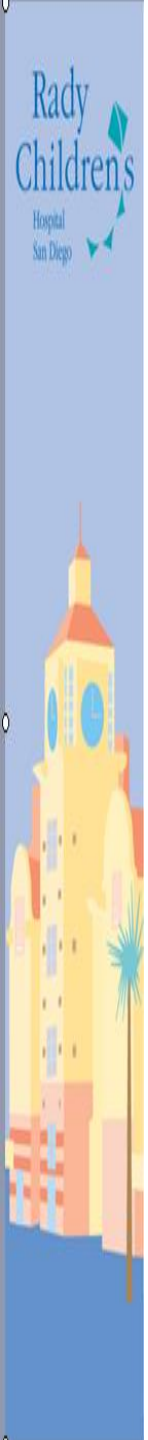


Child Abuse Pediatrics

Growth of a sub-specialty

ckuelbs@chsd.org

History

Tardieu

- French pathologist
- Associate professor of forensic medicine, Faculty of Medicine, University of Paris
- 1860 published “Forensic study on cruelty and the ill treatment of children”
- 32 cases child abuse and neglect – 18 fatal

Roche AJ et al, Child Abuse and Neglect. 2005 29 (4): 325-334

John Caffey

- 1895-1978
- Pediatrician who developed X-ray service at Babies Hospital in NYC
- Master of pediatric X-ray diagnosis
- Papers:
  - 1946 - Multiple fractures in the long bones of infants suffering from chronic subdural hematoma.
  - 1974 - The Whiplash Shaken Infant Syndrome: Manual Shaking by the Extremities With Whiplash-Induced Intracranial and Intraocular Bleedings, Linked With Residual Permanent Brain Damage and Mental Retardation

Frederic N. Silverman

- 1916-2006
- Recognized that spontaneous fractures in child with normal bones are caused by trauma
- The roentgen manifestations of unrecognized skeletal trauma in infants, *American Journal of Roentgenenology, Radium Therapy and Nuclear Medicine* **69** (1953), pp. 413–427.

C. Henry Kempe

- Pediatrician who brought to light “unrecognized trauma” in seminal 1962 paper
- Surveyed US hospitals and prosecutors in 1 year period
  - 71 hospitals - 302 cases – 33 deaths, 85 permanent brain injury
  - 77 prosecutors - 447 cases – 45 deaths, 29 permanent brain injury
    - Court action in 46%

Kempe CH et al, JAMA. 1962 181 (1): 17-24

The Battered-Child Syndrome

C. Henry Kempe, M.D., Denver, Frederic N. Silverman, M.D., Cincinnati, Brandt F. Steele, M.D., William Droegemueller, M.D., and Henry K. Silver, M.D., Denver

Physicians, because of their own feelings and their difficulty in playing a role that they find hard to assume, may have great reluctance in believing that parents were guilty of abuse. They may also find it difficult to initiate proper investigation so as to assure adequate management of the case. Above all, the physician's duty and responsibility to the child requires a full evaluation of the problem and a guarantee that the expected repetition of trauma will not be permitted to occur.

Kempe CH et al, JAMA. 1962
181 (1): 17-24

Sexual Abuse, Another Hidden Pediatric Problem: The 1977 C. Anderson Aldrich Lecture

C. Henry Kempe, M.D.

Pediatricians routinely try to find children who have hearing and speech problems. Should we not be equally open and ready, intellectually and emotionally, for the condition of incest, which is the last taboo?

Kempe CH, Pediatrics. 1978 62: 382-89

C. Henry Kempe

- In 1962 US physicians not reporting abuse even if serious unexplained injuries
- Advocated for mandated reporting laws in US
- 1963-67 every US state passed mandated reporting laws

Kempe CH et al, JAMA. 1962 181 (1): 17-24

Mandated Reporting

- Pros:
  - Detect maltreatment at early stage
  - Protect children
  - Facilitate services to families

- Cons:
  - Potential to over report non-abusive cases
  - Produce unsubstantiated reports
  - Diverts scarce resources from known cases

Mandated Reporting in the US

- Laws initially limited to medical professionals and suspected physical abuse
- Federal legislation 1974 (CAPTA):
  - Expanded reporting to other professionals
  - Added emotional, sexual, psychological abuse and neglect
  - No longer needed to qualify abuse as serious harm in order to report

Mandated Reporting in the US

- Child abuse and neglect:

  “at a minimum, any recent act or failure to act on the part of a parent or caretaker, which results in death, serious physical or emotional harm, sexual abuse or exploitation, or an act or failure to act which presents an imminent risk of serious harm”

Section 42 U.S.C.A. § 5106g(2)

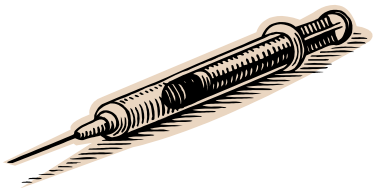
Costs

Health Consequences

- Adverse childhood experiences
  - Physical abuse
  - Emotional abuse
  - Sexual abuse
  - Alcoholic/drug abusing adult
  - Incarcerated adult
  - Depressed/suicidal adult
  - Domestic violence

Health Consequences

- Adverse childhood experiences lead to adult risk behaviors:
  - Smoking
  - Alcohol abuse
  - Intravenous drug use
  - Depression
  - Promiscuity
  - Overeating
  - Violence



Adult Health Consequences

- Obesity
- HIV/AIDS
- Cancer
- Heart disease
- Suicide
- Diabetes
- Lung disease

Costs of Head Trauma

Abused children vs. accidentally injured:

- Younger
- More severe injuries
- Higher mortality rate
- Increased length of stay
- Total bill 89% higher

Libby et al Ped 2003

Healthcare Costs

- Healthcare utilization higher if history of childhood abuse for use of mental health, outpatient, ED, primary care, specialty and pharmacy services
- If history of both SA and PA, 36% higher adjusted costs

Bonomi et al, J Gen Intern Med 2008

Healthcare Costs

- Healthcare utilization and costs higher for children of mothers with history IPV
- Significantly higher costs for mental health services, primary care visits/costs, lab costs
- If IPV ended prior to birth had greater use mental health, primary care, specialty care, pharmacy compared with no history IPV
- If IPV continued after birth, greater use ED, primary care, 3 times more likely to use mental health services after IPV ended

Rivara et al, Pediatrics, 2007

Child Protection Teams

The optimal approach to child maltreatment in healthcare settings

Child Protection Teams

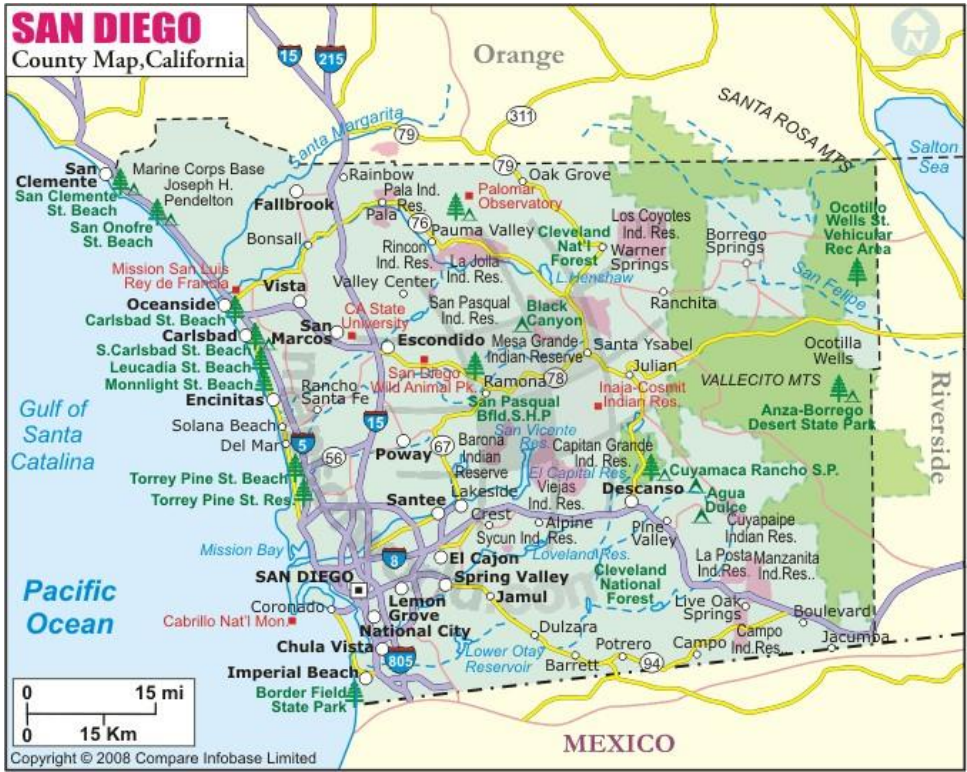
- Kempe founded first multidisciplinary hospital based team in 1958
- Goal to identify and treat child abuse and neglect
- Encouraged development of these teams in other children's hospitals
- Regular meetings to:
  - Discuss child abuse cases with hospital and community professionals
  - Coordinate care for abused children

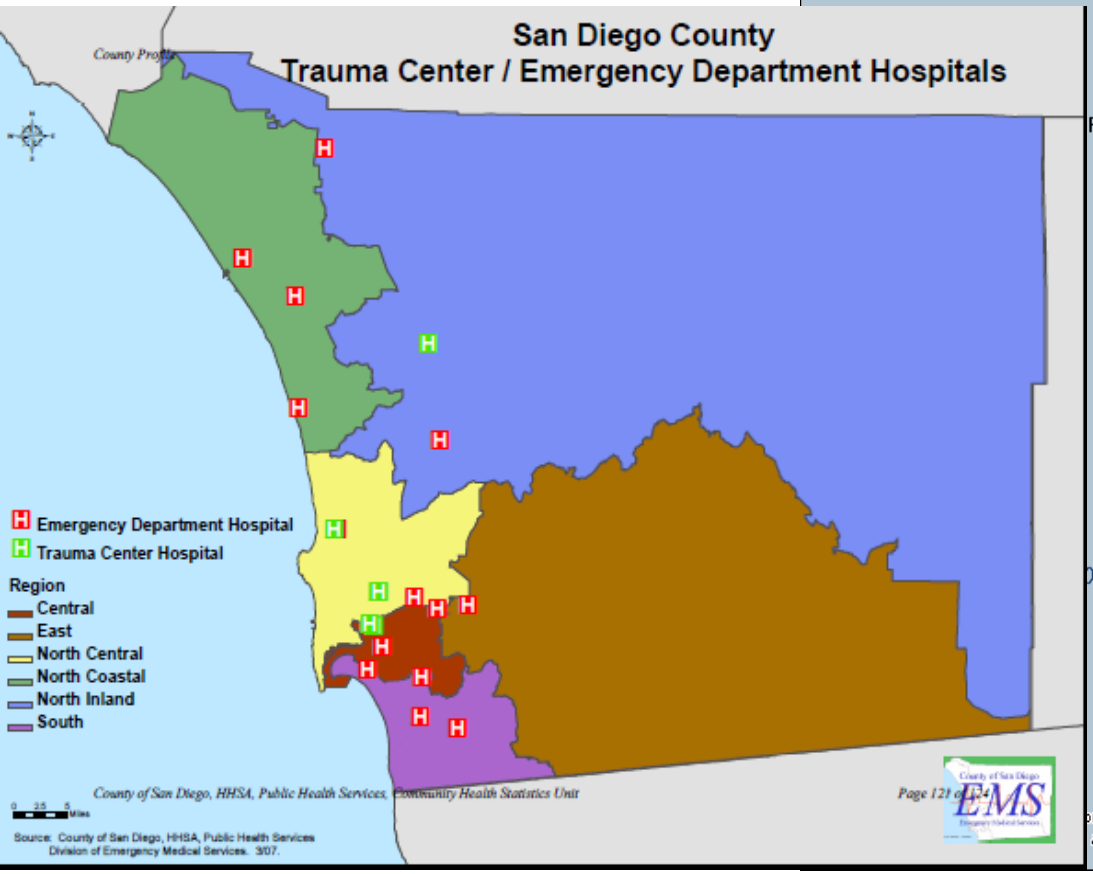
Child Protection Team

- A multidisciplinary team defined by California code:
  - 3 or more trained professionals to include psychologist/psychiatrist/mental health, law enforcement, medical with sufficient training, social workers with experience/raining in child abuse.
- California code:
  - Disclose/exchange information relating to child abuse, even if part of a court record or confidential, if the information is relevant to the prevention, identification, or treatment of child abuse.
  - All discussions relating to the exchange of information during team meetings are confidential and testimony concerning any such discussion is not admissible in any criminal, civil, or juvenile court proceeding.
- No minutes are kept.

San Diego County

- 65 miles north to south
- 86 miles east to west
- 18 cities
- 3 million people
- 25% under 18 years of age





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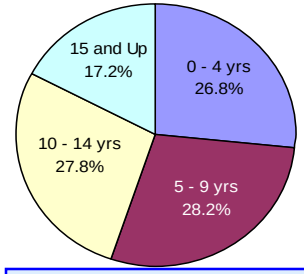
County of San Diego

Health & Human Services Agency
Child Welfare Services

Fiscal Year 2006/2007

Age of Children in Referrals



69,960[1] children were referred to the Child Abuse Hotline with allegations of abuse or neglect.

(Children can be counted more than once if referred multiple times throughout the year)

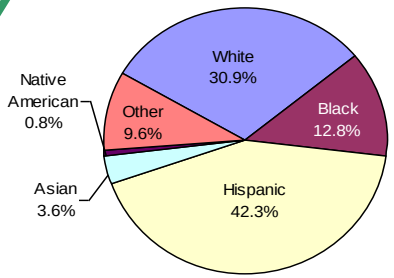
50,856[2] children were assigned for investigation.

(Children can be included on more than one investigated referral throughout the year)

2114 new petitions were filed on behalf of children.

On average, families of 2,258 children participated in voluntary services each month

Ethnicity of Children in Referrals



Children Receiving Services

(Monthly Averages)

2,830 Children in-home

6,222 Children out-of-home

- **55.9% Non-relative care**
  - 21.9% foster family homes
  - 17.2% guardian homes & other placements
  - 11.5% group homes
  - 5.3% foster family agency homes
- **28.4% Relative care**
- **11.8% Other (e.g. trial visits with parents, emergency placements)**
- **3.9% Adoptions pending/ finalized**

632 children were placed in adoptive homes.

There were approximately 100 to 150 children waiting for adoptive homes each month.

Allegation Types

Emotional Abuse	***29.2%***
Physical Abuse	***27.5%***
General Neglect	***26.6%***
Substantial Risk	***25.3%***
Sexual Abuse	***16.0%***
At Risk, Sibling Abused	***15.8%***
Caretaker Absence	***5.6%***
Severe Neglect	***1.5%***
Exploitation/Other	***0.1%***

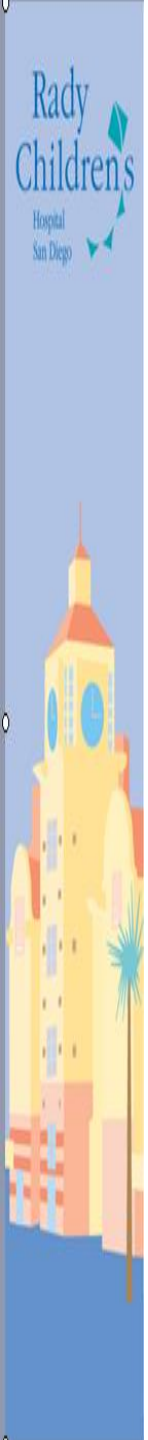
Children may have multiple allegations

Source: CWS/CMS Data, CRC Annual Report

[1] *37,861 families*
[2] *25,895 families*

Rady Children's Hospital San Diego

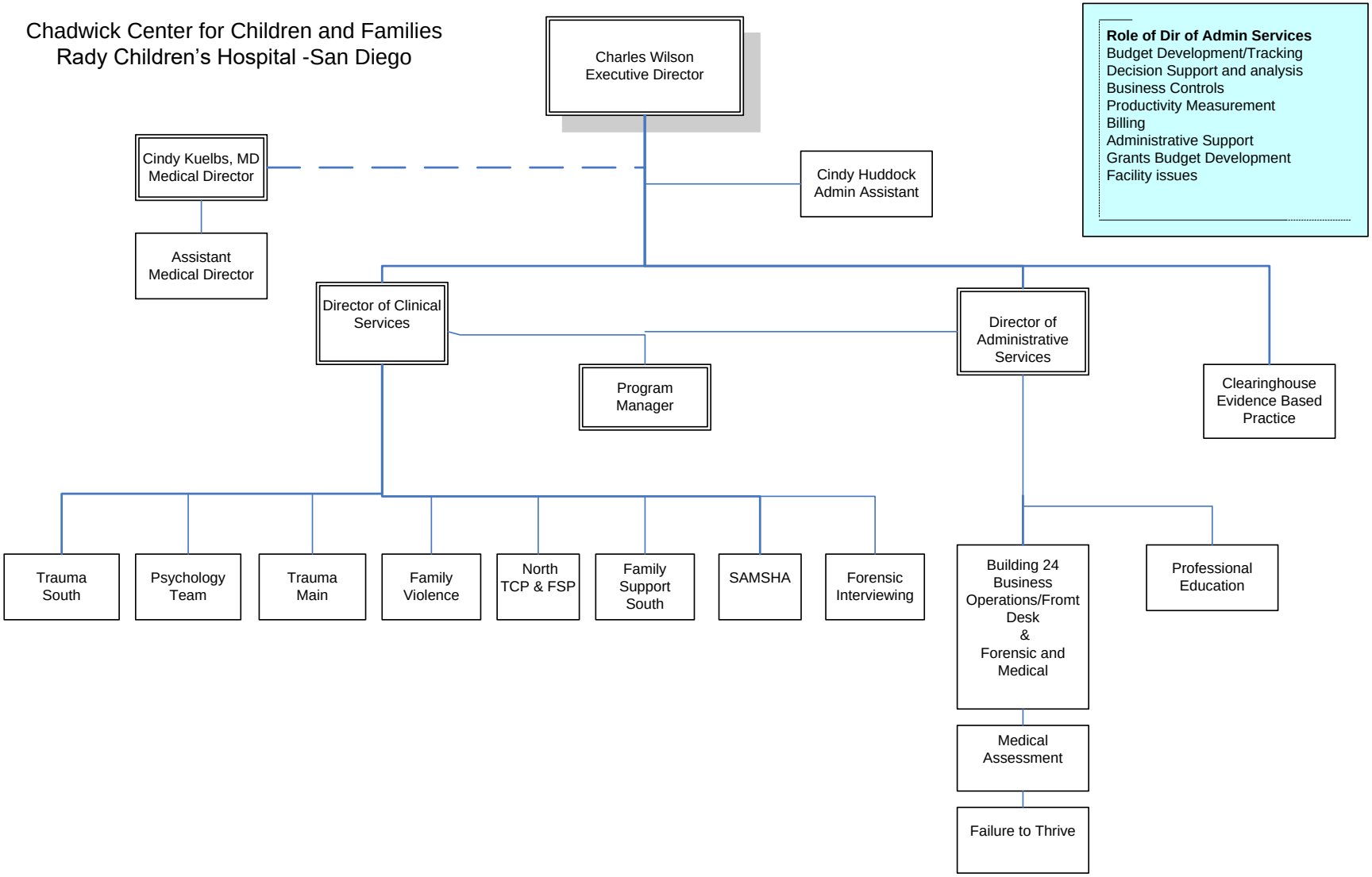
- 270 bed acute care hospital
- 80,000 ED visits
- 13,000 + inpatients
- 210,000 ambulatory visits
- 1100 trauma patients
- 20,000 surgeries



Children's San Diego | Chadwick Center for Children & Families

Since 1976

Chadwick Center for Children and Families
Rady Children's Hospital -San Diego



Chadwick Center Programs

- Forensic and Medical Services
- Family Support
- Trauma Counseling
- Professional Education
- California Child Welfare Clearinghouse for Evidence Based Practice
- Polinsky Center Medical Services

- The San Diego Conference focuses on
  - Multi-disciplinary best-practice efforts
    - to prevent, if possible, or…
    - to investigate, treat, and prosecute child and family maltreatment

Chadwick Medical Services

- Provides clinical evaluation of children suspected of having been abused and neglected
- Services:
  - Daily clinic
  - 24/7 coverage for acute needs at RCH
  - 24/7 telephone consultation to CWS/ LE/ Navy/ Riverside
- Staff
  - 9 physicians, 1 NP
  - 4 Interviewers (2 LCSW, 1 MFT, I MA in PhD program)
  - 8 Nurses (6 LVN, 3 RN, 1 MA, 1 CNA)
  - 3 Admin
  - 1 Site coordinator
- Child Protection Team – weekly interdisciplinary case conference

Child Protection Team

- Established 1976
- Hospital based
- Meets weekly
- Team was chaired by pediatrician until recently
- Chair rotates to engage all members
- Clear criteria for cases to be discussed

Rady Children's

Chadwick Center for Children & Families

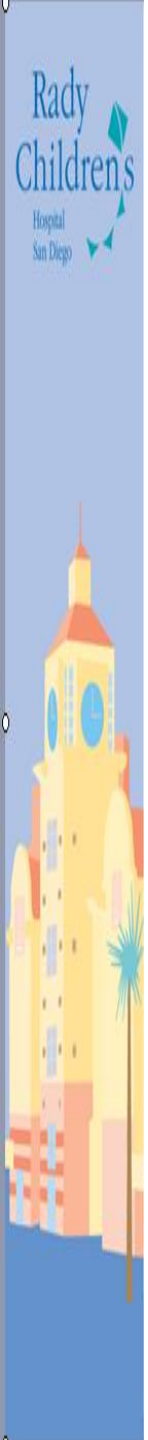
Hospital Staff and San Diego Police Department Child Abuse Unit

Child Protection Team

- Orientation packet provided to all new members
- All agencies on the child protection team sign the child victim witness protocol agreeing to adhere to specific practices
- Any team member can put case on for discussion
- Separate management team meeting for system issues

Child Protection Team Members

- Law enforcement
- Child Welfare
- County Counsel
- District Attorney
- Medical
- Therapy
- Advocacy
- Public Health Nursing
- Family court
- Hospital social work
- School personnel
- Regional Center



Role of the Pediatrician

- Educate team members on medical issues
- Differentiate medical findings indicative of abuse from those caused by other means
- Diagnose medical conditions not caused by abuse
- Evaluate related medical conditions
- Evaluate injuries for causation and in developmental context of the child
- Ensure the health and well-being of the child

Requirements for Pediatricians

- Commitment to field of child abuse
- Continuing medical education annually on abuse related topics – 10 hours
- Participation in regular peer review/quality assurance activities
- Attendance at CPT meetings if case being discussed
- Recognized as expert by team members
- Board eligible in child abuse pediatrics

Child Protection Team

- Ensure internal team functions well
- Internal team = CPT physician + inpatient social worker
- Internal team meets on ad hoc basis
- Additional members as needed:
  - Trauma surgeon
  - Intensive care physician
  - Neurosurgeon
  - Radiologist
  - Orthopedic surgeon
  - Other attending/consulting physicians
- CPT physician is the liaison between the hospital team and the community multidisciplinary team

Quality Assurance

- Data tracking and trending
- Case/peer review
- Targeted education
- Pathway development
- Morbidity and mortality conferences
- Educational conferences:
  - Radiology
  - Neurosurgery
  - Orthopedics/biomechanics

TAC APPROVED

CHILDREN'S HOSPITAL AND HEALTH CENTER, SAN DIEGO

INTERNAL TRAUMA CRITERIA FOR:

-EMS NON-TRAUMA PATIENTS
-ED WALK-IN PATIENTS
-DIRECT ADMIT PATIENTS
-INTERFACILITY TRANSFER NON-TRAUMA PATIENTS

Full Trauma Team Activation (Immediate response)

1. Traumatic arrest
2. Shock, as evidenced by:
   - -Systolic BP < 70 + (2x age in years)
   - -Tachycardia
   - -Capillary Refill > 3 seconds
   - -Weak, thready or absent distal pulses.
3. Respiratory compromise:
   - -Abnormal respiratory rate (defined by age)
   - -Labored respirations
   - -Cyanosis
   - -Facial, neck or chest compromise
4. Significant head injury with GCS < or = to 13.
5. Paralysis and/or focal neurologic deficits except persistent extremity paresthesias.
6. Signifcant vascular compromise in extremities (limb threat)
7. Penetrating wound secondary to GSW, Stabbing, impalement (excluding distal extremities) deeper than SQ tissue. Activate if questionable.
8. Pelvic instability.
9. Mechanically unstable injuries to the spine**

**** Unstable Spine Fractures:**

1. Compression fractures with > 40% loss of height of the anterior vertebral body relative to the uninjured adjacent levels' anterior vertebrall height.
2. Burst fractures: compromise of the posterior cortex of the vertebral body with or w/o retropulsion into the spinal canal.
3. Flexion/distraction injuries-anterior compression of the vertebtral body with distraction of the posterior elements.
4. Fracture dislocations-displacement of the vertebtral body relative to the adjacent levels.

Partial Trauma Team Activation (Immediate response)

Anatomic and physiologic	Mechanism of Injury (event occurred within last 24 hours.
1. Penetrating oropharyngeal injury (if any question of neurologic or vascular injury or retropharyngeal free air on imaging) (see algorithm) 2. Known or suspected penetrating eye trauma extending beyond the globe. (see algorithm) 3. Evidence of an acute abdomen (pain on percussion; diffuse pain on palpation; pain with movement; rigid and/or distended abdomen. 4. Two or more long bone fractures (femur and/or humerus). Tibia/ fibula fractures count as one. 5. Diagnostic study results which suggest significant trauma (ie intracranial mass lesions, intra-thoracic findings, abdominal organ injury or pelvic injuries.	1. Fall of > or = to 15 feeet (2nd story fall) 2. Motorized motor vehicle crash (i.e. car, truck, bus,) with: -severe vehicular damage (prolonged (extrication) - Rollover, unrestrained -Death of another occupant 3. ATV or motorcycle crash or ejection or rollover at > 20 mph. 4. Pedestrian/bicyclist struck by MV: -at > 20 mph -or with signifcant damage to MV -or run over (with or without tire marks; proximal to the knee/elbow. 5. Hanging 6. Near drowning with history of diving or obvious signs of external trauma 7. Signifcant child abuse (see algorithm) 8. Any other mechanism deemed to be significant.

Partial Trauma Team Composition for ED
-Trauma Surgeon
-ED Attending MD
-Trauma Resuscitation Nurse
-Lab Technician
-Radiology Technician

Trauma Consultation (Prompt Response)

1. Previous trauma patient at RCHSD re-presents with signs and symptoms related to the original trauma and requires imaging (beyond extremity films), has significant new findings or requires admission (see guideline C-8 and algorithm)
2. Patient presents with an index of suspicion for significant injury but does not meet our internal trauma criteria.)

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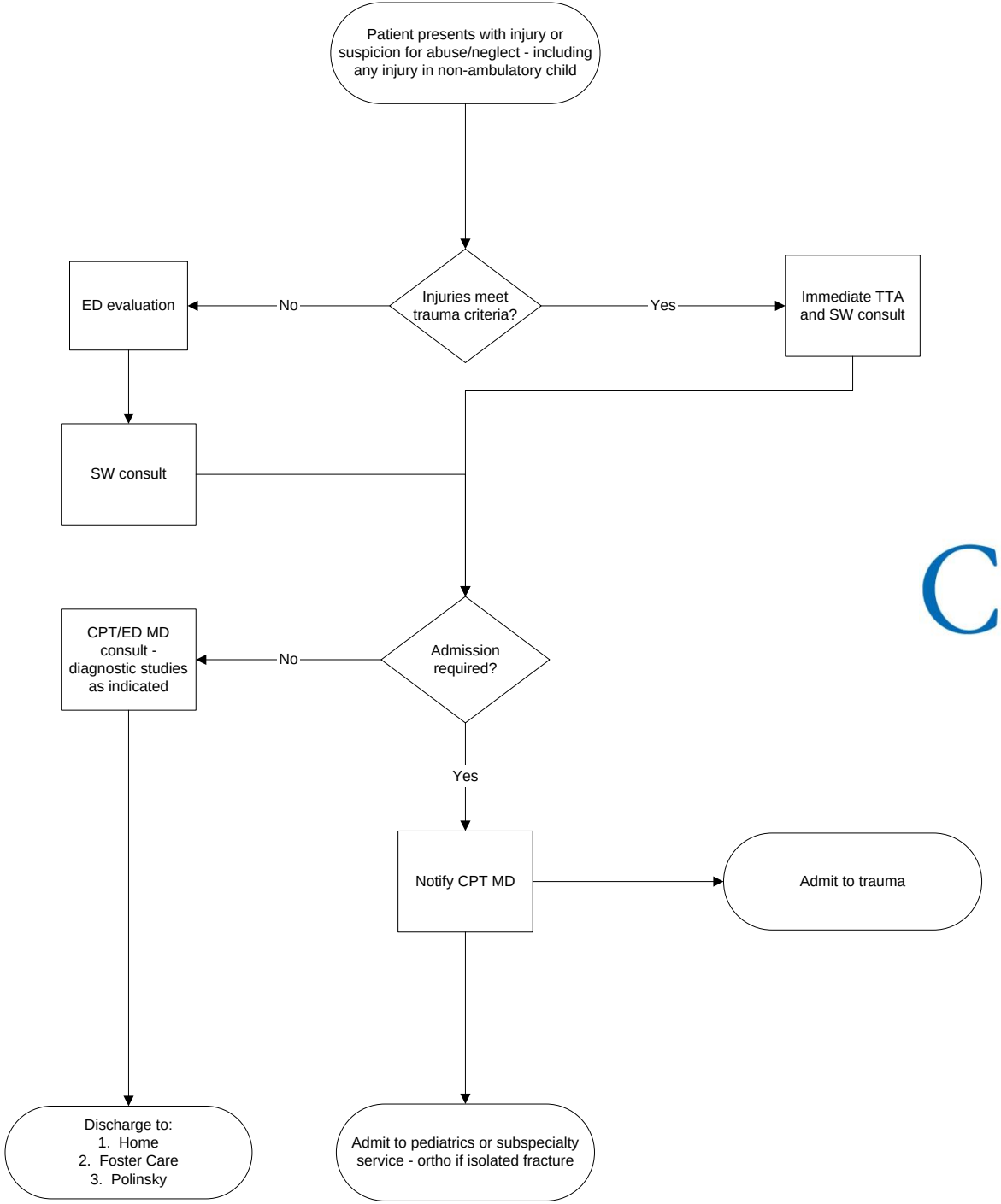
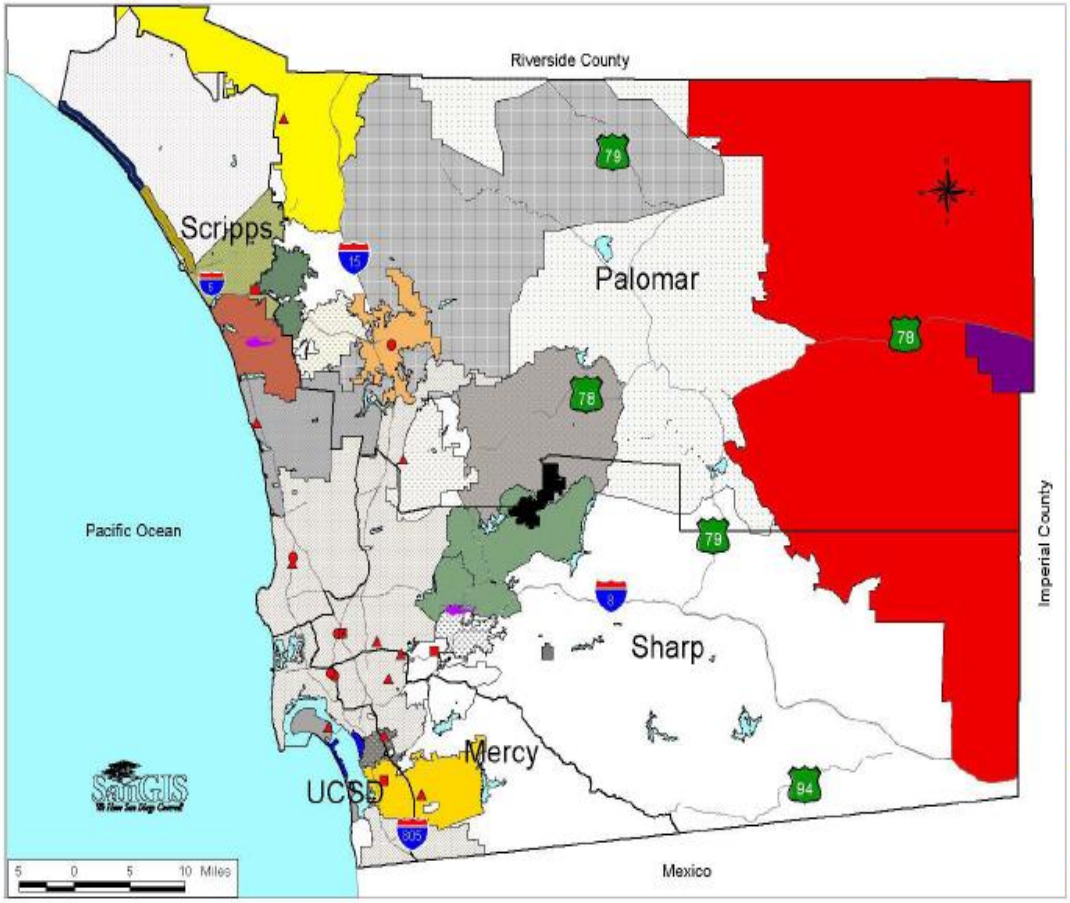
Rady Children's Hospital San Diego



Rady Children's Hospital San Diego

San Diego County By Trauma Catchment Areas With Ambulance Service Areas and Hospital Facilities



Ambulance Service Areas

- Desert Region* (Borrego Springs Fire Department)
- Desert Region* (West Shore Ambulance)
- Ramona Municipal Water District* (CDF & Fire Protection)
- North County Fire Protection District*
- Julian-Cuyamaca Fire Protection District*
- North County Rural Area (Sycuan)
- City of Escondido*
- City of Poway*
- City of San Marcos* (AMR, San Marcos)
- US Navy Ambulance (Camp Pendleton)
- City of Oceanside*
- City of Carlsbad*
- City of Vista*
- I-5 Corridor (Las Pulgas South-AMR, Balboa, CARE, Americare)
- I-5 Corridor* (Las Pulgas North-Orange County Fire)
- CSA 17* (SDMSE)
- CSA 69* (Lakeside, Santee)
- City of El Cajon*
- Sycuan Indian Reservation*
- Barona Indian Reservation*
- Grossmont Hospital District* (AMR)
- City of Chula Vista* (AMR)
- City of Coronado*
- City of National City* (AMR)
- City of San Diego*
- US Navy* (Federal Fire Department)
- Mercy Air* (Base)

Hospital Facilities

▲ - Emergency Department

- Alvarado Hospital and Medical Center
- Kaiser Hospital
- University Community Medical Center
- Sharp Coronado Hospital
- Sharp Chula Vista Medical Center
- Scripps Memorial Hospital - Encinitas
- Fallbrook Hospital
- Paradise Valley Hospital
- Pomerado Hospital
- UCSD - Thornton Hospital

● - Trauma Center/Base Hospital Emergency Department

- Scripps Mercy Hospital
- Sharp Memorial Hospital
- UCSD Medical Center
- Palomar Medical Center
- Scripps Memorial Hospital La Jolla

■ - Base Hospital Emergency Department

- Scripps Memorial Hospital - Chula Vista
- Sharp Grossmont Hospital
- Tri-City Medical Center

■ - Trauma Center Emergency Department

- Children's Hospital and Health Center

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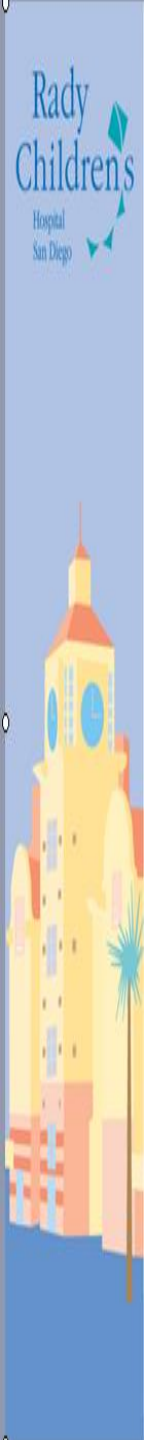
Source: County of San Diego Health and Human Services Agency, Division of Emergency Medical Services, March 2003.

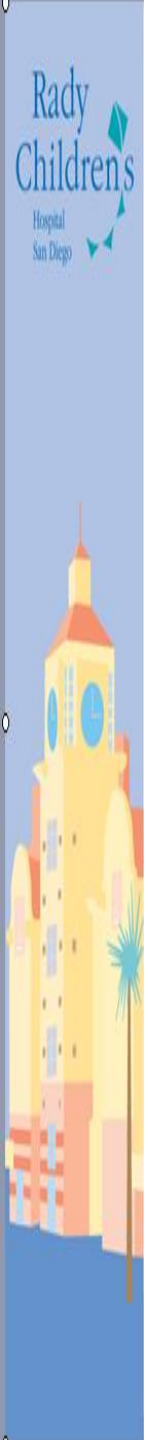
Rady Children's Hospital San Diego



NACHRI Guidelines

Defining the children's hospital role in child maltreatment

2005



NACHRI

- National Association of Children's Hospitals and Related Institutions
- Member organization
- > 200 hospitals in US, Canada, Italy, Australia, China
- Promotes health and well being of children through support of children's hospitals
- Through advocacy, education, research and health promotion

NACHRI

- Child abuse:
  - Profound social problem
  - Affects > 3.5 million US children annually
  - Results in 1500 deaths per year
  - Children's hospitals have unique roles:
    - Diagnosis
    - Treatment
    - Community role for safety of abused children
    - Prevention – advocacy, education, research

NACHRI Guidelines

- *Do* attempt to define leadership role children's hospitals play in child maltreatment
- *Do* guide to assist in strengthening programs

- Are not:
  - Clinical guidelines
  - Decision making pathways
  - Prescriptive
  - An accreditation body

Child Protection Teams

- Based on community collaboration, guided on needs of community
- Use community needs assessment when establishing a new program to determine how the children's hospital can fit into the existing network of services for abused children
- Administrative infrastructure:
  - Funding and reimbursement
  - Risk management – shield from liability by having increasing levels of expertise

Structure and Staffing

- Basic:
  - Administrative coordinator (funded), pediatrician, social worker:
- Advanced:
  - Designated cost center
  - 24/7 consultation
  - Participation in multidisciplinary meetings
- Center of excellence:
  - Larger team with other health professionals such as therapy and social work
  - Access to needed subspecialties
  - Local, regional and national leadership
  - Research and teaching

Clinical Functions

- Basic:
  - Medical evaluations for all based on specific criteria
- Advanced:
  - Clinical center staffed daily
  - Staffed by CPT members
  - Inpatient and outpatient evaluations
- Center of excellence
  - Comprehensive evaluations for all by child abuse pediatrician
  - Forensic interviewers available 24/7

Policies

- Basic:
  - Clear case management guidelines
  - Policies for referrals to CPT
  - Screening person to determine who needs emergent evaluation
- Advanced and center of excellence:
  - Referrals from outside agencies
  - Work with outside agencies to promote joint work such as video interviewing, joint interviewing, court appearances

Advocacy

- Basic:
  - Members contribute to community efforts
- Advanced:
  - Expand advocacy work in relation to program growth
  - Build relationships with government agencies
- Center of excellence:
  - Prevention
  - Legislation
  - Funding
  - Improvement child protective system

Prevention

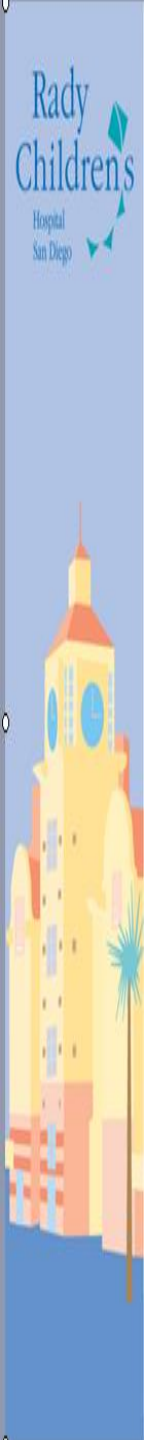
- Basic:
  - Devote some time to community prevention efforts
- Advanced:
  - Members on community boards
  - Members assigned to prevention efforts
- Center of excellence:
  - Community leaders on prevention
  - Convene task forces
  - Devote training on prevention to teaching/fellowship programs

Community

- Basic:
  - Collaborate with and assist law enforcement and protective agencies
- Advanced:
  - Work with law enforcement and child welfare to assign specific workers to the hospital
  - Establish regular meetings with other hospitals
  - Reach out to emergency medical services
- Center of excellence:
  - Hub of coordination
  - Leadership

Leadership/Education/Research

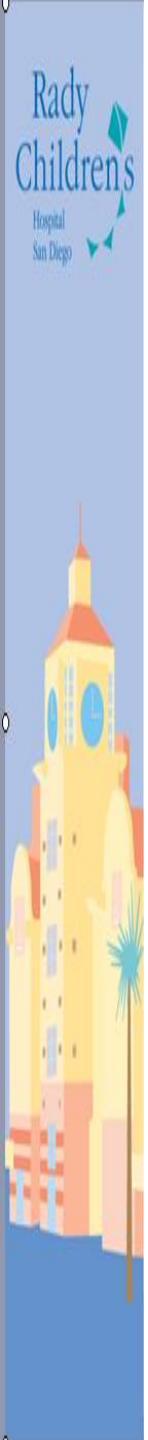
- Basic:
  - Core training child abuse recognition and referral protocols
  - Knowledge current literature
  - Case tracking
- Advanced:
  - Professional training
  - Small research projects
- Center of excellence:
  - Fellowship training
  - Major research initiatives



NACHRI Survey

Responding to child maltreatment: Children's Hospitals Child Abuse Services

2008



NACHRI

- Coordinated response to child abuse crucial to ensure those children needing services are identified
- Critical part of children's hospital advocacy mission
- Moral imperative
- 92% children's hospitals provide services for abused and neglected services

Level of Child Abuse Services

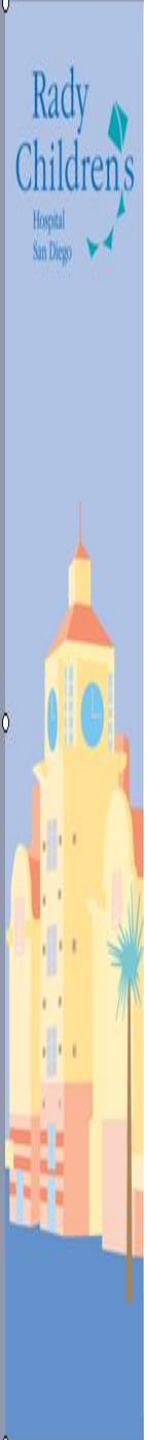
- None
- Child abuse services:
  - All forms of abuse
  - Clinical response thru ED or Child Abuse Pediatrician
  - Staff trained to detect, treat, document
  - Reporting policies exist

Level of Child Abuse Services

- Child abuse team:
  - Medical assessment, referral, diagnosis for all forms abuse
  - Dedicated, recognizable team with at least pediatrician, coordinator, social work
  - Community members participate in CPT meetings
- Child abuse program:
  - All above
  - Administrative unit
  - Centralized management
  - Coordinate with community agencies
  - Accesses medical staff/consultants to participate as needed
  - Regular meetings to review child abuse cases

NACHRI Survey Findings

- Increased case load due:
  - Higher visibility
  - Increased awareness
  - More staff
  - Increased recognition
  - Collaboration with community partners
- Significant financial support for the team by the hospital



Child Abuse Pediatrics

Admission Requirements

- Training:
  - Enter training prior to 2010 – 2 years under supervision director certified/eligible in child abuse pediatrics
  - After January 1, 2010 – 3 years
- Practice:
  - 5 years at 50% effort
- First board exam November 2009

Fellowship Training

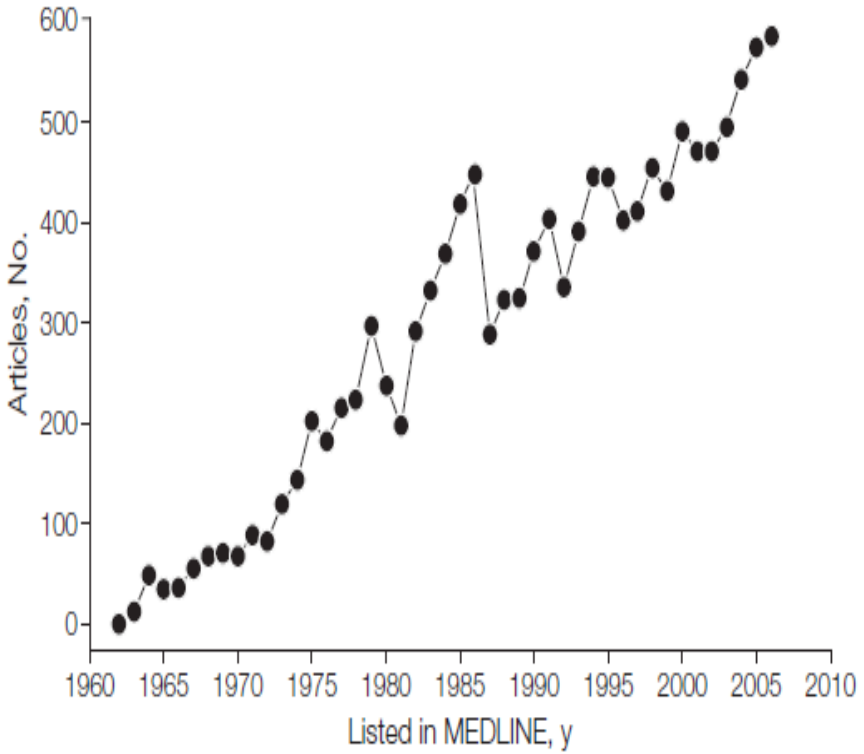
- Core competencies:
  - Patient Care, medical knowledge, practice based learning, interpersonal/communication, professionalism, system-based practice
- Core curriculum
- Standardized level of scholarly activity
- Scholarship oversight committee for mentoring

Swedish/Nordic Developments

- Spoke to Barnahus Norrort on child protection teams
- Met with politicians in Prime Minister's Office
- Met with children's ombudsman and Save the Children Sweden
- Attended political celebration of 30 years of ban on corporal punishment
- Attended 2 day Nordic pediatric network meeting on child abuse
- Met with Barbro Fridén, Filippa Reinfeldt and County politicians
-

AMERICAN BOARD OF PEDIATRICS

Figure. Increase in Number of MEDLINE Articles With *Child Abuse* as a Keyword, 1962 to 2006



In 2009, the American Board of Pediatrics will administer the first examination for board certification in this subspecialty. One result of Kempe's battered-child syndrome article has been the evolution of a cadre of pediatricians who are dedicated to diagnosing, treating, and preventing child abuse and neglect. The subspecialty of child abuse pediatrics is his legacy.

Jenny C, JAMA. 2008 300(23): 2796-97