

Breakout Session C: Strategic Partnership-Integrating Pharmacy Throughout Rural Arizona

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Community Plan

Friday, February 3, 2017

Breakout Sessions Sponsored By:



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Strategic Partnership: Integrating Pharmacy Throughout Rural Arizona

ARIZONA **Poison and Drug** **Information Center**



1-800-222-1222

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History of US Poison Centers

- 1940's
 - Large increase in types of medications
 - First specialized “Toxicology Ward” in Budapest
 - First Drug Information Center in Netherlands
- 1953 - First U.S. Poison Center opens in Chicago, IL
- 1955 - Second U.S. Poison Center opens in Tucson, Arizona
- 1978 - 661 U.S. Poison Centers (no regulation)
- 2015 – 55 U.S. Poison Centers

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American Association of Poison Control Centers

- 1958 – AAPCC established to help regulate centers
- 1962 – President Kennedy established a National Poison Prevention Week
 - 3rd week of March
- 2002 – U.S. Federal Government did two things
 - Funded about \$28 million/year
 - Established a toll-free number

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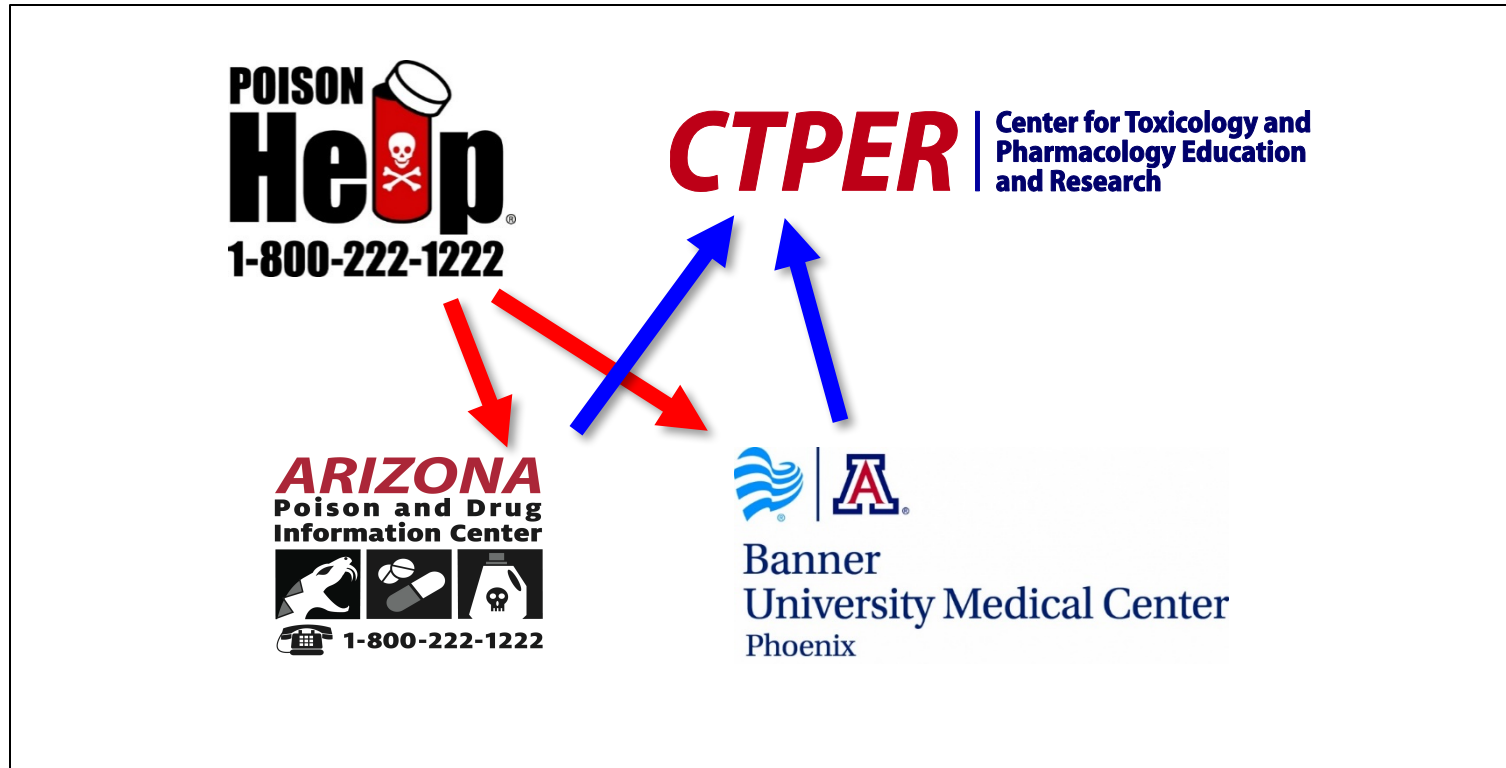
Who we are - LOGOS

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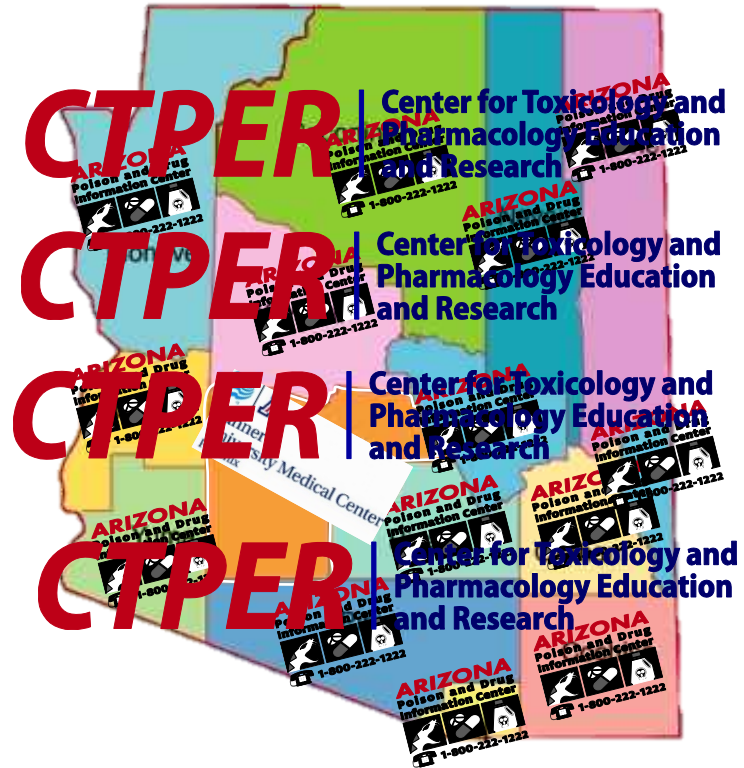


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Service Area



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Toxicology History

- Paracelsus

“Poison is in everything, and no thing is without poison.
The dosage makes it either a poison or a remedy.”





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Why call a poison center

- If the dose makes the poison and everything is a poison, the poison center gets called about EVERYTHING.
- Legos, Button Batteries
- Adverse Drug Reactions
- Suicide attempts
- Envenomations
- Tiger Bites



Arizona Poison and Drug Information System (AzPDIS)

- >300,000 calls annually
 - 60/40 split of outgoing to incoming calls
- Staff
 - 37 SPIs (Nurses and Pharmacists)
 - 15 PIPs (medics and pharmacy students)
 - Managing Directors
 - Medical Directors
 - Medical Toxicologists
 - Educators
 - Genetic Counselors

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AzPDIS - Services

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- Public Service
 - Free
 - 24/7
 - Confidential
- Healthcare Providers
 - Home management
 - Hospital management
 - Toxicology consult service
 - Toxicology inpatient service
- Research
 - Rattlesnake & Scorpion AV
 - Exposure Trends
 - Case reports/series
- Education
 - Medical, Pharmacy, Nursing
 - MD/PharmD Fellowships
 - Public





Cost Benefit

- Both poison centers manage 70% of cases at home
 - 90% of cases that start at home, stay home
- 70% of these would have gone to the ER
 - At \$1150 per ER visit
- **Total savings over \$45 million/year**
- Other cost benefits
 - Decrease length of stay by 1-3 days
 - Poison Prevention

Cost Benefit

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	United States	Arizona
Human Exposures	>2.1 million	>72,000
Exposures/1,000 residents	7.55	11.29
Savings to Population Served	\$1.82 Billion	>\$45 million
Savings per resident	\$5.77	>\$7.09

NPDS

- National Poison Data System
- AAPCC and CDC joint venture
- ALL poison centers upload cases (average every 8 minutes)
- NPDS Goals
 - Identify injury patterns
 - Monitor product safety
 - Conduct post marketing surveillance
 - Detect chemical exposure events
 - Improve public health surveillance

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NPDS

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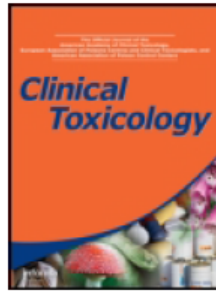


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- Publish an annual report in Clinical Toxicology in December of the following year



Clinical Toxicology



ISSN: 1556-3650 (Print) 1556-9519 (Online) Journal homepage: <http://www.tandfonline.com/loi/ictx20>



2014 Annual Report of the American Association
of Poison Control Centers' National Poison Data
System (NPDS): 32nd Annual Report

NPDS



Table 1A. AAPCC Population Served and Reported Exposures (1983–2014).

Year	No. of participating centers	Population served (in millions)	Human exposures	Exposures per thousand population
1983	16	43.1	251,012	5.8
1984	47	99.8	730,224	7.3
1985	56	113.6	900,513	7.9
1986	57	132.1	1,098,894	8.3
1987	63	137.5	1,166,940	8.5
1988	64	155.7	1,368,748	8.8
1989	70	182.4	1,581,540	8.7
1990	72	191.7	1,713,462	8.9
1991	73	200.7	1,837,939	9.2
1992	68	196.7	1,864,188	9.5
1993	64	181.3	1,751,476	9.7
1994	65	215.9	1,926,438	8.9
1995	67	218.5	2,023,089	9.3
1996	67	232.3	2,155,952	9.3
1997	66	250.1	2,192,088	8.8
1998	65	257.5	2,241,082	8.7
1999	64	260.9	2,201,156	8.4
2000	63	270.6	2,168,248	8.0
2001	64	281.3	2,267,979	8.1
2002	64	291.6	2,380,028	8.2
2003	64	294.7	2,395,582	8.1
2004	62	293.7	2,438,643	8.3
2005	61	296.4	2,424,180	8.2
2006	61	299.4	2,403,539	8.0
2007	61	305.6	2,482,041	8.1
2008	61	308.5 ^b	2,491,049	8.1
2009	60	310.9 ^b	2,479,355	8.0
2010	60 ^a	313.3 ^b	2,384,825	7.6
2011	57 ^c	315.7 ^b	2,334,004	7.4
2012	57	318.0 ^b	2,275,141	7.2
2013	57 ^d	320.2 ^e	2,188,013	6.8
2014	56 ^d	322.9 ^f	2,165,142	6.7
Total			62,282,510	

2012	57	318.0 ^b	2,275,141	7.2
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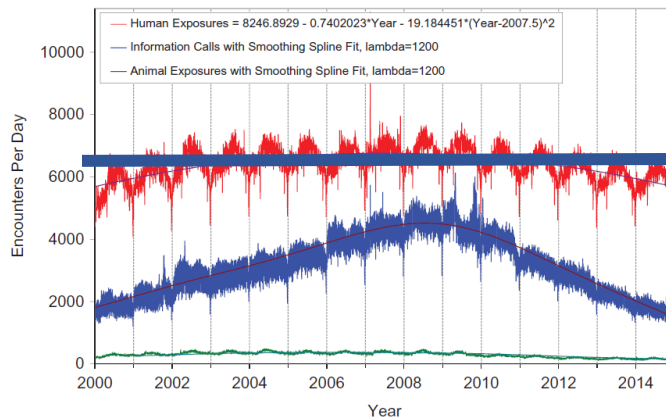
- 2.1 million exposures
- 663k information calls
- 2.7 million incoming calls



NPDS



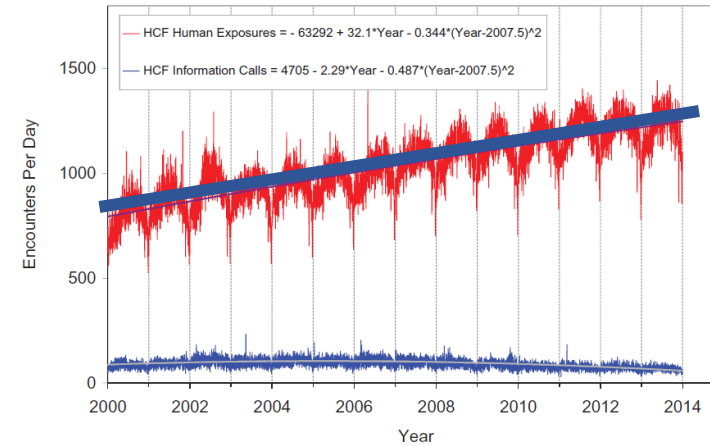
Exposures Calls Information Calls



Both linear and second order (quadratic) terms were statistically significant for least-squares second order regressions of Human Exposures (RSqr = 0.377). Smoothing spline fit with lambda=1200 was used for Information Calls (RSqr = 0.768) and Animal Exposures (RSqr = 0.882).

Figure 1. Human Exposure Cases, Information Calls and Animal Exposure Cases by Day since 1 January 2000.

HCF Exposure Calls HCF Information Calls



Regression lines show least-squares second order regressions for HCF Exposure (RSqr = 0.692) and HCF Information Calls (RSqr = 0.281). All terms shown were statistically significant for each of the 2 regressions.

Figure 3. Health Care Facility (HCF) Exposure Cases and HCF Information Calls by Day since 1 January 2000.



NPDS



Table 17A. Substance Categories Most Frequently Involved in Human Exposures (Top 25).

Substance (Major Generic Category)	All substances	% ^a
Analgesics	291,062	11.29
Cosmetics/Personal Care Products	199,291	7.73
Cleaning Substances (Household)	198,018	7.68
Sedative/Hypnotics/Antipsychotics	150,715	5.85
Antidepressants	112,412	4.36
Antihistamines	103,327	4.01
Cardiovascular Drugs	102,170	3.96
Foreign Bodies/Toys/Miscellaneous	99,835	3.87
Pesticides	83,005	3.22
Topical Preparations	82,819	3.21
Alcohols	68,648	2.66
Vitamins	66,058	2.56
Cold and Cough Preparations	61,288	2.38
Stimulants and Street Drugs	59,869	2.32
Anticonvulsants	56,832	2.20
Hormones and Hormone Antagonists	56,775	2.20
Antimicrobials	56,726	2.20
Bites and Envenomations	55,017	2.13
Gastrointestinal Preparations	48,501	1.88
Plants	44,731	1.74
Dietary Supplements/Herbals/Homeopathic	42,535	1.65
Chemicals	38,975	1.51
Fumes/Gases/Vapors	33,944	1.32
Other/Unknown Nondrug Substances	32,001	1.24
Hydrocarbons	31,903	1.24

^aPercentages are based on the total number of substances reported in all exposures (N = 2,57

^bPercentages are based on the total number of single substance exposures (N = 1,925,657)

1. Analgesics
2. Cosmetics
3. Cleaning Products
4. Sedative/Hypnotics
5. Antidepressants

18. Bites and Stings

COMMUNITY INTEGRATED PARAMEDICINE



MORE INFORMATION, CALL 520.761.0104



Carondelet. Be well.

WITH GRANT SUPPORT FROM THE HEALTH RESOURCES AND SERVICES ADMINISTRATION FEDERAL OFFICE OF RURAL HEALTH POLICY (GRANT #D04RH28429)

Why Rx Partnership?

- Not just about Santa Cruz County
 - We all see:
 - The basket of medications
 - Gaps in healthcare communication
 - Various medical providers
 - Current and future opportunities for partnership
 - Considering Health Information Exchange

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SANTA CRUZ COUNTY AT A GLANCE



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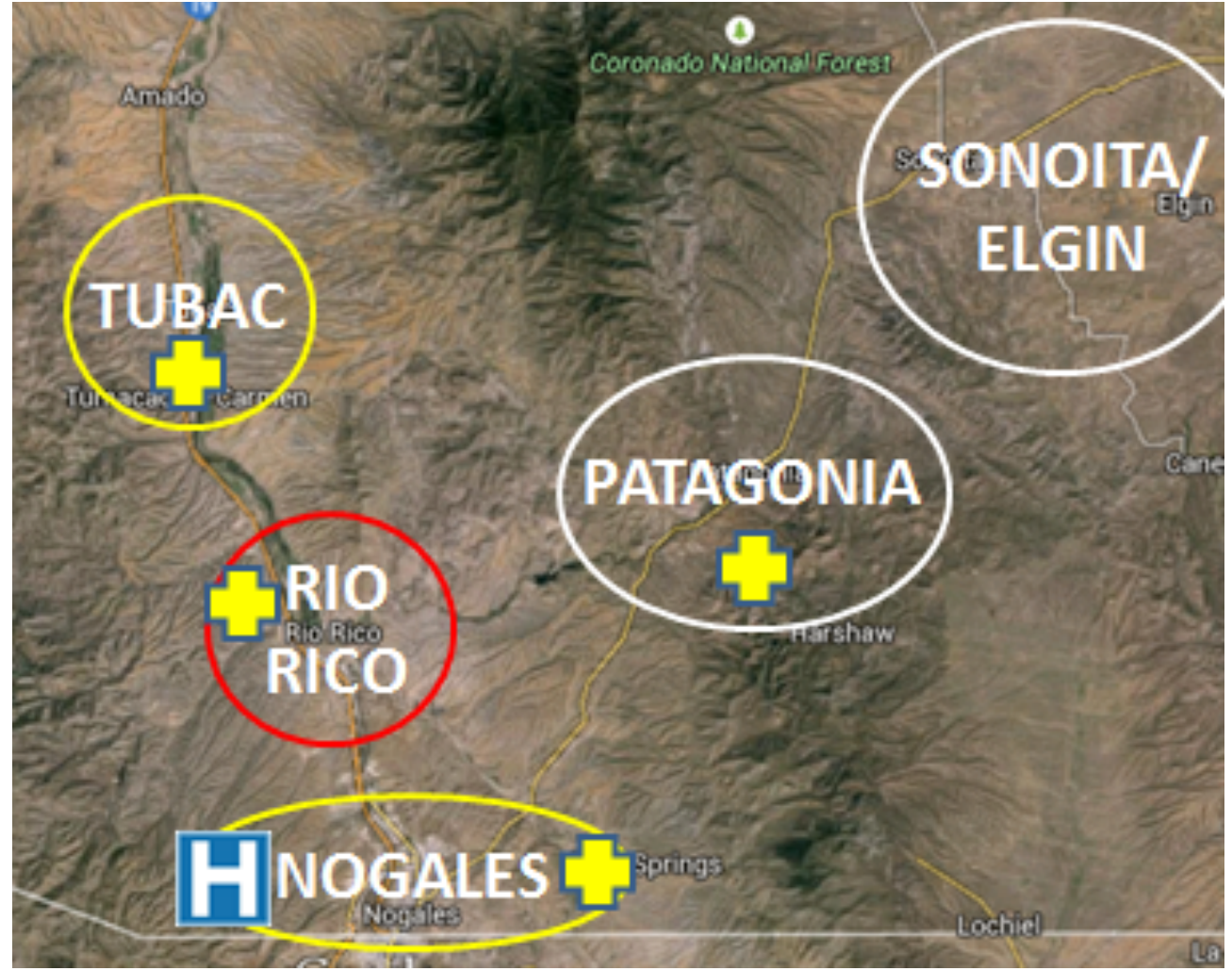


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Shared Objectives

- ↑ Participants adhering to R by 50%
- ↓ Participant 911 calls for falls at home by 50%
- Achieve Participant satisfaction rate $\geq 95\%$
- ↑ Participants with PCP by 50%
- ↓ Participant low acuity ED transports by 50%
- ↓ Participant hospital readmissions by 50%
- Realize \$ savings across system of care

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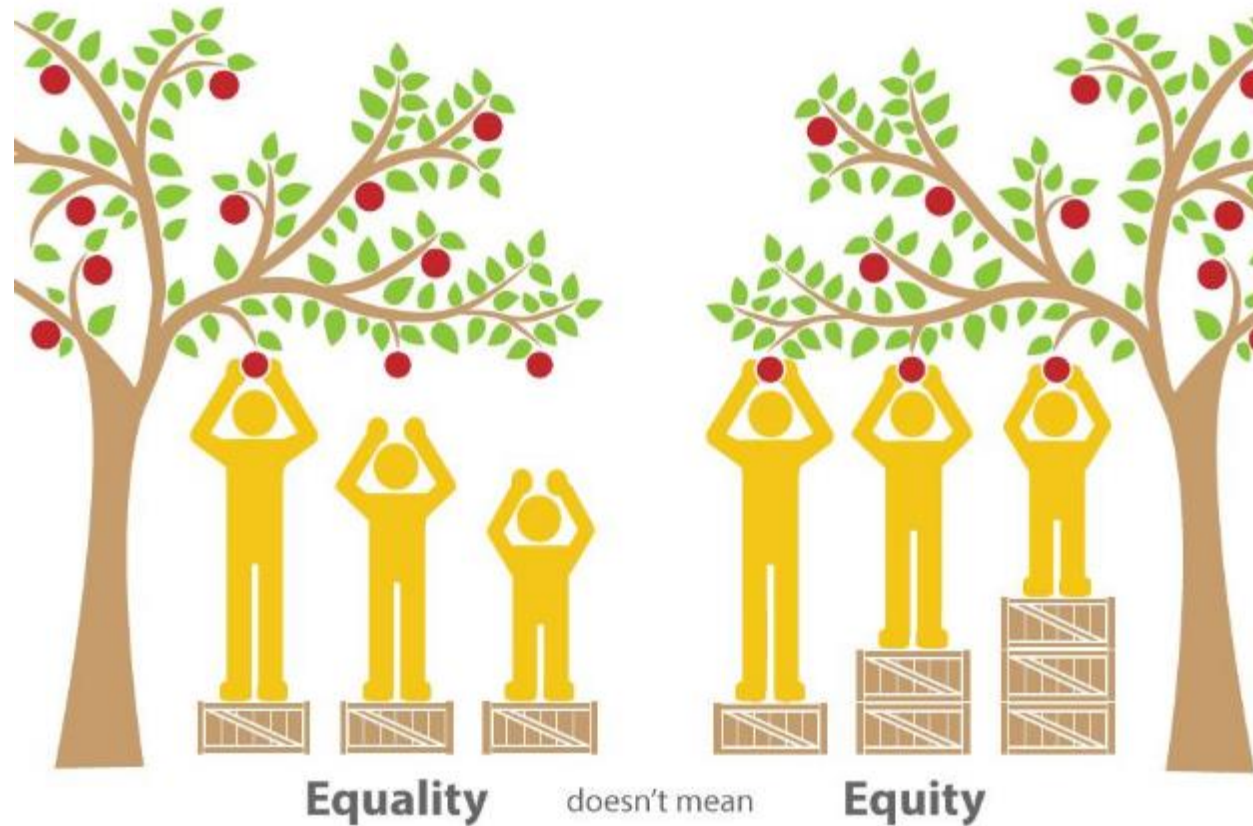


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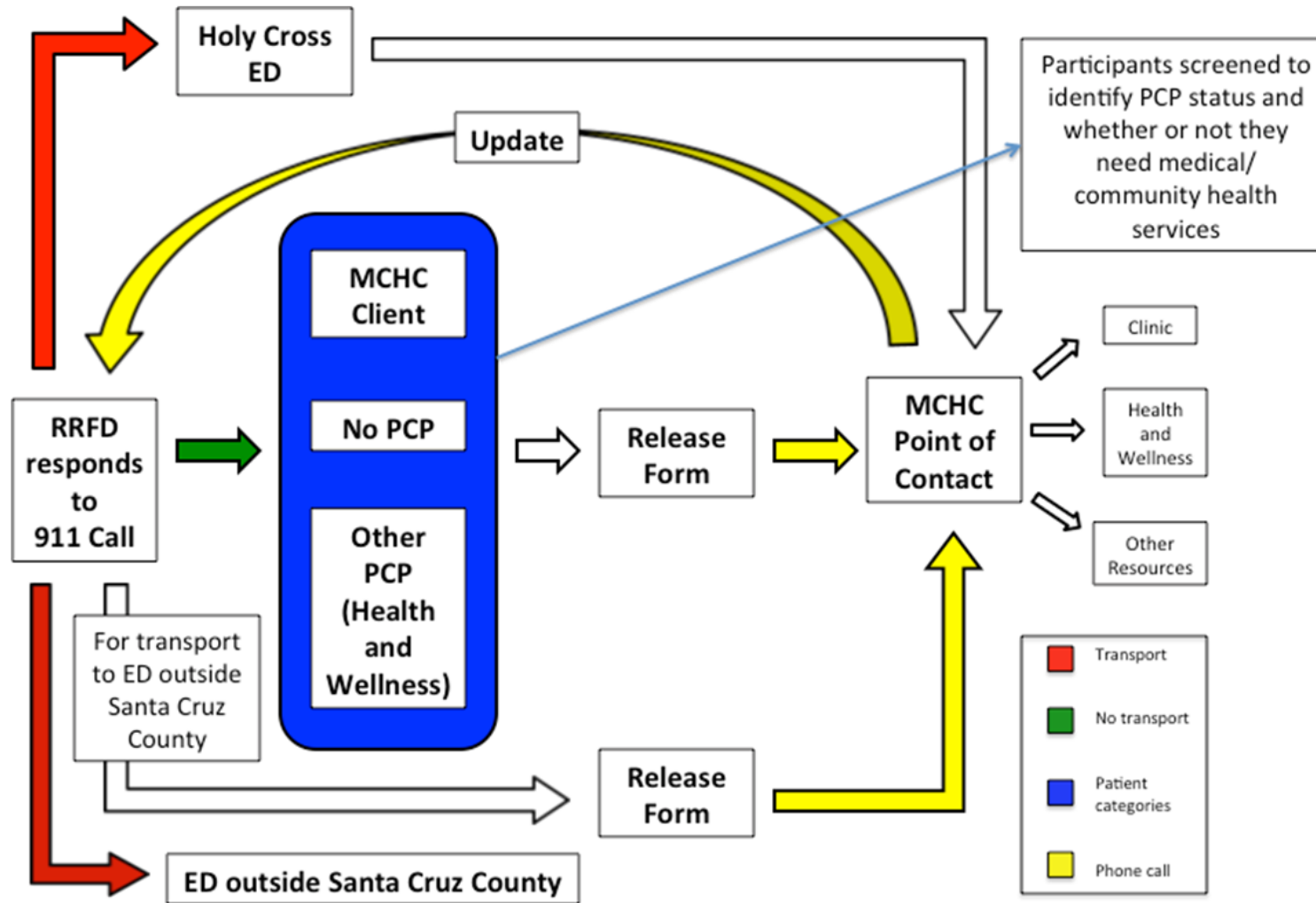
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Equity



Resources: <https://publichealthatpenn.wordpress.com/2015/03/18/health-equity-a-dream-or-an-achievable-goal/>
<https://youtu.be/ZPVwgnp3dAc>



- █ Transport
- █ No transport
- █ Patient categories
- █ Phone call



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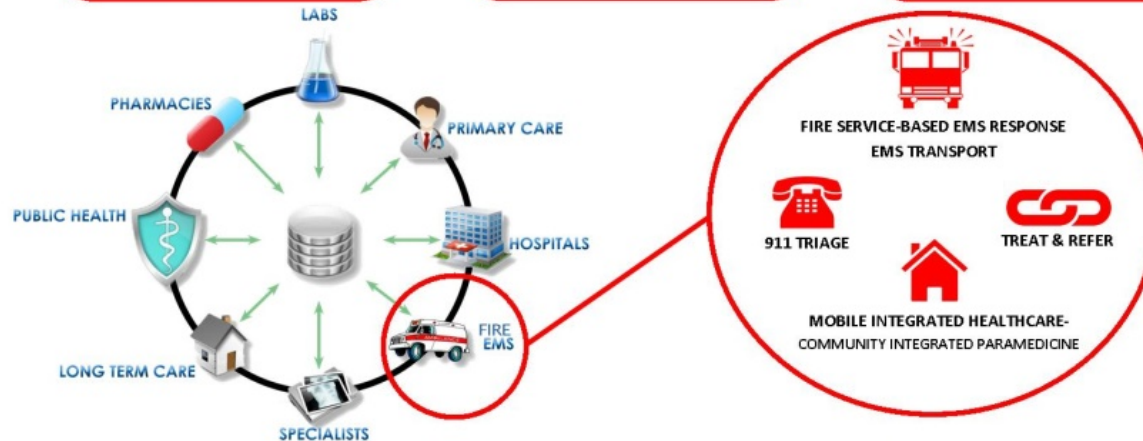
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Fire Service/Emergency Medical Services (EMS) & the Health Information Exchange (HIE)

Through connection to the HIE, fire-service based and other EMS providers may strengthen health system partnerships to transform the way patient care is delivered. HIE tools support fostering increased communication among providers and patients, improving the ability to access and analyze information, and reducing healthcare costs.

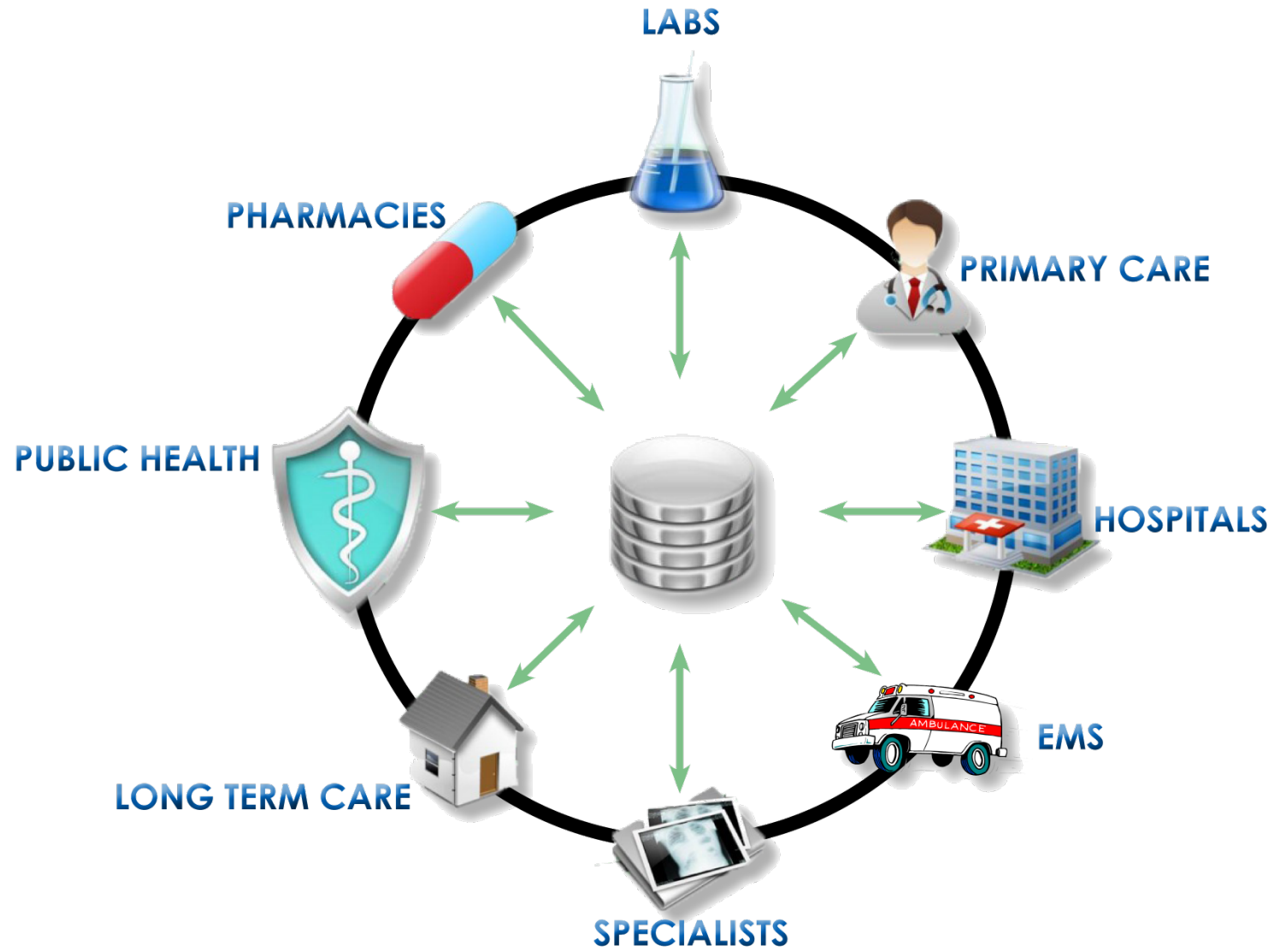
Select HIE Tools to Help Meet the IHI Triple Aim:



Arizona Health-e Connection is a public-private partnership that improves health and wellness by advancing secure and private sharing of electronic health information.

A statewide non-profit, AzHeC drives the adoption and optimization of health information technology (HIT) and health information exchange (HIE).

Contact the Arizona Health-e Connection: 602.688.7200 | info@azhec.org | azhec.org





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Active Medications		
MEDICATION	SIG	START/STOP
AmLODIPine Besylate 5 MG Oral Tablet	5mg 1x day	12/01/16 -
Aspirin 81 MG Oral Tablet Chewable	81mg, 1 tablet every morning (heart/blood thinner) Prescriber: John Knoblock	-
Doxazosin Mesylate 4 MG Oral Tablet	4mg 1x day	12/01/16 -
Furosemide 40 MG Oral Tablet	40MG 1x at night as needed (diuretic). Prescriber: Gloria Acosta	-
Losartan Potassium 100 MG Oral Tablet	100mg 1x day	12/01/16 -
Nebivolol HCl (Bystolic) 10 MG Oral Tablet	2 tablets, 1x daily for blood pressure. Prescriber: Nikila Kumer	-
Nitroglycerin (Nitrostat) 0.4 MG Sublingual Tablet Sublingual	0.4mg	12/01/16 -
Omeprazole 10 MG Oral Capsule Delayed Release	20mg, 1-2x a day (esophagus/heart burn) Prescriber: Nathan Kellis	03/23/16 -

Arizona Health Connection
The Network

Patients

Patient Actions
Refresh List

Advanced Filter: Patients

Search Type My Patients All Patients [Clear Search Criteria](#)

Search Requirements:
• First Name and Last Name and Date of Birth

Reason For Search
Search Reason*

Demographic Search

Last Name* Gender

First Name* Date of Birth*

Street 1 Street 2

City State

Country ZIP Code

Identifier Search

Patient Alias Insurance Plan ID

Phone Number

Results 100



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Clinical Pharmacist Interaction

- Training
- Focus of a Pharmacist
- Review and recommendations
- Types of issues encountered
- Barriers encountered

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Training

- Provided CHIPP personnel training about medications used for chronic diseases
 - Diabetes
 - CHF
 - HTN
 - Recent MI
 - COPD/Asthma
- Lecture format – part of the developed training curriculum
- Focus on medication specific information and disease related information

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Focus of a Pharmacist

- Adherence/Non-Adherence
 - Omission of doses
 - Taking in a way other than prescribed
 - Taking more
 - Feel better and then quit taking
- Estimated non-adherence rates range from 25-50%
- Estimated to cost \$100-300 billion of avoidable health care costs due to non-adherence

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Reasons for Non-Adherence

- It's complicated!
- Side effects
- Cost
- Unintentional (forget, did not get new info)
- Pharmacist works to try to identify and remove barriers

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Review and Recommendations

- Compare to patient, pharmacy, providers
- Look to resolve discrepancies and adherence issues
- Drug therapy recommendations to providers
- Follow up with the patients/education about drug and disease states
- Ongoing, not just a one time review

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Types of Issues

- Compliance and adherence
- Recommended change in therapy to avoid drug related side effects (FALLS)
- Regimen changes for polypharmacy
- Provide help for increasing adherence
- Recommending non-drug therapies
 - Nutrition
 - Balance/PT
 - Exercise
 - Sleep Hygiene
- Recommending coordination of medication services

Barriers Encountered

- Very passive approach to recommendations
- Interval of visits does not allow time to see changes
- Hard to attribute pharmacy involvement directly to outcomes

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Strategic Partnership: Integrating Pharmacy Throughout Rural Arizona

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Questions?

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