ez, 1320b-2fa, 1320b-2fb, 1320b-2fc, 1320b-2fd, 1320b-2fe, 1320b-2ff, 1320b-2fg, 1320b-2fh, 1320b-2fi, 1320b-2fj, 1320b-2fk, 1320b-2fl, 1320b-2fm, 1320b-2fn, 1320b-2fo, 1320b-2fp, 1320b-2fq, 1320b-2fr, 1320b-2fs, 1320b-2ft, 1320b-2fu, 1320b-2fv, 1320b-2fw, 1320b-2fx, 1320b-2fy, 1320b-2fz, 1320b-2ga, 1320b-2gb, 1320b-2gc, 1320b-2gd, 1320b-2ge, 1320b-2gf, 1320b-2gg, 1320b-2gh, 1320b-2gi, 1320b-2gj, 1320b-2gk, 1320b-2gl, 1320b-2gm, 1320b-2gn, 1320b-2go, 1320b-2gp, 1320b-2gq, 1320b-2gr, 1320b-2gs, 1320b-2gt, 1320b-2gu, 1320b-2gv, 1320b-2gw, 1320b-2gx, 1320b-2gy, 1320b-2gz, 1320b-2ha, 1320b-2hb, 1320b-2hc, 1320b-2hd, 1320b-2he, 1320b-2hf, 1320b-2hg, 1320b-2hh, 1320b-2hi, 1320b-2hj, 1320b-2hk, 1320b-2hl, 1320b-2hm, 1320b-2hn, 1320b-2ho, 1320b-2hp, 1320b-2hq, 1320b-2hr, 1320b-2hs, 1320b-2ht, 1320b-2hu, 1320b-2hv, 1320b-2hw, 1320b-2hx, 1320b-2hy, 1320b-2hz, 1320b-2ia, 1320b-2ib, 1320b-2ic, 1320b-2id, 1320b-2ie, 1320b-2if, 1320b-2ig, 1320b-2ih, 1320b-2ii, 1320b-2ij, 1320b-2ik, 1320b-2il, 1320b-2im, 1320b-2in, 1320b-2io, 1320b-2ip, 1320b-2iq, 1320b-2ir, 1320b-2is, 1320b-2it, 1320b-2iu, 1320b-2iv, 1320b-2iw, 1320b-2ix, 1320b-2iy, 1320b-2iz, 1320b-2ja, 1320b-2jb, 1320b-2jc, 1320b-2jd, 1320b-2je, 1320b-2jf, 1320b-2jg, 1320b-2jh, 1320b-2ji, 1320b-2jj, 1320b-2jk, 1320b-2jl, 1320b-2jm, 1320b-2jn, 1320b-2jo, 1320b-2jp, 1320b-2jq, 1320b-2jr, 1320b-2js, 1320b-2jt, 1320b-2ju, 1320b-2jv, 1320b-2jw, 1320b-2jx, 1320b-2jy, 1320b-2jz, 1320b-2ka, 1320b-2kb, 1320b-2kc, 1320b-2kd, 1320b-2ke, 1320b-2kf, 1320b-2kg, 1320b-2kh, 1320b-2ki, 1320b-2kj, 1320b-2kl, 1320b-2km, 1320b-2kn, 1320b-2ko, 1320b-2kp, 1320b-2kq, 1320b-2kr, 1320b-2ks, 1320b-2kt, 1320b-2ku, 1320b-2kv, 1320b-2kw, 1320b-2kx, 1320b-2ky, 1320b-2kz, 1320b-2la, 1320b-2lb, 1320b-2lc, 1320b-2ld, 1320b-2le, 1320b-2lf, 1320b-2lg, 1320b-2lh, 1320b-2li, 1320b-2lj, 1320b-2lk, 1320b-2ll, 1320b-2lm, 1320b-2ln, 1320b-2lo, 1320b-2lp, 1320b-2lq, 1320b-2lr, 1320b-2ls, 1320b-2lt, 1320b-2lu, 1320b-2lv, 1320b-2lw, 1320b-2lx, 1320b-2ly, 1320b-2lz, 1320b-2ma, 1320b-2mb, 1320b-2mc, 1320b-2md, 1320b-2me, 1320b-2mf, 1320b-2mg, 1320b-2mh, 1320b-2mi, 1320b-2mj, 1320b-2mk, 1320b-2ml, 1320b-2mn, 1320b-2mo, 1320b-2mp, 1320b-2mq, 1320b-2mr, 1320b-2ms, 1320b-2mt, 1320b-2mu, 1320b-2mv, 1320b-2mw, 1320b-2mx, 1320b-2my, 1320b-2mz, 1320b-2na, 1320b-2nb, 1320b-2nc, 1320b-2nd, 1320b-2ne, 1320b-2nf, 1320b-2ng, 1320b-2nh, 1320b-2ni, 1320b-2nj, 1320b-2nk, 1320b-2nl, 1320b-2nm, 1320b-2nn, 1320b-2no, 1320b-2np, 1320b-2nq, 1320b-2nr, 1320b-2ns, 1320b-2nt, 1320b-2nu, 1320b-2nv, 1320b-2nw, 1320b-2nx, 1320b-2ny, 1320b-2nz, 1320b-2oa, 1320b-2ob, 1320b-2oc, 1320b-2od, 1320b-2oe, 1320b-2of, 1320b-2og, 1320b-2oh, 1320b-2oi, 1320b-2oj, 1320b-2ok, 1320b-2ol, 1320b-2om, 1320b-2on, 1320b-2oo, 1320b-2op, 1320b-2oq, 1320b-2or, 1320b-2os, 1320b-2ot, 1320b-2ou, 1320b-2ov, 1320b-2ow, 1320b-2ox, 1320b-2oy, 1320b-2oz, 1320b-2pa, 1320b-2pb, 1320b-2pc, 1320b-2pd, 1320b-2pe, 1320b-2pf, 1320b-2pg, 1320b-2ph, 1320b-2pi, 1320b-2pj, 1320b-2pk, 1320b-2pl, 1320b-2pm, 1320b-2pn, 1320b-2po, 1320b-2pp, 1320b-2pq, 1320b-2pr, 1320b-2ps, 1320b-2pt, 1320b-2pu, 1320b-2pv, 1320b-2pw, 1320b-2px, 1320b-2py, 1320b-2pz, 1320b-2qa, 1320b-2qb, 1320b-2qc, 1320b-2qd, 1320b-2qe, 1320b-2qf, 1320b-2qg, 1320b-2qh, 1320b-2qi, 1320b-2qj, 1320b-2qk, 1320b-2ql, 1320b-2qm, 1320b-2qn, 1320b-2qo, 1320b-2qp, 1320b-2qq, 1320b-2qr, 1320b-2qs, 1320b-2qt, 1320b-2qu, 1320b-2qv, 1320b-2qw, 1320b-2qx, 1320b-2qy, 1320b-2qz, 1320b-2ra, 1320b-2rb, 1320b-2rc, 1320b-2rd, 1320b-2re, 1320b-2rf, 1320b-2rg, 1320b-2rh, 1320b-2ri, 1320b-2rj, 1320b-2rk, 1320b-2rl, 1320b-2rm, 1320b-2rn, 1320b-2ro, 1320b-2rp, 1320b-2rq, 1320b-2rr, 1320b-2rs, 1320b-2rt, 1320b-2ru, 1320b-2rv, 1320b-2rw, 1320b-2rx, 1320b-2ry, 1320b-2rz, 1320b-2sa, 1320b-2sb, 1320b-2sc, 1320b-2sd, 1320b-2se, 1320b-2sf, 1320b-2sg, 1320b-2sh, 1320b-2si, 1320b-2sj, 1320b-2sk, 1320b-2sl, 1320b-2sm, 1320b-2sn, 1320b-2so, 1320b-2sp, 1320b-2sq, 1320b-2sr, 1320b-2ss, 1320b-2st, 1320b-2su, 1320b-2sv, 1320b-2sw, 1320b-2sx, 1320b-2sy, 1320b-2sz, 1320b-2ta, 1320b-2tb, 1320b-2tc, 1320b-2td, 1320b-2te, 1320b-2tf, 1320b-2tg, 1320b-2th, 1320b-2ti, 1320b-2tj, 1320b-2tk, 1320b-2tl, 1320b-2tm, 1320b-2tn, 1320b-2to, 1320b-2tp, 1320b-2tq, 1320b-2tr, 1320b-2ts, 1320b-2tt, 1320b-2tu, 1320b-2tv, 1320b-2tw, 1320b-2tx, 1320b-2ty, 1320b-2tz, 1320b-2ua, 1320b-2ub, 1320b-2uc, 1320b-2ud, 1320b-2ue, 1320b-2uf, 1320b-2ug, 1320b-2uh, 1320b-2ui, 1320b-2uj, 1320b-2uk, 1320b-2ul, 1320b-2um, 1320b-2un, 1320b-2uo, 1320b-2up, 1320b-2uq, 1320b-2ur, 1320b-2us, 1320b-2ut, 1320b-2uu, 1320b-2uv, 1320b-2uw, 1320b-2ux, 1320b-2uy, 1320b-2uz, 1320b-2va, 1320b-2vb, 1320b-2vc, 1320b-2vd, 1320b-2ve, 1320b-2vf, 1320b-2vg, 1320b-2vh, 1320b-2vi, 1320b-2vj, 1320b-2vk, 1320b-2vl, 1320b-2vm, 1320b-2vn, 1320b-2vo, 1320b-2vp, 1320b-2vq, 1320b-2vr, 1320b-2vs, 1320b-2vt, 1320b-2vu, 1320b-2vv, 1320b-2vw, 1320b-2vx, 1320b-2vy, 1320b-2vz, 1320b-2wa, 1320b-2wb, 1320b-2wc, 1320b-2wd, 1320b-2we, 1320b-2wf, 1320b-2wg, 1320b-2wh, 1320b-2wi, 1320b-2wj, 1320b-2wk, 1320b-2wl, 1320b-2wm, 1320b-2wn, 1320b-2wo, 1320b-2wp, 1320b-2wq, 1320b-2wr, 1320b-2ws, 1320b-2wt, 1320b-2wu, 1320b-2wv, 1320b-2wz, 1320b-2xa, 1320b-2xb, 1320b-2xc, 1320b-2xd, 1320b-2xe, 1320b-2xf, 1320b-2xg, 1320b-2xh, 1320b-2xi, 1320b-2xj, 1320b-2xk, 1320b-2xl, 1320b-2xm, 1320b-2xn, 1320b-2xo, 1320b-2xp, 1320b-2xq, 1320b-2xr, 1320b-2xs, 1320b-2xt, 1320b-2xu, 1320b-2xv, 1320b-2xw, 1320b-2xx, 1320b-2xy, 1320b-2xz, 1320b-2ya, 1320b-2yb, 1320b-2yc, 1320b-2yd, 1320b-2ye, 1320b-2yf, 1320b-2yg, 1320b-2yh, 1320b-2yi, 1320b-2yj, 1320b-2yk, 1320b-2yl, 1320b-2ym, 1320b-2yn, 1320b-2yo, 1320b-2yp, 1320b-2yq, 1320b-2yr, 1320b-2ys, 1320b-2yt, 1320b-2yu, 1320b-2yv, 1320b-2yw, 1320b-2yx, 1320b-2yy, 1320b-2yz, 1320b-2za, 1320b-2zb, 1320b-2zc, 1320b-2zd, 1320b-2ze, 1320b-2zf, 1320b-2zg, 1320b-2zh, 1320b-2zi, 1320b-2zj, 1320b-2zk, 1320b-2zl, 1320b-2zm, 1320b-2zn, 1320b-2zo, 1320b-2zp, 1320b-2zq, 1320b-2zr, 1320b-2zs, 1320b-2zt, 1320b-2zu, 1320b-2zv, 1320b-2zw, 1320b-2zx, 1320b-2zy, 1320b-2zz



What about HIE?



Isn't that the perspective we're talking about?



Health Information Exchange

Trusted forum for convening stakeholders to develop consensus approaches to solve healthcare problems through information and interoperability

Technology



Access, Exchange, and Use

Complete secure access, exchange, and use of all electronically accessible health information without special effort on the part of the user





So what?

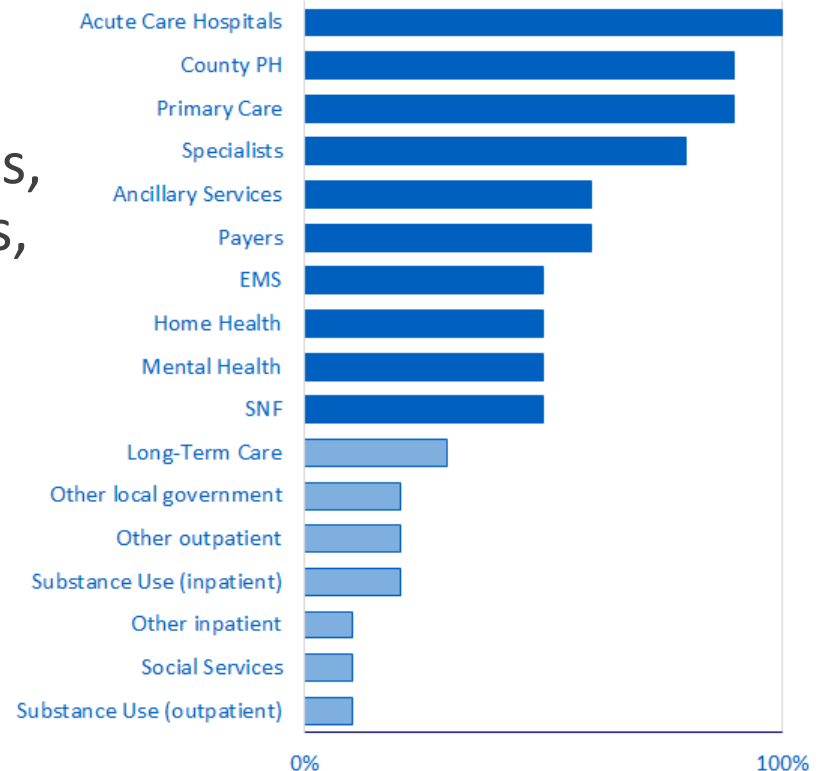


What is the value to the veteran?



Access, Exchange, and Use

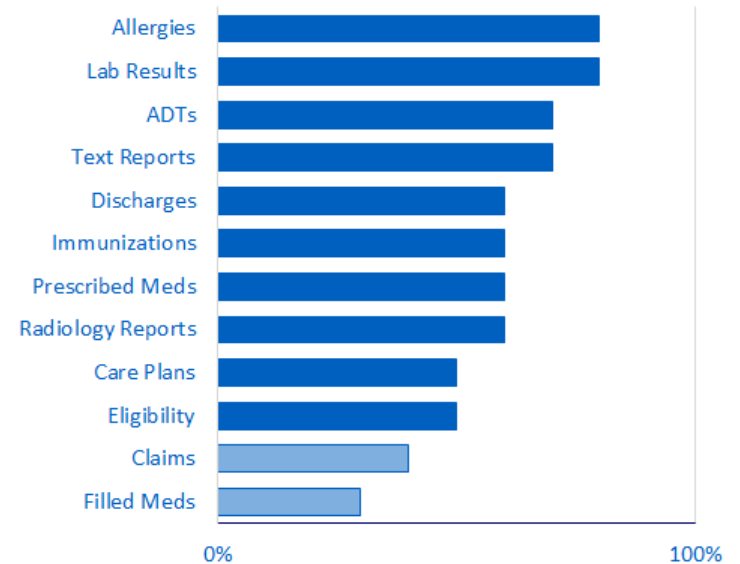
1. HIE is the means by which different specialties, care settings, and organization access, exchange, and use information





Access, Exchange, and Use

- 2. HIE is expanding the data types that can be accessed, exchanged, and used





Access, Exchange, and Use

- 3. HIE is the means for translating between disparate standards and core capabilities/functions
- 4. HIE enables innovation





Access, Exchange, and Use

5. HIE (and community information exchange or CIE) is the means for accessing, exchanging, and using information with community services and care systems
 - Population health analytics
 - Closed-loop referrals to social services
 - Integration with corrections, EMS, community paramedicine





Scheduling

Emerging FHIR standards

- RESTful APIs for accessing data
- Simple JSON data representations
- Resources that support
 - Scheduling interactions
 - Encounter notifications
 - Referrals and other care transitions
- Supports minimum necessary HIPAA requirements
- Industry excitement, government encouragement
- Da Vinci Project guidance





HIE as a partial solution...

- Interoperable** accessing, exchanging, and using electronic health information
- Enabling** without special effort on the part of the user
- Trusted** without discouraging or restricting authorized access
- Innovating** encouraging innovations and advancements



Things to watch...

- APIs for patient access of health information in the ONC NPRM and CMS NPRM
- Broader scope for information blocking in the 21st Century Cures Act that holds the promise of wider information sharing
- Da Vinci Project use cases on payer and provider exchange that will likely define implementation guidance and create reference implementations for patient access and scheduling



Questions?





Contact Information

Robert M. Cothren, PhD

Executive Director

California Association of Health Information Exchanges

- p** (925) 934-2280
- e** robert.cothren@ca-hie.org
- w** <http://www.ca-hie.org>