Approved: February 17, 2011
Date

MINUTES OF THE PUBLIC HEALTH AND WELFARE COMMITTEE

The meeting was called to order by Chairman Vicki Schmidt at 1:30 p.m. on January 31, 2011, in Room 546-S of the Capitol.

All members were present except:
Sen. Mary Pilcher-Cook, excused

Committee staff present:
Nobuko Folmsbee, Office of the Revisor of Statutes
Katherine McBride, Office of the Revisor of Statutes
Iraida Orr , Kansas Legislative Research Department
Carolyn Long, Committee Assistant

Conferees appearing before the Committee:
Darlene Whitlock, Kansas Safe Kids
Dr. David Carr, Director of Athletic Training Education, University of Kansas
Travis Frances, President, Athletic Trainers Society
Dan Morin, Kansas Medical Society
Dr. Bart Grelinger, Kansas Medical Society
John Kiefhaver, Kansas Chiropractic Association

Others attending:
See attached list.

The Chair asked for approval of the minutes for January 13, 2011, January 18, 2011 and January 19, 2011. Moved by Senator Reitz, seconded by Senator Brungardt. Motion carried.

The Chair asked the members of the committee to review the information provided by the Kansas Health Institute in response to committee questions raised on Tuesday, January 18, 2011 (Attachment #1).

Bill Introductions

Phyllis Gilmore, on behalf of the Behavioral Science Board requested legislation regarding the condition that a board may place on a license in a substantiated case of abuse. Moved by Senator Reitz, seconded by Senator Huntington. Motion carried.

Connie Hubbell requested a bill concerning influenza vacation for children. Funding is available through the Federal Affordable Care Act. Moved by Senator Kelly, seconded by Senator Reitz. Motion carried.

Amber Versola representing NOW requested legislation concerning victims of sexual assault relating to emergency contraception information. Moved by Senator Kelly, seconded by Senator Huntington. Motion carried.

Legislation was requested by Stuart Little appearing on behalf of the Kansas Association of Addiction Professionals, for a licensure program for addiction counselors. Moved by Senator Huntington, seconded by Senator Reitz. Motion carried.

Mary Blubaugh, representing the Board of Nursing requested legislation relating to the advance practice nurses in Kansas. Moved by Senator Kelly, seconded by Senator Brungardt. Motion carried.

Mary Lou Davis, representing the Kansas Board of Cosmetology, proposed legislation regarding students/apprentices and their licensure to provide services in a school setting. Moved by Senator Reitz, seconded by Senator Kelsey. Motion carried.

Senator Schmidt moved for legislation on 11RS0373 regarding the establishment of the electronic prescription adoption act. Seconded by Senator Kelsey. Motion carried.

The Chairman opened the hearing on **SB 33—School sports head injury prevention**. After a brief explanation of the bill by staff, the Chair introduced Darlene Whitlock from Kansas Safe Kids. Ms. Whitlock said her organization represented children from the ages of zero thru 14 and supported legislation that promoted the safety of the youth athlete (Attachment #2).

MINUTES OF THE Senate Public Health and Welfare Committee at 1:30 p.m. on January 31, 2011, in Room 546-S of the Capitol.

Dr. David Carr, Director of Athletic Training Education at the University of Kansas, said his concern was that only health care providers trained in current procedures and recommendations for the management and treatment of concussions should be allowed to make any decisions, but was in favor of the legislation (Attachment #3.

Travis Francis, President of the Athletic Trainers Society, stated their mission was to help assure top quality health care and to promote and increase knowledge of the profession of athletic training. He stated this type of legislation was necessary to insure our children's safety and to protect them from the adverse effects of concussions (Attachment #4. He said that while the Kansas State High School Activity Association was on the right track, it only applied to their members. Mr. Francis was asked to supply the committee with a list of other states that have passed similar legislation.

Dan Morin, Director of Government Affairs for the Kansas Medical Society, said that according to the American Academy of Pediatrics, sports related concussions are considered underreported and that females have a higher concussion rate than males when playing similar sports. He also introduced an amendment to further define a qualified "health care provider" (Attachment #5).

Dr. Bart Grelinger from the Medical Society of Sedgwick County, provided the committee with an explanation of what happens to the brain when a concussion occurs. Dr. Grelinger is a board certified neurologist and stated that this current legislation is an important step toward protecting the delicate brains of the thousands of young children and adults who compete in organized sports (Attachment #6).

Testimony by John L. Kiefhaber, Kansas Chiropractic Association's Executive Director, supported the bill and stressed the importance in education and awareness of concussions but opposed the amendment as presented by the Kansas Medical Society (Attachment #7).

Written testimony was provided by Bob Williams, Executive Director of the Kansas Association of Osteopathic Medicine (Attachment #8), Roger Goodell, Commissioner of the National Football League (Attachment #9) and Clark Hunt, Chairman and CEO of the Kansas City Chiefs Football Club (Attachment #10).

The Chair also drew the attention of the committee to information provided by the Kansas State High School Activities Association (Attachment #11).

There being no further testimony, the hearing on **SB 33** was closed.

The meeting was adjourned at 2:30 p.m. The next meeting is scheduled for February 1, 2011.

# SENATE PUBLIC HEALTH AND WELFARE COMMITTEE GUEST LIST

DATE: January 31, 2011

| NAME | REPRESENTING |
|---|---|
| Tom Bruns | Ks Athletic Trainers Society |
| Travis Francis | Ks Athletic trainers Society |
| W. David Carr | Kansas Athletic Trainers Society |
| Gary Musselman | Ks. State High School Activities Assn. |
| BRENT UNRUH | KS. STATE HS ACT. ASSOC. |
| RICK BOWDEN | KS STATE HS ACT. ASSOC. |
| Paje Routhier | Hein Law Firm |
| Marsha Schreng | BSRB |
| Leslie Allen | BSRB |
| Phyllis Gilmore | BSRB |
| John Kiefhaber | Ks. Chiropractic Assn. |
| Leigh Keck | Capitol Strategies |
| Todd Ficischer | Ks. Optometric Assoc. |
| Yoni Haskell | KDHE |
| Darlene S Whitlock | SafeKids KS & Kansas Emergency Nurses Ass |
| Jennie Valegas | University of Kansas Hospital |
| Connie Hubbell | KAMC |
| Tom Kuhn | KASB |
| Scott Harrison | SVRMC |
| Callie Denton | KS Assn for Justice |

KANSAS HEALTH INSTITUTE

# MEMO

**To:** Senate Public Health and Welfare Committee

**From:** Kansas Health Institute

**Date:** January 24, 2011

**Re:** Answers to health reform questions raised in January 18, 2011, committee meeting

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The Kansas Health Institute provided an overview of the Affordable Care Act (ACA) for the Senate Public Health and Welfare Committee on Tuesday, January 18th. This memo includes answers and supplemental information for questions raised during the meeting.

1. What impact will the various tax provisions of the ACA have on Kansas medical device manufacturers and pharmaceutical companies?

- The ACA imposes a 2.3 percent excise tax on the sale price of certain medical devices (not contact lenses, hearing aids and other devices considered to be "retail"). The legislation also institutes an annual fee for manufacturers and importers of branded drugs (meaning, non-generic), based on market share.
- The national trade group representing pharmaceutical companies (PhRMA) supported the ACA, while the national medical device organization (MDMA) has expressed concern over the economic impact of the excise tax. To date, KHI has not identified any sources forecasting the potential economic impact of the ACA tax provisions on local companies. For more information about the ACA tax provisions, generally, please see Attachment A, an analysis of the tax components of the reform law prepared by auditing firm Deloitte & Touche.

2. What is the process that the Department of Health and Human Services (HHS) employs for deciding which providers of insurance receive waivers or exemptions from ACA insurance requirements?

- As of December 3, 2010, HHS had issued 222 waivers (full list available here: http://www.hhs.gov/ociio/regulations/approved_applications_for_waiver.html) granting a temporary exemption from the new rule preventing annual limits (yearly "caps" on the amount an insurer will pay on behalf of a given beneficiary). Applications for waivers from the annual limit requirements are reviewed on a case by case basis by HHS. Decisions are based on a series of factors including whether or not a large premium increase would result from enforcing the requirement or if a significant number of enrollees would lose access to their current plan. To date, many of the waivers granted were to "mini-med" policies, which are inexpensive plans that provide modest coverage. Issuers of mini-med policies have also asked for exceptions

from other ACA requirements and HHS is working with the companies and the National Association of Insurance Commissioners on these issues. These waivers have become a matter of national and state interest. The House Energy and Commerce Committee launched an investigation of the waivers earlier this month and has asked HHS to provide "all documents" related to the waivers in order to learn more about the process used to evaluate them and make decisions.

3. Do states have flexibility in how they spend their Medicaid dollars?
   - As of the date of enactment of the ACA, states are subject to a Maintenance of Effort (MOE) requirement which says that a state "shall not have in effect eligibility standards, methodologies, or procedures under its Medicaid or CHIP state plan (or under a Medicaid or CHIP waiver) that are more restrictive than the eligibility standards, methodologies, or procedures" in effect on March 23, 2010. When the ACA was enacted however, states were already subject to a Medicaid MOE requirement under the American Recovery and Reinvestment Act (ARRA), which was enacted July 1, 2008. For more information, see Attachment B.
   - State flexibility in determining Medicaid benefits packages will also change under the ACA. States will be required to provide most newly eligible enrollees with "essential health benefits." HHS will determine what benefits to include in the definition of essential health benefits, though general categories were outlined in the reform legislation. An Institute of Medicine panel met in early January 2011 to work on the essential health benefits definitions. These same minimum services will be required of many private insurance plans starting in 2014. See attachment C for more information.
   - States will have flexibility in determining which optional services to provide and in setting provider reimbursement rates. The ACA provides states with opportunities for funding or enhanced federal match rates for instituting new prevention and disease management programs in Medicaid.

4. Have those states that have filed or joined lawsuits in objection to provisions of the ACA received a disparate amount of ACA funding?
   - In reviewing the state-by-state amounts provided to the states so far under the ACA, it does not appear that any that have filed or joined lawsuits (or enacted state statutes or constitutional amendments) have received less money. See Attachment D for a state-by-state breakdown of funding to date.
   - This question raises the issue of "conditional spending." The federal government cannot force states to enact particular legislation; however, it can condition federal spending on compliance with regulatory schemas, such as the conditioning of federal highway dollars on state compliance with a minimum drinking age and seatbelt laws. The implementation of the ACA is pending several important legal decisions and whether or not future funding will be conditioned upon compliance with elements of the legislation remains an open question.

5. How many small businesses in Kansas have received the ACA small business health care tax credits?
   - Because the exact number of businesses who utilize the credits won't be known until they file their federal tax returns, we don't know how many Kansas businesses are or

are planning to take advantage of them. However, recent news reports, which have been confirmed by the company, say that Blue Cross Blue Shield of Kansas City has used the credits as a marketing tool and as a result has sold policies to 400 employers, more than a third of whom had not offered coverage to their employees before.

- HHS has provided running lists for uptake of other business/employer related ACA programs. One that provides grants to companies to help them continue to provide coverage to early retirees (those not yet eligible for Medicare) has been utilized by 49 Kansas businesses, municipalities and unions. You can view the list at http://www.healthcare.gov/law/provisions/retirement/states/ks.html

Attachments

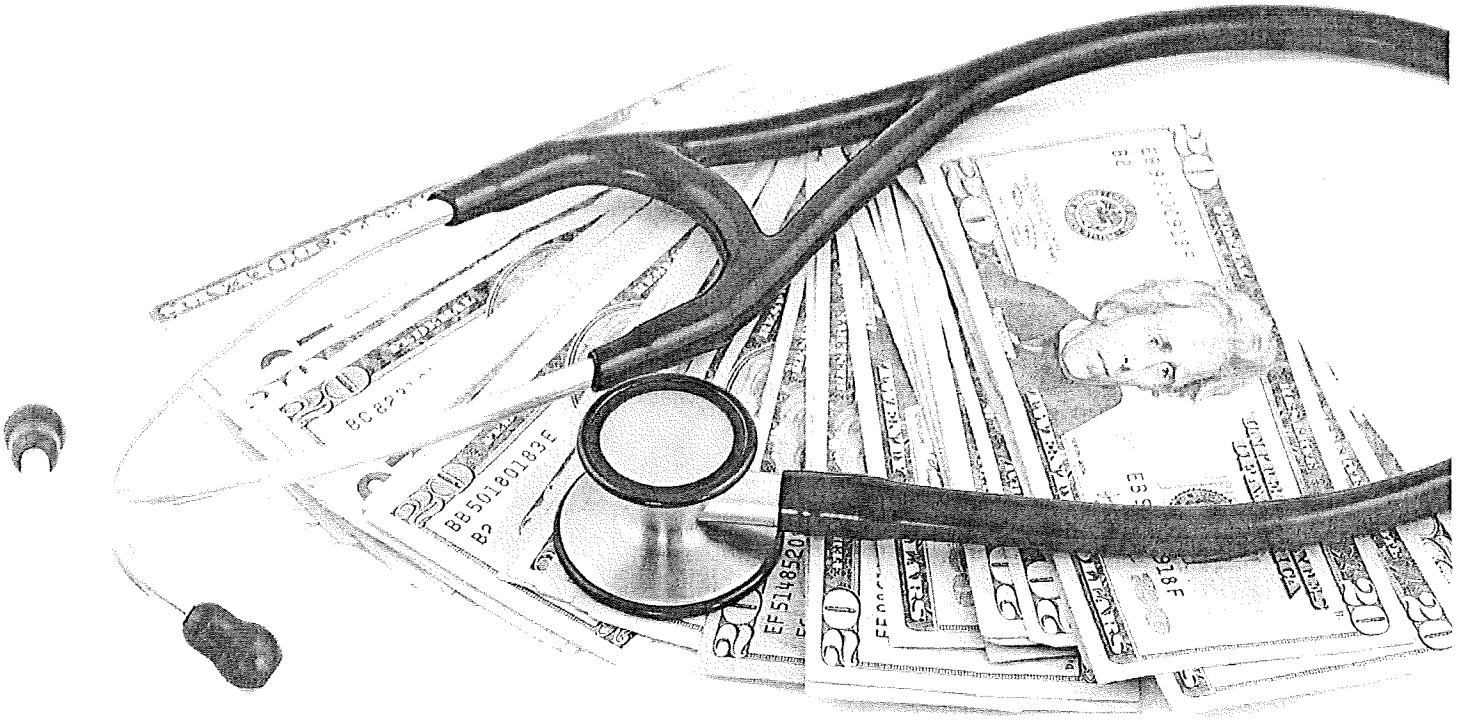
A: *Prescription for Change Filled: Tax Provisions in the Patient Protection and Affordable Care Act* [Deloitte & Touche]

B: *Holding the Line on Medicaid and CHIP: Key Questions and Answers About Health Care Reform's Maintenance of Effort Requirements* [Center on Budget and Policy Priorities, Georgetown University Health Policy Institute, Center for Children and Families]

C: *Explaining Health Reform: Benefits and Cost-Sharing for Adult Medicaid Beneficiaries* [Kaiser Family Foundation]

D: *Affordable Care Act Funding Awards and State Legislative and Legal Reform Challenges* [Kansas Health Institute]

Deloitte.



Prescription for change 'filled'

# Tax provisions in the Patient Protection and Affordable Care Act

**Updated to reflect changes approved in the Reconciliation Act of 2010**

March 30, 2010

1-4

# Contents

# Introduction

Congress has approved and President Obama has signed into law comprehensive health care reform legislation that raises nearly $438 billion over 10 years through tax increases on high-income individuals, excise taxes on high-cost group health plans, and new fees on selected health care-related industries, as well as provisions to codify the economic substance doctrine and make "black liquor" ineligible for the cellulosic biofuel producer credit under section 40(b).

After an often contentious national debate that played out over 15 months, the Patient Protection and Affordable Care Act became law on March 23, 2010. The Reconciliation Act of 2010, a companion package of "fixes" to the larger health care bill that was negotiated between congressional Democratic leaders and the White House, was enacted on March 30.

This publication examines the tax provisions in the Patient Protection and Affordable Care Act as modified by the Reconciliation Act of 2010 (referred to collectively throughout the text as "the Act"). A brief — and primarily tax-focused — discussion of the mandate requiring individual coverage and the penalty on employers for failure to offer coverage is also included. This publication does not describe nontax provisions such as individual and group market reforms; expanded access to coverage; changes in government programs such as Medicare, Medicaid, and the State Children's Health Insurance Program; and provisions intended to improve health care delivery.

The Act represents a significant legislative milestone. While disagreeing dramatically on their approaches, politicians across the political spectrum have long sought solutions to twin challenges of the rising number of Americans without health insurance and the rising cost of health care. Seven of our last 11 presidents have offered proposals to address the problem of the uninsured. These ranged from Eisenhower's proposal for a federal reinsurance service that would encourage private insurers to cover high-risk individuals; to Nixon's recommendation for a combination of actions that included employer mandates, subsidies for the poor to purchase insurance, elimination of pre-existing conditions, and malpractice reform; to much more comprehensive insurance programs offered by Presidents Truman, Carter, and Clinton.

Three modern presidents have overseen dramatic expansions of health coverage and government involvement in health care. President Johnson pushed President Kennedy's Medicare proposals through Congress. President Clinton worked with a Republican Congress to create the State Children's Health Insurance Program, and President George W. Bush pushed the addition of prescription drug coverage to Medicare through Congress over fierce and nearly successful opposition in the House. In this Congress as in the past, the major debates have been over (1) how large a role the federal government should play, (2) how best to expand coverage for the uninsured and underinsured, (3) how to reduce the cost and increase the effectiveness of health care delivery, and (4) how to finance the federal government's commitments to health care.

We do not expect that the Act will end the national health care reform debate. Many observers believe that this legislation does not address the lingering challenge posed by the expansion of health care costs as the retirement of the baby-boom generation shifts more and more of these costs onto Medicare. Future Congresses will return to health care reform to address the cost of medical care, the benefits provided under various federal health care programs, and the taxes needed to support those government commitments.

# Provisions targeting high-income individuals

Democratic leaders have sought to roll back President Bush's tax cuts as they applied to individuals earning more than $200,000 ($250,000 for joint returns) ever since those provisions were enacted in 2001 and 2003. To that end, President Obama has proposed allowing the top ordinary tax rates of 33 and 35 percent to return to 36 and 39.6 percent and setting the top tax rate on capital gain and qualified dividend income at 20 percent.

The Act takes this impulse to find revenue from high-income taxpayers in a new direction. A significant portion of the revenue raised by the Act — $86.8 billion over 10 years — comes in the form of an additional Medicare tax hike that will affect higher-income taxpayers. An additional $123.4 billion over 10 years will come from a new Medicare contribution levied on unearned income. These two provisions alone will raise 48 percent of the new tax revenues associated with the Act.

### Medicare tax hike

Beginning in 2013, the Act imposes an additional 0.9 percent Medicare Hospital Insurance tax (HI tax) on self-employed individuals and employees with respect to earnings and wages received during the year above specified thresholds. This additional tax applies to earnings of self-employed individuals or wages of an employee received in excess of $200,000. If an individual or employee files a joint return, then the tax applies to all earnings and wages in excess of $250,000 on that return. The Act does not change the employer HI tax. Self-employed individuals are not permitted to deduct any portion of the additional tax.

If a self-employed individual also has wage income, then the threshold above which the additional tax is imposed is reduced by the amount of wages taken into account in determining the taxpayer's liability for the additional tax on wages. For example, assume a taxpayer had self-employment income of $500,000 and also received wage income of $75,000. In determining the additional self-employment tax, the threshold would be reduced from $200,000 to $125,000.

In contrast to income tax brackets and the wage cap on Social Security taxes, thresholds for the additional HI tax are not indexed for inflation. (See Table 1.)

**Observation**

Social Security taxes are only imposed on wages up to a certain amount ($106,800 for 2010). This cap is subject to indexation for inflation. Today, a taxpayer is subject to a wage tax of 7.65 percent until he or she reaches the wage cap and then the payroll tax drops to 1.45 percent. Under the Act, the payroll tax will go up once the individual receives $200,000 in wages, in effect, to 2.35 percent. If this wage cap were to increase by 3 percent a year, then, because the threshold is not indexed, by the twentieth year of the new 0.9 percent HI tax (2032), the HI tax would apply to some income to which Social Security taxes also apply. In that case, an individual would be subject to a tax of 7.65 percent until he or she reached $200,000 of wages, then the wage tax would go up to 8.55 percent. Once the wage cap is reached, the tax would drop to 2.35 percent.

**Table 1. Impact of additional Hospital Insurance tax**

This table shows how the new Medicare tax increase would affect a variety of high-income wage earners.

| Joint taxpayers | | Single taxpayers | |
|---|---|---|---|
| Earnings | Additional HI tax | Earnings | Additional HI tax |
| $250,000 | $450 | $250,000 | - |
| $500,000 | $2,700 | $500,000 | $2,250 |
| $1,000,000 | $7,200 | $1,000,000 | $6,750 |
| $5,000,000 | $43,200 | $5,000,000 | $42,750 |

For wage earners, the Act requires the employer to withhold the employee's tax from wages paid to the employee in excess of $200,000. In determining its withholding obligation, the employer is not required to consider wages that may be received by the employee's spouse that would be subject to this tax. As a result, some married couples may have liability for the additional HI tax that is not satisfied by withholding.

To illustrate, consider a husband and wife who earn $100,000 and $200,000 in wages, respectively. Neither spouse would be subject to additional withholding through their employers. However, when they file a joint return, their wages together would exceed the $250,000 threshold, subjecting $50,000 of wages to the new tax, amounting to $450.

If the employer fails to collect the tax, and the employee subsequently pays the tax, then the tax will not be collected from the employer, but the employer will remain liable for penalties.

**Effective date** – The additional HI tax applies to wages received and taxable years beginning after December 31, 2012.

**Observation**

Social Security and HI (FICA) taxes are imposed on both wages received by the employee in cash (in the year received), plus on the value of amounts deferred under a nonqualified deferred compensation plan (generally at the time deferred). For "nonaccount balance" deferred compensation plans, the regulations give employers some degree of choice as to when the value of an employee's deferred compensation will be subjected FICA taxes. The new HI tax, with the delayed effective date, may cause some employees with substantial deferred compensation to seek acceleration of the time those benefits are subjected to FICA taxation, so that this increase can be avoided. Even though this tax is imposed only on the employee, it is solely the employer's decision whether to accelerate the timing of FICA taxes for these amounts.

A Deloitte Tax analysis illustrates the effect of the increase in payroll or self-employment taxes, along with other FY2011 budget proposals, on representative taxpayers. A single taxpayer with household income of $350,000 could expect an increase of $2,000 attributable to these changes. A married couple with equal income would see a savings of $5,700 due to a decrease in their alternative minimum tax (AMT) liability.

Taxpayers with substantially higher income should expect to owe considerably more. A single taxpayer with household income of $5 million could expect a tax increase of $276,200 attributable to the changes. A married couple with equal income would see an increase of $277,600. (See Table 2.)

**Table 2: Effects of Hospital Insurance tax increase and proposed high-income tax increases in president's FY 2011 budget**

This table shows how the new Medicare tax increase will affect a variety of high-income earners. Effects of the new tax are calculated assuming that other high-income taxpayer proposals recommended in the president's FY2011 budget will also be effective for 2010.*

| Household income | Tax under current law | Tax with proposals and Medicare tax | Additional tax due to proposals |
|---|---|---|---|
| **Single filers** | | | |
| $75,000 | $9,300 | $9,300 | - |
| $150,000 | $24,900 | $24,200 | ($700)** |
| $350,000 | $81,100 | $83,100 | $2,000 |
| $5,000,000 | $1,361,400 | $1,637,600 | $276,200 |
| **Joint filers** | | | |
| $75,000 | $2,800 | $2,800 | - |
| $150,000 | $19,800 | $16,400 | ($3,400)** |
| $350,000 | $79,700 | $74,000 | ($5,700)** |
| $5,000,000 | $1,350,200 | $1,627,800 | $277,600 |

* The proposals assumed are (1) the increase in ordinary tax rates, (2) the increase in capital gains and dividend rates, (3) restoration of the phase-out of personal exemptions, (4) restoration of the 3 percent reduction in itemized deductions, and (5) extension of the higher exemption for AMT purposes.

** These savings are created primarily by the extension of the higher exemption for AMT purposes and not the Act.

### Unearned income Medicare contribution

The Act includes a proposal offered by President Obama for an unearned income Medicare contribution levied on income from interest, dividends, capital gains, annuities, royalties, and rents, other than such income that is derived in the ordinary course of a trade or business and not treated as a passive activity. The Act taxes this income at a rate of 3.8 percent (up from 2.9 percent in the president's plan). Because the tax applies to "gross income" from these sources, income that is excluded from gross income, such as tax-exempt interest, is not taxed. The tax is applied against the lesser of the taxpayer's net investment income or modified adjusted gross income (AGI) in excess of the threshold amounts. These thresholds are set at $200,000 for singles and $250,000 for joint filers.

The contribution and the 0.9 percent additional HI tax on earned income apply independently. For example, if an individual had wages of $190,000, investment income of $30,000, and modified AGI of $210,000, that individual would pay no wage tax and would pay the contribution on the $10,000 by which his or her modified AGI exceeded $200,000. Alternatively, if the taxpayer had wages of $300,000, investment income of $60,000, and modified AGI of $350,000, then the taxpayer would pay the wage-based HI tax on $100,000 and the 3.8 percent unearned income Medicare contribution on $60,000.

Net investment income from a passive activity as well as income from a trade or business of trading financial instruments or commodities as defined by existing mark-to-market tax rules for dealers of commodities is subject to tax. Income on an investment of working capital is also taxed. Generally, a taxpayer may reduce net investment income by any deductions properly allocable to taxed income.

Some types of income are exempt from the tax, including income from the disposition of certain active partnerships and S corporations, distributions from qualified plans, and any item taken into account in determining self-employment income. The tax does not apply to nonresident aliens or trusts for which all of the unexpired interests are devoted to charitable purposes.

The Act defines modified adjusted gross income as AGI increased by any income excluded by the foreign earned income exclusion over the deductions and exclusions disallowed with respect to that income.

The new tax is subject to general estimated tax rules for individuals.

For estates and trusts, the tax applies on the lesser of the undistributed net investment income or the excess of adjusted gross income over the dollar amounts at which the 39.6 percent tax bracket for estates and trusts begins.

The Act clarifies the thresholds that apply under the Medicare tax increase on wages for married taxpayers filing separately. In this case, it is one-half of the amount for joint filers. The Act also clarifies that the Medicare tax on wages also is subject to estimated tax payment rules.

If the proposed tax hikes on high-income individuals included in the president's FY 2011 budget were to become law along with the unearned income Medicare contribution, a high-income taxpayer could expect an effective tax rate on capital gains and qualified dividends of 23.8 percent. Significantly, however, the effective tax rate on nonqualified dividends would be 43.4 percent. (See Table 3 for examples of how the Medicare tax increase and the unearned income Medicare contribution will affect a variety of high-income earners.)

The new unearned income Medicare contribution applies to taxable years beginning after December 31, 2012.

**Table 3: Effects of Hospital Insurance tax increase, unearned income Medicare contribution, and proposed high-income tax increases in president's FY 2011 budget**

This table shows how the new Medicare tax increase, along with the unearned income Medicare contribution, would affect a variety of high-income earners. Tax effects are calculated assuming that other high-income taxpayer proposals recommended in the president's FY2011 budget will also be effective for 2010.*

| [illegible] | [illegible] | [illegible] | [illegible] |
|---|---|---|---|
| | | **Single filers** | |
| $75,000 | $9,300 | $9,300 | – |
| $150,000 | $24,900 | $24,200 | ($700)** |
| $350,000 | $81,100 | $83,800 | $2,700 |
| $5,000,000 | $1,361,400 | $1,647,100 | $285,700 |
| | | **Joint filers** | |
| $75,000 | $2,800 | $2,800 | – |
| $150,000 | $19,800 | $16,400 | ($3,400)** |
| $350,000 | $79,700 | $74,600 | ($5,100)** |
| $5,000,000 | $1,350,200 | $1,637,300 | $287,100 |

* The proposals assumed are (1) the increase in ordinary tax rates, (2) the increase in capital gains and dividend rates, (3) restoration of the phase-out of personal exemptions, (4) restoration of the 3 percent reduction in itemized deductions, and (5) extension of the higher exemption for AMT purposes.

** These savings are created primarily by the extension of the higher exemption for AMT purposes and not the Act.

To further illustrate the effects of the new Medicare tax on wages and the unearned income Medicare contribution, a single taxpayer earning $1 million of wages and $100,000 of capital gain income would owe an additional $11,000. A married couple earning the same amount would owe an additional $10,550.

# Excise tax on high-cost employer health plans

Beginning in 2018, the Act imposes a nondeductible 40 percent excise tax on the "excess benefit" provided in any month under any employer-sponsored health plan. This provision is projected to raise $32 billion through 2019. An excess benefit is a benefit the cost of which, on an annual basis, exceeds $10,200 a year for individuals or $27,500 for families. In 2019, these threshold amounts will be indexed annually to the Consumer Price Index for All Urban Consumers (CPI-U) plus 1 percentage point. After 2019, the threshold amounts will be indexed annually to CPI-U. (The premium thresholds will be further increased in 2018 if Congressional Budget Office projections regarding premium inflation between 2010 and 2018 underestimate cost growth.)

The excise tax is imposed proportionately on each coverage provider. To the extent that coverage is provided under an employer plan provided through insurance coverage, the issuer of the coverage is liable for the tax. The plan administrator must pay the tax in the case of a self-insured group health plan, a health flexible spending arrangement (FSA), or a health reimbursement arrangement (HRA). The employer must pay with respect to employer contributions to a health savings account (HSA) or medical savings account (MSA).

In determining the aggregate cost, all employer-sponsored health insurance coverage is taken into account, including coverage in the form of reimbursements under a Health FSA or an HRA, contributions to an HSA, and other supplementary health insurance except dental and vision plans. Employer-sponsored health coverage is health coverage offered by an employer to an employee without regard to whether the employer provides the coverage or the employee pays the coverage with after-tax dollars. In the case of a self-employed individual, employer-sponsored health insurance coverage is coverage for which a deduction is allowable with respect to all or any portion of the coverage.

Employers will be penalized for undervaluing the insurance cost subject to the excise tax. The penalty will equal the amount of any additional excise tax that the insurer or administrator would have owed if the employer had reported correctly, plus interest to be accrued from the date the tax otherwise would have been paid to the date the penalty is paid.

### Increased thresholds

The Act adjusts the threshold for the excise tax in the case of certain individuals.

**Retirees and "high-risk" professions** – For retired individuals over the age of 55 and for plans that cover employees engaged in high-risk professions, the threshold amount is increased by $1,650 for individual coverage and $3,450 for family coverage. In 2018, these threshold amounts will be indexed annually to the CPI-U plus 1 percentage point. After 2019, the threshold amounts will be indexed annually to CPI-U. High-risk professions include law enforcement officers, firefighters, members of a rescue squad or ambulance crew, longshoremen, and individuals engaged in the construction, mining, agriculture (but not food processing), forestry, or fishing industries.

In addition, the Act also exempts plans that provide some already legally excepted benefits under the Health Insurance Portability and Accountability Act of 1996, including coverage only for accident and disability income, coverage for a specific disease or illness, and hospital indemnity insurance.

Under the Act, the threshold amount cannot be increased by more than $1,350 for individual coverage or $3,000 for family coverage, even if the individual would qualify for an increased threshold both on account of his or her status as a retiree over age 55 and as a participant in a plan that covers employees in a high-risk profession.

**Effective date** – The high-cost plan excise tax applies to taxable years beginning after 2017.

**Observation**

Congress anticipated that the excise tax will make the provision of excess benefits prohibitively expensive. As a result, employers likely will reduce tax-free compensation provided in the form of excess benefits and shift toward taxable compensation. Employees will face reduced benefits in the form of specific exclusions from coverage or in the form of higher deductibles and co-pays. To the extent they continue to consume health care that was previously covered under the high-cost plan, they will have to do so with after tax dollars.



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# Industry fees

The Act provides for several new fees to be levied on companies in certain segments of the health care industry to help defray the costs of expanding coverage. The fees generally are computed by reference to the prior year's economic activity within each industry segment and assessed by the Secretary of the Treasury on each affected company based on its pro-rata share of that particular marketplace. The fees are not deductible for income tax purposes and are expected to raise $112 billion over 10 years.

### Annual fee on health insurance providers

An annual fee will be imposed on covered entities providing health insurance with respect to U.S. health risks. The fee does not apply to accident and disability, indemnity, long-term, or Medicare supplemental insurance. The fee is apportioned among the providers based on their relative market share and is calculated by taking the provider's net premiums written (including net premiums of its affiliates under common control) with respect to health insurance as a percentage of the total net premiums written with respect to health insurance for all U.S. health insurance providers.

The fee is assessed by the Secretary of Treasury by reference to the provider's market share for each calendar year and is to be paid on a date determined by the Secretary in the following year, but not later than September 30. To determine market share and the fee imposed on each covered entity, health insurance providers are required to report, by a date to be determined by the Secretary, net premiums written. A failure to report this information will result in the imposition of penalties, unless reasonable cause is shown. The Secretary is permitted to rely on any other sources of available information (e.g., annual financial statements) to verify or supplement the reports submitted by covered entities.

**Market-share calculation** – The Act provides that the first $25 million of net premiums written will not be taken into account and only half of net premiums between $25 and $50 million will be considered. For net premiums written in excess of $50 million, 100 percent are included in the calculation. For this purpose, "net premiums written" is intended to mean premiums written, including reinsurance premiums written, reduced by reinsurance ceded and certain commissions paid.

(See Table 4 for an example of how the fee would apply to a covered entity with $100 million of net premium.)

**Table 4: Pro-rata imposition of annual fee on health insurance providers (based on market share for a covered entity with $100 million of net premium)**

| Net premium | Applicable net premium | Rate applied | Pro-rata premium contribution |
|---|---|---|---|
| Up to $25 million | $25 million | 0 percent | $0 |
| $25 - $50 million | $25 million | 50 percent | $12.5 million |
| $50 - $100 million | $50 million | 100 percent | $50.0 million |
| Total net premium | $100 million | | $62.5 million |

**Exceptions** – Under the Act, covered entities subject to the fee do not include employers to the extent they self-insure employee health risks, governmental entities (other than those providing insurance through the Act's community health insurance option), certain nonprofit insurers of last resort, and certain nonprofit insurers with a medical loss ratio of 90 percent or more. The Act also creates limited exceptions for plans that serve a critical purpose, including plans serving a high percentage of seniors and disabled individuals. For tax-exempt service providers, only 50 percent of net premiums written will be taken into account.

For health insurance providers, the aggregate annual fees imposed are $8 billion for 2014, $11.3 billion for 2015 and 2016, $13.9 billion for 2017, and $14.3 billion for 2018. For years after 2018, the fee is the amount applicable for the preceding year, increased by the rate of premium growth as calculated for the premium tax credits included in the Act. The provision raises $60.1 billion over 10 years.

**Effective date** – The fee will first be payable in 2014 with respect to net premium written in 2013.

### Fee on pharmaceutical manufacturers and importers

The Act imposes an annual fee on pharmaceutical manufacturers and importers of branded prescription drugs (including certain biological products). The aggregate annual fees imposed on covered entities will be $2.5 billion for 2011, $2.8 billion for 2012 and 2013, $3 billion for 2014 through 2016, $4 billion for 2017, $4.1 billion for 2018, and $2.8 billion a year thereafter. The fees will be allocated by reference to each entity's proportionate share of total branded prescription drug sales during the prior calendar year to (or pursuant to coverage under) a "specified government program," meaning Medicare Part D, Medicare Part B, Medicaid, Departments of Veterans Affairs and Defense programs, or the TRICARE retail pharmacy program. The Secretary of the Treasury will assess the fees on the basis of information provided by the Departments of Health and Human Services, Veterans Affairs and Defense; and the Secretary may also consider any other sources of available information. The fees imposed with respect to drug sales during the prior calendar year must be paid by a date during the current year to be determined by the Secretary of the Treasury, but not later than September 30. The Act adds joint and several liability for the fee if, with respect to a single covered entity, more than one person is liable for payment under the controlled group rules.

**Market-share calculation** – If during a calendar year a covered entity (including its affiliates under common control) has less than $5 million of branded prescription drug sales to a specified government program or pursuant to coverage under such a program, it will be treated as having no market share and no fee will be imposed. For sales of branded prescription drugs between $5 million and $125 million, only 10 percent of such sales are taken into account when determining the applicable fee. For sales between $125 million and $225 million, 40 percent of such sales are taken into account; and for sales between $225 and $400 million, 75 percent of such sales are considered. To the extent that a covered entity's sales of branded prescription drugs to a specified government program exceed $400 million, 100 percent of such excess sales are taken into account to compute the entity's market share.

(See Table 5 for an example of how the fee would apply to a covered entity with $1 billion in qualifying sales during the prior calendar year.)

**Table 5: Pro-rata imposition of annual fee on pharmaceutical manufacturers and importers (based on market share for a covered entity with $1 billion in sales during prior calendar year)**

| Sales bracket | Applicable amount of sales | Percentage | Amount of fee allocated to covered entity |
|---|---|---|---|
| Up to $5 million | $5 million | 0 percent | $0 |
| $5 - $125 million | $120 million | 10 percent | $12 million |
| $125 - $225 million | $100 million | 40 percent | $40 million |
| $225 - $400 million | $175 million | 75 percent | $131 million |
| Above $400 million | $600 million | 100 percent | $600 million |
| Total sales | $1 billion | | $783 million |

**Exceptions** – Sales of so called "orphan drugs" for rare diseases and conditions are disregarded for purposes of determining fee amount, until such drugs are approved for broad use by the Food and Drug Administration (FDA).

The Act does not contain any provisions requiring the manufacturers and importers themselves to provide information regarding their sales of branded prescription drugs. Instead, information reporting requirements with respect to sales of branded prescription drugs (taking into account certain rebates, discounts, or other price concessions) apply to the government agencies that administer the specified government programs that directly purchase such drugs or that provide coverage for the purchase of such drugs by others.

The fees collected will be credited to the Medicare SMI trust fund.

**Effective date** – The fee will first be payable in 2011 with respect to sales in 2010.

### Medical device fee

The Act imposes an excise tax of 2.3 percent on the sale price of any taxable medical device sold by manufacturers and importers beginning in 2013.

**Covered devices** – The Act generally applies to sales for use in the United States of any medical device (as defined in section 201(h) of the Federal Food, Drug, and Cosmetic Act) intended for humans. The tax does not apply to eyeglasses, contact lenses, hearing aids, and any other device deemed by the Secretary to be of the type available for regular retail purposes.

**Effective date** – The excise tax applies to sales beginning in 2013.

### Excise tax on indoor tanning services

The Act imposes a 10 percent tax on amounts paid for indoor tanning services, whether or not an individual's insurance policy covers the service. The tax imposed is to be paid by the individual on whom the service is performed. The service provider is obligated to collect the tax from the customer and becomes liable for the tax if it does not do so. Indoor tanning services are defined as services that use an electronic product with one or more ultraviolet lamps to induce skin tanning.

**Effective date** – The provision is effective for services performed on or after July 1, 2010.

### Comparative effectiveness fee

The Act establishes a new Patient-Centered Outcomes Research Trust Fund (PCORTF) to fund comparative effectiveness research that is mandated by the Act. The trust fund is to be funded by a fee imposed on private insurance plans equal to $2 for each individual covered under a specified individual or group health insurance policies. For fiscal years beginning after September 30, 2014, the fee is increased to reflect increases in the per capita amount of national health expenditures. This fee is provided for under the Internal Revenue Code and is subject to the code's procedures and administration rules. The fee is reduced to $1 for policy plan yeas ending before October 1, 2013.

**Effective date** – The fee is effective for each policy plan year ending after September 30, 2012, and before September 30, 2019.

### Study on impact of fees on veterans' health care

The Act directs the Secretary of Veterans Affairs to conduct a study on the effect (if any) of the newly imposed fees on the health-related industries on the cost of medical care provided to veterans, as well as their access to medical devices and branded prescription drugs. The Secretary is directed to report the results of the study to the House Committee on Ways and Means and to the Senate Committee on Finance not later than December 31, 2012.

# Business-related provisions

### Measures to encourage employer health coverage

The Act does not require employers to provide health coverage to employees; but beginning in 2014, it penalizes them for failing to do so through penalties (administered by the IRS) that are imposed on certain employers with at least 50 full-time employees (those working 30 or more hours per week). These penalties and other aspects of the rules encouraging employer-provided coverage are discussed in a later chapter that also describes design issues and individual mandates.

### Elimination of deduction for Medicare Part D subsidy

An employer offering retiree prescription drug coverage that is at least as valuable as Medicare Part D is entitled to a subsidy. Employers can deduct the entire cost of providing the coverage, even though a portion is offset by the subsidy. For taxable years beginning after December 31, 2012, the Act repeals the current rule permitting deduction of the portion of the expense that offset by the Part D subsidy.

**Effective date** – The provision is effective for taxable years beginning after December 31, 2012.

> **Observation**
>
> Increasing costs have already placed pressure on many employers to reduce or eliminate retiree medical benefits. Those who continue to do so may be contractually obligated to the benefits or may regard them as essential tools for recruitment and retention of their workforce. The increased cost resulting from denial of the deduction will be one more factor that employers will take into account as they design or modify their benefit plans.

**ASC 740 implications** – The employer's promise to provide post-retirement prescription drug coverage (coverage) is recorded as a component of the other post-employment benefit (OPEB) obligation. When that coverage benefit meets certain criteria, the employer becomes eligible to receive the Retiree Drug Subsidy, which is then recorded as an offset against the obligation (the obligation is recorded net of the subsidy and the net amount is actuarially determined). In determining the deferred tax asset related to the OPEB obligation, companies have been required to "unbundle" the net amount into the "pre-subsidy" liability and the offsetting subsidy receivable. Since the obligation has historically been deductible when paid, a deferred tax asset has historically been recorded for the future tax deduction related to the grossed-up "pre-subsidy" amount. The unbundled subsidy receivable has not required a deferred tax liability since it has not been taxable when received. With the change in law, the subsidy "receivable" will remain not taxable, but a corresponding amount of liability will become not deductible. Therefore, the expected future tax deduction will be reduced by an amount equal to the subsidy and the corresponding deferred tax asset must be adjusted (reversed in this instance).

Under ASC 740, the expense or benefit related to adjusting deferred tax liabilities and assets as a result of a change in tax laws must be recognized in income from continuing operations for the period that includes the enactment date. Since President Obama signed the Act into law by March 31, the expense resulting from this change will be recognized in the first quarter of 2010 even though the change in law will not be effective until 2013 (however, the deferred tax asset is not adjusted for the part of the OPEB obligation that is expected to be settled prior to the effective date of the new law).

In the event that there is a valuation allowance recorded against the deferred tax asset, the reversal of the deferred tax asset will not result in an immediate deferred tax expense, as the decrease to the deferred tax asset will be offset by a corresponding decrease in the valuation allowance. However, the expense related to the change in the law has only been deferred, since the amount of valuation allowance that can be reversed to tax benefit at a later date (if and when the company returns to profitability) has been permanently reduced.



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### Deduction limits for compensation paid by health insurance providers

The Act limits the deduction for compensation for services provided by certain individuals to a "covered health insurance provider" to $500,000 per year. For this purpose, an employer is a "covered health insurance provider" for a year (after 2012) if at least 25 percent of the provider's gross premium income is derived from health insurance plans that meet the minimum creditable coverage requirements in the legislation. Prior to 2012, a "covered health insurance provider" is any employer qualifying as a health insurance provider that receives premiums for providing health insurance coverage.

The deduction limits apply to compensation attributable to services performed by an "applicable individual." Applicable individuals include all officers, employees, directors, and other workers or service providers (such as non-employee independent contractors) performing services for or on behalf of a covered health insurance provider. Thus, the deduction restrictions will apply to any individual providing compensated services to a covered health insurance provider, not just the top executives.

Under the Act, for purposes of determining whether remuneration of a particular applicable individual exceeds $500,000, compensation paid to the individual from any member of the controlled group of the covered health insurance provider as determined by applying rules applicable to qualified retirement plans is considered.

The deduction limits apply to both current and deferred compensation. The limit that applies to deferred compensation earned in a year is equal to the $500,000 limit for that year, reduced by the amount of current compensation paid. Thus, if an employee receives salary of $400,000 in 2013, the deduction for deferred compensation attributable to the same year is limited to $100,000 in the year in which the compensation is otherwise deductible. In this example, deferred compensation for that year that exceeds $100,000 will not be deductible in the year paid.

Although this limit is an amendment to the existing $1 million limitations on executive compensation under section 162(m), this deduction limit applies differently in many respects:

- The limit is based on the year in which compensation is earned, rather than the year in which the deduction is claimed. A limit based on when compensation is earned requires determination of the period to which compensation is attributable, and has the effect of limiting deductions for both current and former service providers. It will also have the effect of limiting deductions for compensation earned when the company is considered a health insurance provider, even if the company ceases to be a health insurance provider by the time the compensation is paid.
- The limit applies to compensation to any individual service provider, including independent contractors as well as all employees, rather than just the chief executive officer and highest three officers, as disclosed in Securities and Exchange Commission (SEC) filings.
- The deduction limitations apply to covered insurance providers, regardless of whether the provider is a "publicly held corporation" that is subject to SEC registration requirements.
- The deduction limits apply to compensation paid by all entities within the insurer's controlled group. For this purpose, controlled group status is determined using rules similar for determining controlled group status for qualified plans.
- The exceptions for certain performance-based compensation and commission compensation are inapplicable.

Employers with self-insured plans are not considered covered health insurance providers for purposes of this provision.

**Effective date** – The provision will be effective for remuneration paid in taxable years beginning after 2012 with respect to services performed after 2009. Thus, the limits will apply to current compensation paid in years after 2012, but will apply to deferred compensation earned after 2009.

### Nonprofit hospital requirements

The Act imposes four new requirements that a hospital must satisfy to be tax-exempt: (1) the periodic preparation of a community health needs assessment; (2) maintenance of a qualified financial assistance policy; (3) limitations on charges to individuals eligible for assistance; and (4) avoidance of certain billing and collections activities.

The new requirements apply to organizations that operate a facility required by a state to be licensed, registered, or otherwise recognized as a hospital, and are determined to have hospital care as its primary function or purpose for exemption. If an organization operates more than one hospital, every hospital facility in the organization must adhere to the provisions of the Act separately to qualify for its tax-exempt status.

**Community health needs assessment** – To preserve its tax-exempt status under section 501(c)(3) the organization must conduct a community health needs assessment at least once during any three-year period (specifically, the current taxable year or the two immediately preceding years), as well as have an implementation strategy, which is available to the public, to meet the needs identified through the assessment. The needs assessment must take advice from people who represent the community interest including people who have public health expertise. Failure to comply with performing the assessment results in a penalty of $50,000.

In addition the assessment requirements, organizations:

- Will be subject to Treasury review of their community benefit activities at least once every three years to ensure compliance;
- Must have a description of how they address community health needs, what needs are not addressed, and why those needs are not addressed; and
- Must also have audited financial statements (either stand-alone or part of a consolidation).

**Financial assistance policy requirements** – Each hospital must adopt, implement, and publicize a written financial assistance policy that includes a description of the criteria for assistance (free or discounted), the basis for calculating amounts charged to patients, the method for applying assistance, the actions an organization may take to collect outstanding debts, methods to widely publicize the financial assistance policy, and a requirement that the organization provide nondiscriminatory emergency care regardless of the ability to qualify under the written financial policy.

**Charges** – Hospitals are limited as to how much they can bill patients who qualify for financial assistance. The prescribed rules on fees require that the amounts charged for emergency or other necessary procedures performed on those patients be no more than the lowest amounts generally billed to insured individuals. The Act also prohibits the use of gross charges when billing those who qualify for financial assistance.

**Collections** – With respect to billing and collection, a hospital cannot engage in extraordinary means of collection until reasonably exploring the eligibility for assistance under the financial assistance program (guidance may be released relating to what constitutes reasonable efforts).

**Effective date** – Generally, the requirements apply to taxable years beginning after the enactment date, however, the community health needs assessment requirement applies to taxable years beginning two years after the date of enactment.

**Treasury report on charity care** – The Secretary of the Treasury, in consultation with the Secretary of Health and Human Services, will submit an annual report to Congress that addresses issues related to charitable care. These include issues related to the level of charity care, bad debt expense, unreimbursed costs for services provided through means-tested government programs, unreimbursed costs for services provided through non-means-tested government programs, and information about costs incurred by private hospitals for community benefit activities. The Secretary shall also within five years of the date of enactment issue a report that analyzes trends in the information collected under the new reporting requirements.



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### Credit for small-business employee health coverage

Small businesses and eligible tax-exempt employers who are required to make certain non-elective contributions toward the costs of employee health benefits will be eligible for a small business credit to offset the cost of employee health insurance.

When fully effective, the new credit will be up to 50 percent of the lesser of: (1) the employer's aggregate contributions towards premiums paid to a qualified health plan offered by the employer through an exchange; or (2) the aggregate contributions an employer would have made if the employee had enrolled in a qualified health plan having a premium equal in value to the average premium for the small group market in which the employee enrolls. For years 2010 through 2013, the credit is 35 percent of the lesser of: (1) employer's nonelective contributions for premiums paid for health insurance coverage; or (2) the average premium for the small group market in the employer state.

In order to qualify, the business must have no more than 25 full-time equivalent employees, pay average annual wages of less than $50,000, and provide qualifying coverage. The full amount of the credit will be available to employers with 10 or fewer employees and average annual wages of less than $25,000, and will phase out when those thresholds are exceeded. The average wage threshold for determining the phase-out of credits will be adjusted for inflation after 2013.

For tax-exempt employers, the maximum credit is 25 percent for years 2010 through 2013, increasing to 35 percent in 2014.

Employers will not be eligible to use the credit for certain employees, including defined "seasonal workers," self-employed individuals, 2 percent shareholders of an S corporation (as defined by section 1372(b), 5 percent owners of a small business (as defined by section 416(i)(1)(B)(i)), and dependents or other household members. However, leased employees are eligible employees for the credit.

Employers receiving credits will be denied any deduction for health insurance costs equal to the credit amount.

**Effective date** – The provision is effective for amounts paid or incurred after December 31, 2009, and to the determination of AMT credits after that date and their carryback.

### Cafeteria plan nondiscrimination safe harbor for small employers

Small employers (generally those with 100 or fewer employees) will be allowed to adopt new "simple cafeteria plans," which are conceptually similar to simple 401(k) plans and simple IRAs under current law. In exchange for satisfying minimum participation and contribution requirements, these plans will be treated as meeting the nondiscrimination requirements that would otherwise apply to the cafeteria plan.

**Effective date** – The provision is effective for taxable years beginning after December 31, 2010.

### Therapeutic Project Tax Credit

The Act provides a credit for businesses with 250 or fewer employees that make a qualified investment in acute and chronic disease research during 2009 or 2010. Control group rules apply in determining the number of employees. The credit will equal 50 percent of the qualified investment. The Secretary of the Treasury is authorized to provide a grant in lieu of the credit.

The credit has a $1 billion cap. The Department of the Treasury in consultation with the Department of Health and Human Services will award certification for eligibility.

The Act provides for elimination of double benefits by denying tax credits, deductions, and favorable basis adjustments for expenditures funded through these credits or grants.

**Effective date** – The provision is effective for amounts paid or incurred after December 31, 2008, in taxable years beginning after December 31, 2008.

**Observation**

There appears to be nothing in the Act that would make a qualifying taxpayer hesitate to take advantage of this provision because it would curtail future research credits or orphan drug credits. The credit/grant is larger than the research credit, is computed on a broader base of qualifying expenses, and base amount adjustments would not be a critical factor. One minor consideration is that qualifying taxpayers may have to amend 2009 returns to reduce reported carryforward credits to the extent that they are awarded grants/credits for expenses incurred in 2009 that were also considered in determining research credits.

### Modification of section 833 treatment of certain health organizations

The Act limits the special deduction for Blue Cross Blue Shield organizations of 25 percent of the amount by which certain claims, liabilities, and expenses incurred on cost-plus contracts exceed the organizations adjusted surplus. The special deduction will be available only to those otherwise qualifying organizations that expend at least 85 percent of their total premium on reimbursement for clinical services provided to enrollees.

**Effective date** – The provision is effective for taxable years beginning after December 31, 2009, and will raise $400 million over 10 years.

### Tax treatment of black liquor

The Act includes a new provision that modifies the cellulosic biofuel producer credit under section 40(b) to preclude "black liquor" — the wood pulp byproduct that paper companies use to power their mills — from eligibility.

This provision is intended to resolve a debate over the tax treatment of black liquor that has continued since 2007. When section 6426(d)(2)(G) was clarified in 2007 to apply to "liquid fuel derived from biomass," paper mills became eligible to claim the refundable alternative fuel mixture credit under section 6426(e) by adding a small amount of diesel fuel to their black liquor. The alternative fuel mixture credit expired on December 31, 2009. If Congress decides to extend the credit, it is generally expected to add a provision that will make black liquor ineligible.

But a new issue in the debate emerged recently when the IRS held in an internal legal memorandum (ILM 200941011) that black liquor may be eligible for the nonrefundable cellulosic biofuel producer credit under section 40(b)(6), which is not scheduled to expire until December 31, 2012.

To address this, the Act modifies section 40(b)(6) (which allows taxpayers to claim a $1.01-per-gallon nonrefundable credit for certain liquid fuels produced) to provide that a fuel is ineligible for the cellulosic biofuel producer credit if:

- Its combined water-and-sediment content is greater than 4 percent (determined by weight) or
- Its ash content exceeds 1 percent (determined by weight).
- The effect of this statutory change is that black liquor will not qualify for a nonrefundable credit under section 40(b)(6).

**Effective date** – The provision is effective for fuels sold or used after December 31, 2009.

### Corporate estimated taxes

The Act increases the estimated tax payment for corporations with assets of at least $1 billion by 15.75 percentage points for payments otherwise due in July, August, or September of 2014 and reduces the first payment due after September 2014 correspondingly. This provision is simply a means of satisfying technical budget rules that set requirements for the first five years of a ten-year budget window. Previous such accelerations have been repealed once they were no longer necessary to satisfy budget rules. (See Public Law 111-42, section 201.)



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# Reporting and compliance provisions

### Economic substance codification

The Act codifies the economic substance doctrine. Proposals to codify the economic substance doctrine date at least back to President Clinton's FY2000 budget submitted to Congress in February 1999. House and Senate taxwriters subsequently have included similar measures in a number of bills and President Obama included a codification proposal in his fiscal 2011 budget.

This provision mandates a conjunctive analysis of economic substance under which taxpayers would have to show both that (1) a transaction changed their economic position in a meaningful way apart from the federal income tax effects and (2) they had a substantial purpose apart from federal income tax effects for entering into the transaction.

A 40 percent strict-liability penalty applies to tax understatements attributable to undisclosed noneconomic substance transactions. The penalty is 20 percent if a transaction is adequately disclosed. There is no reasonable-cause exception to the penalty; thus, outside opinions would not protect a taxpayer from imposition of a penalty if it is determined that the transaction lacks economic substance. Additionally, this provision provides that noneconomic substance transactions are deemed to lack reasonable basis for purposes of the 20 percent penalty under section 6676 for erroneous claims for refunds or credits. This provision applies to transactions entered into after the date of enactment.

According to the explanation issued with the legislation, the provision is not intended to alter the tax treatment of basic business transactions in which the choice between meaningful economic alternatives is largely or entirely based on comparative tax advantages. These basic transactions include:

- The choice between capitalizing a business enterprise with debt or equity;
- A U.S. person's choice between utilizing a foreign corporation or a domestic corporation to make a foreign investment;
- The choice to enter a transaction or series of transactions that constitute a corporate organization or reorganization; and,
- The choice to utilize a related-party entity in a transaction provided that the arm's length standard of section 482 and other applicable concepts are satisfied.

A number of commentators and former government officials have expressed concern that codification of the economic substance doctrine would introduce additional complexity into the tax system while limiting the ability of the government and courts to evaluate all of the relevant facts and circumstances of particular transactions. Concerns have also been raised about the fairness of imposing a large, strict-liability penalty on taxpayers when the statutory requirements that trigger the penalty are untested and ambiguous.

### Wage (W-2) reporting

The Act imposes additional reporting requirements on all employers. Beginning in 2011, W-2 statements issued to taxpayers must include the aggregate cost of employer-sponsored health benefits. The amount to be reported is the aggregate cost determined under rules similar to the applicable premium rules for COBRA continuation coverage.

If the employee receives health insurance coverage under multiple plans, the employer must disclose the aggregate value of all such health coverage, but exclude all contributions to HSAs and Archer MSAs and salary reduction contributions to FSAs.

**Effective date** – The new W-2 reporting is effective after 2010.

### Business payment (1099) reporting

The Act significantly expands the current-law obligation of persons engaged in a trade or business to report on payments of other fixed and determinable income or compensation. First, to the Act extends reporting to include payments made to corporations other than corporations exempt from income tax under section 501(a). Second the Act expands the kinds of payments subject to reporting to include reporting of the amount of gross proceeds paid in consideration for property or services.

**Effective date** – The new 1099 reporting is effective for payments made after December 31, 2011.

### Reporting related to individual mandate, employer penalties

The Act also contains two additional reporting requirements that support the individual health insurance mandate and the penalty on large employers for failure to provide insurance. The required reports must be filed as information returns with the IRS.

**Reporting by persons providing minimal essential health coverage** – Insurers (including employers who self-insure and governmental units) who provide the minimum essential health coverage to an individual during each calendar year must report certain information to the covered individual and the Treasury Secretary.

Generally the information to be reported with respect to insured individuals includes identifying information, dates of coverage, and any premium tax credit or cost sharing subsidy received by the individual with respect to such coverage, and any other information required by the Treasury Secretary. For insurance provided through an employer's group health plan, the insurer must report the name, address, and EIN of the employer maintaining the plan, the portion of the premium required to be paid by the employer, and any information the Secretary may require to administer the new tax credit for qualified small employers. Failure to comply with the requirement would trigger existing penalties associated with the filing of information returns.

**Reporting by large employers** – Any large employer subject to rules for maintaining minimum essential coverage, must file a return that identifies the employer; certifies whether it offers to its full-time employees the option to enroll in a minimum essential coverage plan; and provides the number of full-time employees during each month of the calendar year and information identifying each full-time employee covered under the employer-provided health plan.

If the employer does certify that it offered its employees the opportunity to enroll in minimum essential coverage, it must report additional information relating to the cost and availability of that coverage. Governmental units providing coverage are subject to the same reporting requirements. Failure to comply with the requirement would trigger existing penalties associated with the filing of information returns.

**Effective date** – These new reporting requirements apply for calendar years beginning after 2013.

### Disclosure of tax return information

The Act also authorizes the Treasury to disclose to the Secretary of Health and Human Services relevant individual income tax return information used for determining eligibility for premium tax credits; cost-sharing reduction; and participation in a State Medicaid program, a State children's health insurance program, or a basic health program under the Act. The Health and Human Services agency could in turn provide the information to an exchange created by the Act.

**Effective date** – The change in disclosure rules is effective upon enactment.

**Observation**

These new reporting requirements will significantly increase the amount of information that must be reported to the IRS as well as the number of information returns that businesses must file. Employers will need to implement the appropriate record keeping and data collection processes to meet the reporting requirements, including, where necessary, processes to effectively communicate the required information to third parties providing payroll administration or managing other reporting obligations.

Information reporting requirements bring with them the necessity of obtaining appropriate taxpayer identification numbers from payees to avoid backup withholding obligations. Businesses will need to implement additional procedures to collect the data necessary to meet these new obligations.



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# Provisions affecting individuals

### Individual mandate

The Act generally requires that all individuals either obtain health insurance or pay a penalty on their federal tax return beginning in 2014. The details of this mandate are discussed in a later chapter.

### Refundable health care premium tax credit

The Act provides a new refundable health care premium tax credit to assist individuals and families who purchase health care on the individual market, including those who obtain coverage through the health insurance exchange established by this Act. The credit, which Treasury can distribute as an advance payment, is provided for single or joint filers on a sliding scale for taxpayers whose household income falls between 100 percent and not more than 400 percent of the poverty line as determined by family size. The actual amount of the credit is calculated on the basis of identifiable standard monthly premiums, the taxpayer's household modified adjusted gross income, and the number of months during which the taxpayer is insured. Taxpayers eligible for the credit are U.S. citizens and aliens lawfully present in the U.S. who meet income requirements. Premium tax credits are not available for months in which an individual receives a free choice voucher.

Advanced payments of the credit will be made by Treasury to insurers of the qualified health plans in order to reduce premiums paid by individuals eligible for the credit. For employed individuals who purchase health insurance through state exchanges, the premium payments are expected to be made through payroll deductions. A taxpayer's credit will be reduced (but not below zero) by the amount of advance payment received. Taxpayers will be liable for any amounts paid in advance that exceed their credits. Beginning in 2019, the Act limits the growth of the tax credits if premiums are growing faster than the Consumer Price Index, unless spending is more than 10 percent below current Congressional Budget Office projections.

**Effective date** – The credit will be available for taxable years ending after December 31, 2013.

### Free choice vouchers

Certain employers offering minimum essential coverage through an eligible employer-sponsored plan and paying a portion of the coverage must provide qualified employees with a voucher whose value can be applied to the purchase of a health plan through an exchange. The value of the voucher is equal to the dollar value of the employer contribution to the employer-offered health plan. If the employer offers multiple plans, the value would be equal to the plan cost for which the employer pays the largest percentage of the premium cost. The value of the voucher to the extent it is used to purchase an exchange health plan is not included in the employee's gross income, unless the value exceeds the cost of the plan, in which case the excess is included in income. The provision is effective after December 31, 2013.

### Restrictions on health-related accounts and reimbursements

The Act tightens a number of the rules related to flexible spending arrangements, health reimbursement arrangements, health savings accounts, and medical savings accounts.

**Over-the-counter drugs** – The Act conforms the definition of medical expense for purposes of employer-provided health coverage (including reimbursements under employer-sponsored health plans, HRAs, and Health FSAs), HSAs, and MSAs to the definition for purposes of the itemized deduction for medical expenses. Thus, the Act eliminates nontaxable reimbursements of over-the-counter medications unless the over-the-counter medications are prescribed by a doctor. Prescribed medicines, drugs, and insulin will still qualify for nontaxable reimbursements from those accounts.

**Limit on health flexible spending arrangements** – Beginning with years after 2012, the Act imposes a limit of $2,500 per taxable year on employee salary reductions for coverage under a cafeteria plan FSA. The limit, which does not apply to health reimbursement arrangements, is indexed for inflation based on CPI-U, after 2013. If a cafeteria plan does not contain the required limitation, then benefits from the FSA will not be qualified benefits.

**Penalty on nonqualified health savings account distributions** – The Act increases the penalty on withdrawals from HSAs and Archer MSAs not used for qualified medical expenses from 10 to 20 percent for HSAs and from 15 to 20 percent for Archer MSAs.

**Effective date** – These changes to medical savings vehicles are effective for tax years beginning after December 31, 2010.

**Observation**

Many employer plans currently allow reimbursements for over-the-counter medicines in reliance on an IRS ruling. As a result, this change will require them to amend plans and administrative policies.

Currently, there is no limit on health FSAs, although many employers routinely limit annual contributions to a health FSA to $5,000. Thus, FSA plans that either have no limit or provide limits in excess of $2,500 will need to be amended to provide for a $2,500 limitation.

### Itemized deduction for medical expenses

The Act increases the threshold for claiming an itemized deduction for unreimbursed medical expenses for regular tax purposes from 7.5 percent of the taxpayer's AGI to 10 percent. The Act does not change the current-law 10 percent of AGI threshold that applies under the alternative minimum tax.

**Effective date** – The change generally applies for taxable years beginning after December 31, 2012. For any taxpayer who is age 65 and older or whose spouse is 65 or older, the threshold for regular tax purposes remains at 7.5 percent until 2017.

### Medicare 'donut hole'

The Act provides a $250 rebate to Medicare beneficiaries who hit the Medicare prescription "donut hole" in 2010. The Act also builds on pharmaceutical manufacturers' 50 percent discount on brand-name drugs beginning in 2011 to completely close the donut hole with 75 percent discounts on brand-name and generic drugs by 2020.

### Indian tribe health benefits

Under the Act, Native Americans may exclude from gross income the value of qualified health benefits received directly or indirectly from the Indian Health Service or from an Indian tribe or tribal organization.

**Effective date** – The provision is effective for health benefits and coverage provided after the date of enactment.

### State loan repayment

The Act excludes from gross income any amount received under any state loan repayment or loan forgiveness program that is intended to provide for the increased availability of health care services in underserved areas or areas where there is a shortage of health professionals.

**Effective date** – The provision is effective for taxable years beginning after December 31, 2008.

### Modification to adoption credit

The Act increases the amount of child adoption tax credit and adoption assistance exclusion from $12,170 for 2010 to $13,170 and provides for indexing. The Act also extends the adoption credit through 2011 and makes the credit refundable.

**Effective date** – The increases are effective for 2010.

# Individual mandate

The Act generally requires that all individuals either obtain health insurance or pay a penalty on their federal tax return beginning in 2014. The penalty is not an insurance premium, and paying it does not entitle the individual to any health insurance coverage.

To encourage individuals to obtain health insurance rather than pay the penalty, the Act includes a number of provisions intended to increase the availability and affordability of coverage. Most of these provisions are designed to help small employers and individuals who, unlike large employers, generally have little bargaining power in the market for health insurance and sometimes find insurance prohibitively expensive or completely unavailable due to prior or existing health problems. Examples of these provisions include credits and subsidies for low-income individuals, a prohibition against discrimination based on health status, and insurance exchanges in which insurers would compete for individual and small-employer business.

### Coverage and penalties

To avoid the penalty, individuals will need to obtain and maintain "minimum essential coverage" for themselves and their dependents. "Minimum essential coverage" includes coverage under any employer-provided plan, governmental programs (for example, Medicare and Medicaid), and any plan offered in the individual market. Coverage under grandfathered plans — those in effect on the date of enactment that are not required to be amended to comply with the Act — also qualifies. There are virtually no specific benefit requirements for a plan's coverage to be considered minimum essential coverage, so long as the plan primarily covers medical benefits. Examples of plans that do not qualify include workers' compensation and long-term care insurance.

The annual penalty will be phased in starting in 2014, reaching the greater of $695 or 2.5 percent of income in 2016, and indexed for inflation thereafter. The penalty is capped at the national average bronze plan premium. An individual must pay the applicable penalty amount for himself and each of his dependents lacking minimum essential coverage, but the penalty amount for minors is one-half of that for adults. The penalty for an entire family is capped at $2,250. For example, an individual with two minor dependents all of whom lacked minimum essential coverage for all of 2014 would be $190 ($95 + (½ x $95) + (½ x $95)). The maximum amount an individual would be required to pay for himself and his dependents in a year is three times the adult penalty amount for the year (for example, $285 in 2014). The tax applies pro rata on a monthly basis based on whether minimum essential coverage was maintained for that month.

The penalty will be reported on the individual's tax return. Spouses filing joint returns are jointly and severally liable for one another's penalties, as are dependents and the individuals claiming them as dependents.

Since dependents under the age of 27 can now be covered under their parent's employer-provided health plan, the Act extends the exclusion from gross income for employer-provided health coverage for adult children up to age 26. Similarly, the Act allows self-employed individuals to deduct the cost of coverage for adult children up to age 26.

### Exceptions

There are several exceptions. A three-month coverage gap is permitted to facilitate the transition from one plan to another, and individuals who lack coverage due to a hardship (as determined by the Health and Human Services Secretary) will not be subject to the penalty. There are also two exceptions for low-income individuals. The first applies if the individual's contribution toward self-only coverage offered through his employer or an exchange exceeds 8 percent of the individual's household income. After 2014, that percentage will increase to reflect increases in premium costs as a percentage of income. The second applies to individuals with income under 100 percent of the poverty line. Other exceptions exist for members of an Indian tribe, individuals residing outside the United States, unlawful aliens, incarcerated individuals, and individuals with religious objections or who participate in a health care sharing ministry.

# Employer penalties and other requirements

The Act contains many provisions affecting employers. They generally fall into two broad categories. The first category is a set of penalties that must be paid by certain large employers that either do not offer health insurance or offer health insurance that employees opt out of in favor of acquiring coverage through an exchange. The second category is comprised of changes that employers may be required to make to their health plans. In general, however, the Act provides a broad grandfathering provision for plans in existence on the date of enactment.

### Penalty provisions

The Act does not require employers to provide health coverage to employees, but beginning in 2014 it imposes penalties on certain employers with at least 50 full-time employees (those working 30 or more hours per week) to encourage them to do so. The penalty will be collected by the IRS, and the Act grants the Treasury Secretary the authority to establish rules for the timing of payment.

Whether an employer exceeds the 50-employee threshold is generally determined by reference to the average number of employees during the preceding calendar year, with special rules for an employer's first year of business and employers with seasonal workforces. When determining the number of full-time employees, employers may exclude the first 30 employees from the calculation. All of the employees of entities that are treated as a single employer under the qualified retirement plan controlled group rules are included. For example, a parent corporation and its two subsidiaries, each with 40 full-time employees, are treated as a single employer with more than 50 employees.

**Observation**

Under current law, the IRS frequently challenges taxpayers' classifications of workers as independent contractors rather than employees, and the Act may draw additional IRS attention to worker classification issues.

The penalty for failing to offer health coverage applies if any of an employer's full-time employees become entitled to a tax credit. The penalty is equal to equal $2,000 multiplied by the total number of full-time employees. Beginning in 2015, this amount will be indexed for medical inflation based on the per capita increase in health insurance premiums in the United States. Employers are prohibited from discriminating against employees who receive a tax credit. No penalty is applied for employees who receive free choice vouchers.

Even if an employer does offer health coverage, it will be required to pay a penalty if any of its employees obtains a tax credit, but in that case the penalty is $3,000 multiplied only by the number of employees who actually obtain the credit, and in no case more than the amount the employer would have paid if it had not offered coverage.

These penalties apply pro rata on monthly basis.

### Other requirements

In addition to the penalty provisions described above, the Act imposes a number of requirements on employer health plans. A comprehensive discussion of these requirements is beyond the scope of this publication, but some of the more significant requirements are discussed below.

**Nondiscrimination rules for insured plans** – Under current law, if a self-insured employer health plan discriminates in favor of highly compensated employees, then the excess benefits are taxable to those employees. Insured employer health plans, on the other hand, are not subject to any nondiscrimination requirements. As a result, many employers currently provide top executives with generous nontaxable health insurance coverage that is unavailable to other employees. Under the Act, the nondiscrimination rules for self-insured plans do not change, but insured plans are prohibited from discriminating in favor of highly compensated employees. Thus, excess benefits provided to highly compensated employees are permissible but taxable to highly compensated employees if offered through a self-insured plan and prohibited under an insured plan.



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**Improving participation** – The Act contains several provisions designed to improve participation levels in employer-provided health plans. One provision generally requires an employer that provides health insurance coverage and has more than 200 full-time employees to automatically enroll employees in the plan. An exception applies for employees who opt out after demonstrating other acceptable coverage.

**Exchanges** – The Act includes requirements intended to encourage employees to consider whether coverage through an exchange rather than from their employers would be better for them. One provision requires employers to inform employees upon hire (by March 1, 2013, for current employees) about the exchanges and the possibility that the employee may be eligible for a tax credit, as well as any loss in employer contributions toward the employee's health benefits (and the associated tax exclusion) if the employee purchases health insurance through an exchange. Another provision requires employers that contribute toward the costs of their employees' health coverage to make the employer contribution available as a voucher that certain employees could use to purchase insurance through an exchange. Vouchers are only required for employees whose contributions toward the plan would be between 8 and 9.8 percent of their income and whose household income is less than 400 percent of the federal poverty level. The entire amount of the voucher is deductible by the employer and, to the extent used to purchase insurance through an exchange, nontaxable to the recipients.

**Other requirements** – The Act imposes several other requirements affecting employer plans. Some are effective for plan years beginning six months after enactment (January 1, 2011, for calendar year plans), while others are not effective until 2014. The provisions with the earlier effective date include a prohibition against lifetime or unreasonable annual limits, a requirement to cover preventive services and immunizations without any cost sharing, and a requirement that all plans offering dependent coverage allow unmarried children to remain covered under a parent's plan through age 26. Beginning in 2014, plans will generally be prohibited from imposing annual out-of-pocket limits that exceed the maximum HSA contribution (adjusted for inflation based on increases in health insurance premiums beginning in 2015); all annual limits will be prohibited; and employers with more than 50 employees will be required to report whether they offer their full-time employees and dependents health coverage, the length of the waiting period, the lowest-cost option in each enrollment category, the employer's share of the total allowed costs of benefits, and the number and names of covered employees.

**Encouraging wellness programs** – The Act eases some current-law restrictions on employer-provided incentives for employee participation in wellness programs. Under current regulations, employers are permitted to provide incentives for employees to participate in wellness programs, but if they are based on a health-status factor, then they are limited to 20 percent of the cost of employee-only coverage under the employer's health plan, and there must be a reasonable alternative standard for obtaining the reward. For example, the 20-percent limit applies to incentives an employer offers employees who participate in a smoking cessation program (regardless of whether they quit smoking as a result). The Act increases the limit to 30 percent and authorizes the Secretaries of Labor, Health and Human Services, and Treasury to increase it to as high as 50 percent. It also relaxes the requirements for the reasonable alternative standard and makes other favorable changes.

# Plan design issues

Even though the Act will not become fully effective for a number of years, employer-sponsored group health plans will feel a much more immediate impact. In fact, a number of plan design changes will need to be implemented in time for the 2011 plan year. These include:

- Eliminating lifetime and annual limits on benefits;
- Providing first-dollar coverage for preventive care;
- Extending eligibility for dependent coverage (if offered) to employees' unmarried children who are not yet 26 years old; and
- Establishing a new internal and external review procedure for claims determinations.

Two significant design changes to employers' health flexible spending accounts also will be required for 2013. The first is a new $2,500 cap on the amount of salary reduction contributions employees can make to their FSAs each year. Although this will not affect most employees in most years, it will prevent some employees from fully utilizing their health FSAs in years when they anticipate significant out-of-pocket medical expenses. The second change is more subtle, but likely will affect a larger percentage of the employee population on a consistent basis. That is, health FSAs can no longer reimburse employees for the cost of over-the-counter medicines — a loss of flexibility that may make participants more vulnerable to the use-or-lose rule.

This second change will have implications for health reimbursement arrangements and health savings accounts (HSA) as well. Like health FSAs, HRAs will no longer be eligible to reimburse participants' expenses for over-the-counter medicines. HSAs will continue to have the flexibility to reimburse these expenses, except those reimbursements will be treated as taxable income and may be subject to an additional 20 percent excise tax.

Another provision of the Act that may force design changes to some employers' group health plans is the 40 percent excise tax on high-cost plans. This excise tax, which will begin to apply in 2018, is based on the total cost of benefits provided under the plan regardless of how those costs are allocated among the employer and employee. So avoiding the excise tax will require plan design changes as opposed to just shifting some or all of the premium cost to employees.

Finally, the individual and employer mandates may force plan design changes to conform to minimum standards. These mandates will become effective in 2014.

# Conclusion

Now that health care reform legislation has become law, Congress must begin to confront a host of priority 2009 and 2010 tax policy issues that were delayed by the drawn out health care reform debate. These include 2009 expired tax provisions, 2010 expiring tax provisions, estate and gift tax extension and reform, the year-end expiration of the 2001 and 2003 tax cuts, any necessary additional jobs or stimulus legislation, and efforts to address other administration priorities including financial regulatory reform and climate change.

### Near-term tax increase risks

Congress will find the taxwriting process more complicated with each bill it passes. The recently enacted statutory pay-as-you go (PAYGO) budget rules allow for permanent extension of middle-class tax relief. These PAYGO rules are consistent with the president's proposals to allow ordinary tax rates on joint filers with incomes over $250,000 and individuals with incomes over $200,000 to return to their pre-2001 levels and for capital gains rates for these same taxpayers to return to 20 percent. The PAYGO rules are not as generous on other fronts. They allow restoration of the estate tax at its 2009 levels (rather than higher pre-2001 levels) only through 2011, and a further patch to the AMT only for 2010 and 2011 without requiring PAYGO offsets. The president also has proposed moving the tax rate on qualified dividends received by high-income individuals to 20 percent rather than to 39.6 percent as would happen with expiration of the Bush tax cuts. PAYGO legislation would require that this dividend proposal be offset, making that policy objective of setting the rate at 20 percent more difficult to reach.

Like the relief for dividends, any additional tax cuts that Congress may wish to address that are not covered by PAYGO exceptions will require revenue offsets. Now that enacted jobs and health care legislation have soaked up many of the relatively "easy" revenue-raising options, lawmakers will increasingly be forced to confront difficult choices as they seek to pay for items such as extenders, any additional jobs legislation, and the portions of expiring 2001 and 2003 tax cuts that are not provided for under PAYGO rules. This opens up the risk that some revenue-raising provisions from the president's FY 2011 budget that were previously considered too controversial could begin to gain traction as offsets for priority legislation.

### Greater long-term challenges

Current federal tax and spending policy is unsustainable over the long term and, perhaps, even in the relatively near term. The past 15 months of debate over health care may come to be viewed as a mere prologue to a more protracted and difficult debate over entitlement and tax reform.

Although some propose solving these challenges primarily through entitlement and other spending reforms, others see revenue as the primary near-term path to fiscal responsibility. History suggests that a combination of approaches will be pursued. The extent of our fiscal challenges suggests that the required actions on both taxes and spending will be substantial and politically difficult.

Medicare spending and interest costs are the driving components of long-term spending increases. As a result, Congress likely will return to health care reform as it seeks additional ways to constrain the growth in health care costs. It will also have to consider reducing Medicare entitlements. In such a debate, painful tax increases may be the alternative to additional painful entitlement cuts.

On the tax side, many in Washington now believe that the income tax cannot, or should not, generate the additional revenue that they believe will be necessary for future deficit reduction efforts. Increasingly, conversation is turning to consideration of a value-added tax or other consumption tax option.

With the passage of health care reform, Congress has cleared away one major legislative challenge. Nonetheless, Congress now confronts a set of priorities that seems undiminished by the completion of the reform effort.

# Charts and tables

# Major tax revenue sources in Patient Protection and Affordable Care Act and the Reconciliation Act of 2010

**Figure 6. Patient Protection and Affordable Care Act**

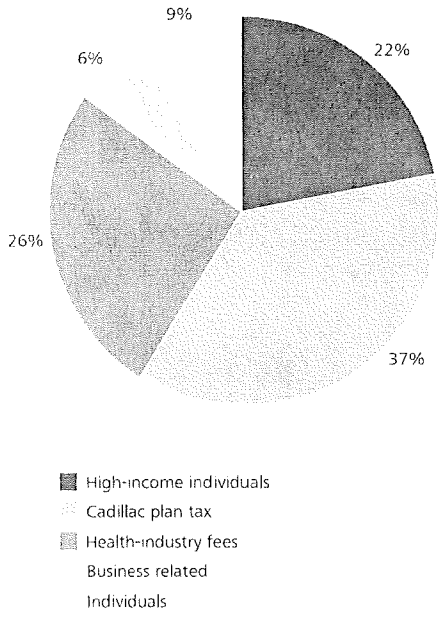
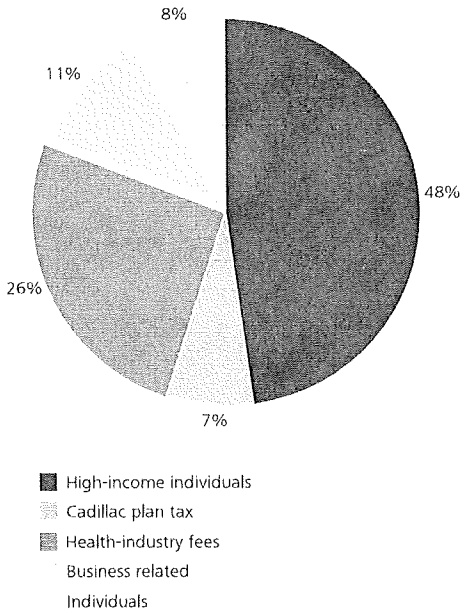
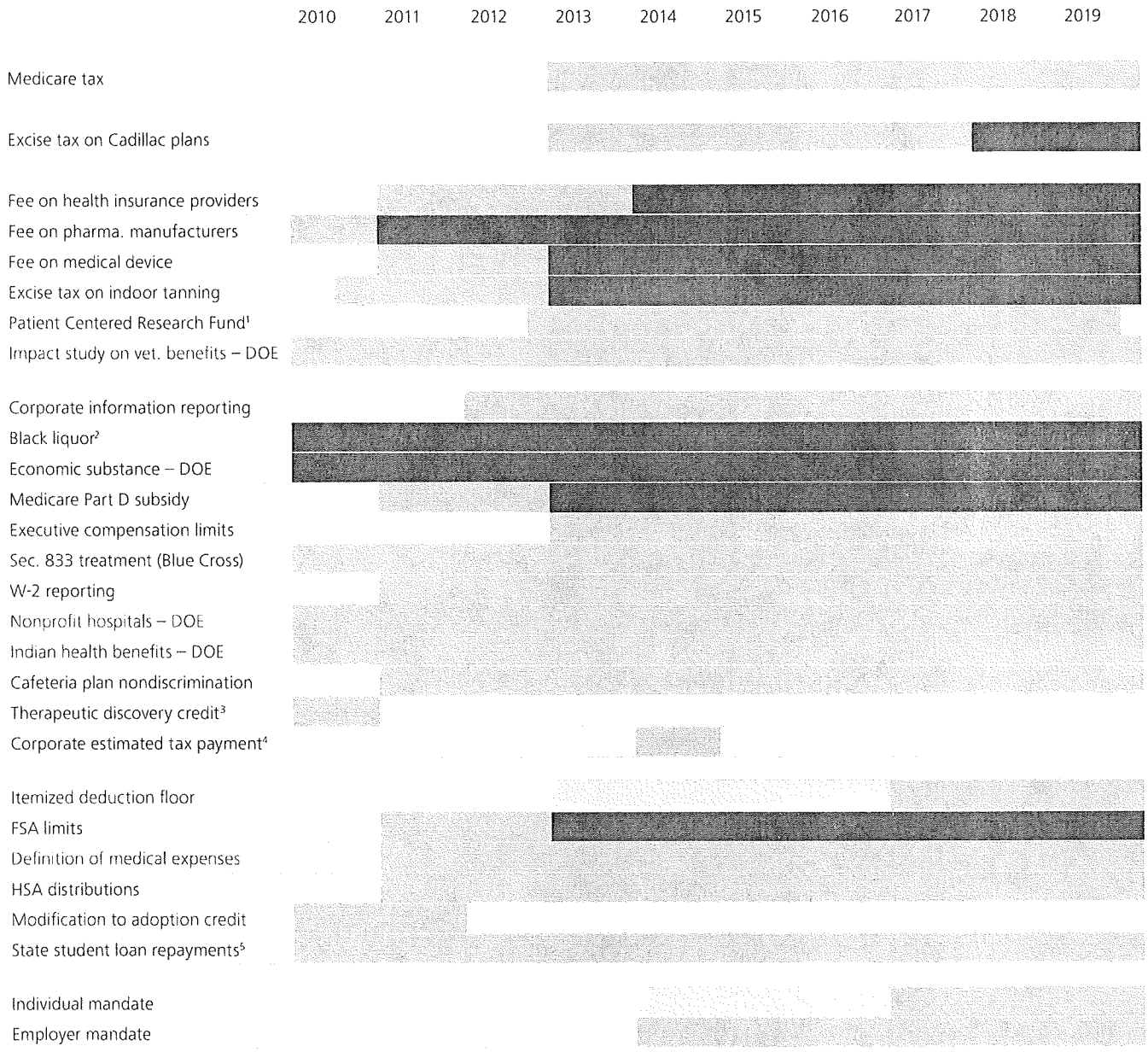



**Figure 7. Patient Protection and Affordable Care Act as modified by the Reconciliation Act of 2010**



# Revenue provision effective dates




Green boxes represent the effective periods for each provision under the Patient Protection and Affordable Care Act. The lightly shaded boxes represent phase-in periods. The blue boxes represent changes made by the Reconciliation Act of 2010.
DOE = date of enactment

[1] Effective for each policy plan year ending after September 30, 2012, but does not apply to policy years ending after September 31, 2019.
[2] Fuel sold or used after December 31, 2009
[3] Amounts paid or incurred after December 31, 2008
[4] Applies to payments due in July, August and September 2014
[5] Taxable years beginning after December 31, 2008



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# Overview of the Patient Protection and Affordable Care Act as amended by the Reconciliation Act of 2010

The table below summarizes the provisions in the Patient Protection and Affordable Care Act as amended by the Reconciliation Act of 2010. Unless otherwise indicated, revenue estimates are provided by the Joint Committee on Taxation (JCT) staff.

| Provisions targeted at high-income individuals | | |
|---|---|---|
| **Provision** | **Description** | **Effective date and revenue estimate** |
| Medicare tax increases (Earned income) | Additional 0.9 percent hospital insurance tax on wages over $200,000 ($250,000 for joint filers) | **Effective date:** Tax years beginning after Dec. 31, 2012<br>**10-year revenue estimate:** $86.8 billion |
| Medicare tax increases (Unearned income) | 3.8 percent Medicare contribution levied on certain unearned income of individuals with AGI over $200,000 ($250,000 for joint filers) | **Effective date:** Tax years beginning after Dec. 31, 2012<br>**10-year revenue estimate:** $123.4 billion |

| Health care related provisions | | |
|---|---|---|
| **Provision** | **Description** | **Effective date and revenue estimate** |
| Excise tax on 'Cadillac' group health plans | 40 percent nondeductible excise tax levied at insurer level on employer-provided health coverage in excess of $10,200 for individuals ($27,500 for families), indexed for inflation<br>• Premium thresholds for retirees and high-risk professions are increased by $1,650 for individuals ($3,450 for families)<br>• Inflation adjustment for CPI-U after 2019 (CPI-U + 1 percent only for 2019)<br>• Adjust premiums for unexpected growth in health<br>• Employer aggregates and issues information returns indicating amount subject to excise tax | **Effective date:** Tax years beginning after Dec. 31, 2017<br>**10-year revenue estimate:** $32 billion |
| Fee on health insurance providers | Impose annual fee on U.S. health insurance providers: $8 billion for 2014, $11.3 billion for 2015 and 2016, $13.9 billion for 2017, and $14.3 billion for 2018; allocated to taxpayers based on net premiums for U.S. health risks<br>• Fee is adjusted for premium growth thereafter.<br>• Limited exceptions for voluntary employee benefit associations and some nonprofit providers that serve low-income, elderly, or disabled populations<br>• Includes joint and several liability | **Effective date:** Calendar years beginning after Dec. 31, 2013; fee allocated based on market share of net premiums for U.S. health risks written for calendar years beginning after Dec. 31, 2012<br>**10-year revenue estimate:** $60.1 billion |

| Provision | Description | Effective date and revenue estimate |
|---|---|---|
| Fee on branded drug manufacturers and importers | Impose annual fee on manufacturers and importers of branded drugs: $2.5 billion for 2011, $2.8 billion for 2012 and 2013, $3 billion for 2014 through 2016, $4 billion for 2017, $4.1 billion for 2018, and $2.8 billion for 2019 and thereafter; Includes joint and several liability. | **Effective date:** Calendar years beginning after Dec. 31, 2010; fee allocated based on market share of branded prescription drug sales for calendar years beginning after Dec. 31, 2009<br>**10-year revenue estimate: $27 billion** |
| Excise tax on medical devices | Impose 2.3 percent excise tax on manufacturers and importers of certain medical devices; does not apply to eyeglasses, contact lenses, hearing aids and any other device deemed by the Secretary to be available for regular retail purposes | **Effective date:** Calendar years beginning after Dec. 31, 2012; fee allocated based on market share of medical device sales for calendar years beginning after Dec. 31, 2011<br>**10-year revenue estimate: $20 billion** |
| Itemized deduction for medical expenses | Raise floor for itemized deduction for medical expenses to 10 percent of AGI (from 7.5 percent); retain 7.5 percent floor for individuals over age 65 (and their spouses) | **Effective date:** Tax years beginning after Dec. 31, 2012; provision retaining 7.5 percent floor for individuals over age 65 expires Dec. 31, 2016<br>**10-year revenue estimate:** $15.2 billion |
| Health FSAs | Limit annual salary-reduction contributions to health flexible spending arrangements in cafeteria plans to $2,500, indexed for inflation after 2013 | **Effective date:** Tax years beginning after Dec. 31, 2012<br>**10-year revenue estimate:** $13 billion |
| Excise tax on indoor tanning services | Impose 10 percent excise tax on indoor tanning services | **Effective date:** Services provided on or after July 1, 2010<br>**10-year revenue estimate:** $2.7 billion |
| Definition of 'medical expenses' for employer-provided health coverage | Conform definition of medical expenses for purposes of health flexible spending arrangements, health reimbursement arrangements, health savings accounts, and Archer Medical Savings Accounts to the definition for the itemized deduction | **Effective date:** Expenses incurred after Dec. 31, 2010<br>**10-year revenue estimate:** $5.0 billion |
| Comparative Effectiveness Research Trust Fund | Impose fee on insured and self-insured health plans to finance patient-centered outcomes research trust fund | **Effective date:** Effective for policies and plans for portion of policies or plan years beginning on or after Oct. 1, 2012<br>**10-year revenue estimate:** $2.6 billion |
| Medicare Part D subsidy | Eliminate deduction for expenses allocable to Medicare Part D subsidy | **Effective date:** Tax years beginning after Dec. 31, 2012<br>**10-year revenue estimate:** $4.5 billion |
| Health savings account distributions | Increase penalty for nonqualified distributions from health savings accounts to 20 percent | Effective date: Distributions made during tax years beginning after Dec. 31, 2010<br>**10-year revenue estimate:** $1.4 billion |
| Executive comp caps for health insurance providers | Limit deduction on taxable year remuneration to officers, employees, directors, and service providers of covered health insurance providers to $500,000 | **Effective date:** Effective for remuneration paid in taxable years beginning after 2012 with respect to services performed after 2009<br>**10-year revenue estimate:** $600 million |
| Special deduction for Blue Cross Blue Shield organizations | Limit special deduction for Blue Cross Blue Shield organizations under section 833 in the case of organizations with a low medical loss ratio | **Effective date:** Tax years beginning after Dec. 31, 2009<br>**10-year revenue estimate:** $400 million |

| Provision | Description | Effective date and revenue estimate |
|---|---|---|
| Employer reporting of value of health insurance benefits | Require employer W-2 reporting of value of health benefits provided to employees | **Effective date:** Taxable years beginning after Dec. 31, 2010<br>**10-year revenue estimate:** Negligible |
| Nonprofit hospitals | Impose additional compliance and reporting requirements on section 501(c)(3) hospitals | **Effective date:** Taxable years beginning after date of enactment<br>**10-year revenue estimate:** Negligible |
| Veterans health care | Study and report on effect of the bill on veterans' health care | **Effective date:** Date of enactment<br>**10-year revenue estimate:** Negligible |

| Provision | Description | Effective date and revenue estimate |
|---|---|---|
| Tax treatment of 'black liquor' | Make 'black liquor' ineligible for the cellulosic biofuel producer credit under section 40(b)(6) | **Effective date:** Fuel sold or used after Dec. 31, 2009<br>**10-year revenue estimate:** $23.6 billion |
| Information reporting | Mandatory Form 1099 reporting for payments made to a corporation totaling $600 or more in a calendar year | **Effective date:** Payments made after Dec. 31, 2011<br>**10-year revenue estimate:** $17.1 billion |
| Economic substance | • Codify economic substance doctrine. Require conjunctive analysis of economic substance under which taxpayers would have to show both that (1) a transaction changed their economic position in a meaningful way apart from the federal income tax effects, and (2) they had a substantial purpose apart from federal income tax effects for entering into the transaction.<br>• Impose 40 percent strict liability penalty on tax understatements attributable to undisclosed noneconomic substance transactions (20 percent if a transaction is adequately disclosed) | **Effective date:** Transactions entered into after date of enactment<br>**10-year revenue estimate:** $4.5 billion |

| Provision | Description | Effective date and revenue estimate |
|---|---|---|
| Individual mandate | Penalty of the greater of $695 or 2.5 percent of income per adult in the household applies to individuals who fail to obtain adequate coverage; capped at national average bronze premium<br><br>Tax phases in beginning at the greater of $95 or 1 percent of income in 2014, reaching $695 or 2.5 percent of income in 2016 (indexed for inflation thereafter)<br><br>Exclusion for employer-provided health care for adult children up to age 26 | **Effective date:** Tax years beginning after Dec. 31, 2013<br><br>**CBO 10-year revenue estimate:** $17 billion |
| Employer mandate | **No mandate, but employers with at least 50 full-time employees generally are subject to nondeductible fees if they:**<br>• Do not offer coverage to employees (fee is $2,000 per employee but first 30 employees are not counted in the payment calculation)<br>• Offer coverage but have at least one full-time employee receiving premium assistance tax credit (lesser of $3,000 for each employee receiving a tax credit or $750 for each full-time employee) | **Effective date:** Tax years beginning after Dec. 31, 2013<br><br>**CBO 10-year revenue estimate:** $52 billion |

| Provision | Description | Effective date and revenue estimate |
|---|---|---|
| Indian health benefits | Provide income exclusion for specified Indian health benefits | **Effective date:** For health benefits and coverage provided after date of enactment<br><br>**10-year revenue estimate:** Loss of less than $50 million |
| Cafeteria plan nondiscrim-ination safe harbor | Simplify cafeteria plan nondiscrimination safe harbor for certain small employers | **Effective date:** Tax years beginning after Dec. 31, 2010<br>**10-year revenue estimate:** Negligible |
| Qualifying therapeutic discovery credit | 50 percent credit for qualified investment in a qualifying therapeutic discovery project of an eligible taxpayer | **Effective date:** For amounts paid or incurred after Dec. 31, 2008; sunsets Dec. 31, 2010<br><br>**10-year revenue estimate:** Loss of $900 million |
| State loan repayment tax relief for health professionals | Provide exclusion from gross income for assistance provided to participants in state student loan repayment programs for certain health professionals | **Effective date:** For taxable years beginning after Dec. 31, 2008<br><br>**10-year revenue estimate:** Loss of $100 million |
| Modifications to adoption credit | Make adoption credit refundable, increase credit amount, and extend through 2011 | **Effective date:** For taxable years beginning after Dec. 31, 2009<br><br>**10-year revenue estimate:** Loss of $1.2 billion |



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Georgetown University Health Policy Institute
Center for Children and Families

Center on Budget and Policy Priorities

# Holding the Line on Medicaid and CHIP: Key Questions and Answers About Health Care Reform's Maintenance-of-Effort Requirements

## Background

The Patient Protection and Affordable Care Act (PPACA; Public Law 111-148), signed into law on March 23, 2010, requires that states maintain their current eligibility standards for Medicaid and the Children's Health Insurance Program (CHIP). These maintenance-of-effort (MOE) requirements apply to adults until the major components of health reform go into effect on January 1, 2014, and to children until September 30, 2019. During the MOE periods, states also are barred from imposing new paperwork and other barriers that would make it harder for people to enroll in Medicaid or CHIP. These MOE requirements are designed to assure that people do not lose coverage in the months and years ahead as health reform is being implemented. In the absence of such provisions, some states might have scaled back Medicaid or CHIP coverage in response to current fiscal problems or in anticipation of health reform, even as changes are being made to move the country forward in providing families with affordable coverage options.

## Detailed Questions and Answers

This set of question and answers reviews how the MOEs are structured in the PPACA. As noted, some areas are open to interpretation. Until the Centers for Medicare and Medicaid Services (CMS) issues guidance that answers these questions definitively, it is important to treat all of these answers as educated guesses.

1. **In general, what are the new maintenance-of-effort (MOE) requirements included in health reform?**

   The PPACA requires states to maintain eligibility standards for adults in Medicaid until January 1, 2014, when the new health exchanges are operational, and for children in Medicaid and CHIP until October 1, 2019. The statutory language says that a state shall not have in effect eligibility standards, methodologies, or procedures under its Medicaid or CHIP state plan (or under a Medicaid or CHIP waiver) "that are more restrictive than the eligibility standards, methodologies, or procedures" in effect on the date of enactment of the PPACA. This language is explored in more detail under Question 4, but, in effect, it means states cannot adopt changes in eligibility rules and procedures that would make someone ineligible for Medicaid or CHIP coverage, who would have been eligible for Medicaid or CHIP on March 23, 2010. Examples of changes that are likely to be precluded by the MOE language include:

   - Scaling back income eligibility or eliminating coverage for an entire eligibility category in Medicaid;
   - Eliminating CHIP or scaling back eligibility for children in CHIP;
   - Dropping lawfully-residing immigrants from coverage in Medicaid or CHIP;
   - Reducing or eliminating an income or asset disregard, such as an earnings disregard;
   - Imposing a new paperwork requirement, such as a face-to-face interview or a more frequent renewal period.

   One exception, discussed in more detail in Question 8, is that the handful of states that cover adults with incomes above 133 percent of the federal poverty line (FPL) can scale back coverage for this population beginning in January 2011, if they are facing a budget deficit.

2. **Can states still expand coverage or simplify enrollment?**
   Yes, the purpose of the MOEs is to prevent people from losing coverage while the major components of health reform are being implemented. It is not to stop states from covering more people. States still have full flexibility to further expand eligibility or simplify enrollment in Medicaid and CHIP, such as by exercising the options made available to them under the Children's Health Insurance Program Reauthorization Act (CHIPRA), which was signed into law by President Obama in February 2009.

3. **When do the MOE requirements for Medicaid and CHIP go into effect?**
   The MOE requirements became effective when President Obama signed the PPACA on March 23, 2010. This means that states cannot roll back the Medicaid and CHIP eligibility standards and methods and procedures for determining eligibility that they had in place on March 23, 2010.

4. **What constitutes a policy that is "in effect" for purposes of the MOEs?**
   States cannot scale back the coverage that they had "in effect" on March 23, 2010. CMS guidance on the MOE included in the American Recovery and Reinvestment Act (ARRA) passed last year, which includes similar language, clarifies that "in effect" means the "actual standards, methodologies, or procedures that States were utilizing...to determine or redetermine eligibility for Medicaid under the State plan or through a waiver program, and which are consistent with Federal statute and regulations." Thus, cuts passed by state legislatures early in 2010 that have not been implemented as of March 23, 2010 are likely to be considered an MOE violation if implemented in the future. For example, Arizona passed legislation in the week before health reform passed to eliminate its CHIP program in June 2010, but it had not implemented the cut, and it had not updated its state plan to reflect the planned cut as of March 23, 2010. CMS already has informed Arizona policymakers that they will be in violation of the health care reform MOE requirements if they proceed with eliminating CHIP.

5. **When do the MOE requirements for Medicaid and CHIP end?**
   The Medicaid MOE remains in place for adults until January 1, 2014. (More precisely, the Medicaid MOE for adults continues until the new exchanges are fully operational, which must be accomplished by January 1, 2014). At that time all adults with incomes up to 133 percent of the FPL will be eligible for Medicaid and uninsured adults with incomes above that level will be able to get subsidized coverage in the exchanges. The CHIP MOE and Medicaid MOE for children up to age 19 (or such higher age as a state may have elected) continue until September 30, 2019.

6. **What happens if a state violates the Medicaid or CHIP MOE?**
   If a state violates the Medicaid or CHIP MOE, it would forgo all of its federal Medicaid funding, including funding for children, parents, pregnant women, seniors, people with disabilities, and administrative costs. In light of these severe consequences, states have an enormous incentive to comply with the MOE requirements.

7. **How do the health reform MOE requirements relate to ARRA?**
   States already must comply with a Medicaid MOE requirement based on the policies that they had in effect on July 1, 2008 to secure the Medicaid fiscal relief provided in ARRA. The ARRA Medicaid MOE is slated to expire on December 31, 2010, along with the Medicaid fiscal relief. (Congress, however, is widely expected to extend these provisions until June 30, 2011.) While there is considerable overlap, the new health reform MOE requirements differ from the ARRA rules in some key respects. Most notably, the health reform MOEs 1) apply to CHIP (not just

Medicaid), 2) apply for a significantly longer period of time, and 3) eliminate all federal Medicaid funding for violations, not just the extra Medicaid fiscal relief included in ARRA.

8. **What is the exception to the Medicaid MOE for states facing budget deficits in 2011?** Staring next year (January 1, 2011), a state that provides Medicaid coverage to adults with incomes above 133 percent of the FPL can scale back eligibility for adults (unless pregnant or disabled) if the state is facing, or projects it will face, a budget deficit. However, if the six-month extension of ARRA is enacted as expected, it will likely include a separate MOE requirement that would keep states from scaling back eligibility for these adults until June 30, 2011, when the six-month extension expires.

9. **Can states still make other kinds of cuts to their Medicaid and CHIP programs?** The MOE requirements do not stop states from cutting Medicaid and CHIP in other ways, such as by reducing provider reimbursement rates or eliminating optional benefits. The experience with the ARRA Medicaid MOE suggests that states may actually turn more heavily to such cuts when they are prevented from scaling back eligibility.

10. **What are the unique issues raised by the CHIP MOE?**
While states have some experience with an MOE requirement in Medicaid because of ARRA (see question 7), the PPACA for the first time creates an MOE requirement for CHIP. CHIP allows states to expand coverage to uninsured children through a Medicaid expansion or a separate state program. Under a separate state program, states historically have had the flexibility to cap or freeze enrollment, and CMS will need to issue guidance as to how the CHIP MOE affects such policies. The statutory language creating the CHIP MOE specifically says that states are not precluded from setting up enrollment caps if they run out of federal CHIP funding, suggesting that Congress was not envisioning other scenarios under which states would be allowed to put caps into effect.

    One key issue CMS will need to consider is how to treat states that have language in their CHIP state plans authorizing an enrollment freeze or cap if they run out of state appropriations, but, on the date of PPACA's enactment did not actually have such a freeze or cap in place. Currently, it is unclear whether CMS will treat these states as having a cap or freeze "in effect."

    As of March 23, 2010, only one state (Arizona) had an enrollment freeze in place. Even if Arizona is allowed to continue with this policy, CMS will need to decide whether the state is expected to maintain its enrollment at March 23, 2010 levels over time. In the absence of such a requirement, Arizona's CHIP program will shrink as children leave due to a change in family income or for a variety of other reasons. While CMS has not previously addressed such a situation in the context of CHIP, it did decide in the context of the ARRA MOE that capped home and community-based waiver programs in Medicaid need to maintain their capacity to serve people over time. Specifically, CMS determined that states could not reduce the number of people served by these waivers below the higher of 1) the number of slots actually being used by people, or 2) the number of slots funded on the effective date of the MOE requirement.

    *We will provide additional information on the MOE requirements as CMS guidance becomes available. In the meantime, if you would like to discuss any of these issues, please contact Judy Solomon at 202-408-1080 or Tricia Brooks at 202-365-9148.*

FOCUS on Health Reform

THE HENRY J. KAISER FAMILY FOUNDATION

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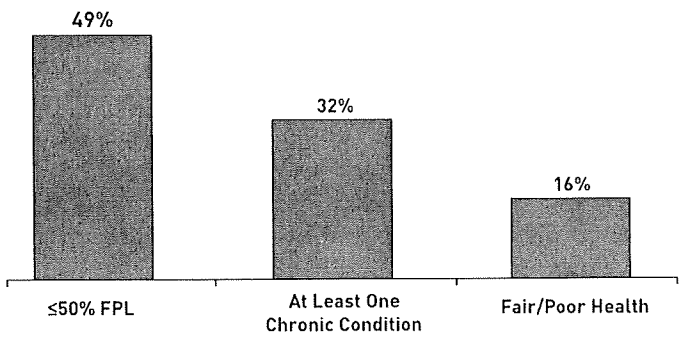
# EXPLAINING HEALTH REFORM:
## Benefits and Cost-Sharing for Adult Medicaid Beneficiaries

Under the Patient Protection and Affordable Care Act (PPACA; Public Law 111-148), signed into law on March 23, 2010, Medicaid plays a major role in covering more uninsured people. On January 1, 2014, the program will be expanded to provide eligibility to nearly all people under age 65 with income below 133 percent of the federal poverty level (FPL).[1] As a result, millions of low-income adults without children who currently cannot qualify for coverage (except in a handful of states with waivers), as well as many low-income parents and, in some instances, children now covered through the Children's Health Insurance Program (CHIP), will become eligible for Medicaid. In addition, the health reform law is expected to result in more people who already are eligible for Medicaid under current rules learning about and signing up for coverage. In total, Medicaid, along with its smaller companion program, CHIP, is expected to cover an additional 16 million people by 2019.[2]

Many of the people who will be enrolled in Medicaid are very low-income and a substantial number face significant health problems (Figure 1). Half of all uninsured adults below 133 percent FPL have income below 50 percent FPL. When it comes to their health status, about one-third have a diagnosed chronic condition, such as hypertension or depression, and about 1 in 6 are in fair or poor health. The majority of uninsured adults below 133 percent FPL – 69 percent – are adults without dependent children, and 31 percent are parents. In light of the characteristics of these newly-eligible adults, a key question is what kind of coverage they will have. This brief provides the details of the benefit and cost-sharing rules that will govern the coverage available to newly-eligible adult Medicaid beneficiaries. The rules for children in Medicaid are distinctly different; federal law requires states to cover all medically necessary services for children and provides stronger cost-sharing protection to them (Appendix).

Figure 1

**Uninsured Adults ≤133% FPL, by Income and Health Characteristics**




Note: 100% of the HHS federal poverty level (FPL) was $10,400 for an individual in 2008.
SOURCE: KCMU/Urban Institute analysis of 2009 ASEC Supplement to the CPS (income data). KFF analysis of 2007 Medical Expenditure Panel Survey (health data).

## Background

As of January 1, 2014, states are required to provide Medicaid to nearly all people under age 65 with income below 133 percent FPL (about $14,400 for an individual in 2010). From 2014 through 2016, the federal government will finance 100 percent of the cost of those who become eligible for Medicaid due to the expansion. In subsequent years, the federal matching rate will decline somewhat, but it will eventually settle at 90 percent, well above the regular Medicaid matching rates for states. States are required to provide most people who become newly eligible for coverage under the Medicaid expansion with "benchmark" benefits. As discussed below, states also have authority to provide benchmark benefits to certain other groups of Medicaid beneficiaries who qualify under existing rules (i.e., "already-eligible" Medicaid beneficiaries).

Set forth in the Deficit Reduction Act of 2005 (DRA), the concept of benchmark benefits is relatively new to Medicaid. Prior to the DRA, states were required to cover a federally-specified set of services for adult Medicaid enrollees and they had the option to cover additional services. For example, under the traditional rules, adult beneficiaries must be provided with hospital care, physician services, lab and x-ray services, nursing home

care, and family planning services. But states also can cover prescription drugs (which all of them do) and other additional services, such as dental care and vision care, and personal care and other community-based services for people with disabilities.

In the DRA, Congress gave states the option to provide certain groups of Medicaid enrollees with an alternative benefit package (i.e., "benchmark" or "benchmark-equivalent" coverage) based on one of three commercial insurance products or determined to be appropriate by the Secretary of Health and Human Services ("Secretary-approved coverage"). With respect to groups receiving benchmark or benchmark-equivalent coverage, the DRA gave states flexibility to disregard Medicaid's longstanding requirements for "comparability" (i.e., the same coverage must be provided to all categorically eligible Medicaid beneficiaries and cannot vary based on a person's diagnosis, age, or other factors) and "statewideness" (i.e., the state must provide the same scope of services to Medicaid beneficiaries throughout the state, regardless of where they live). States can also disregard other Medicaid requirements, but only if they are "directly contrary" to the flexibility they need to provide benchmark benefits.[3]

To date, states have used the benchmark benefits option sparingly. Since the option's creation in 2005, just ten states have used benchmark benefits for some of their beneficiaries.[4] In most cases, the option was adopted as a means to provide additional services to certain groups of adults with special conditions, for example, to provide disease management services and enhanced access to nurse help lines to people with selected chronic conditions, such as heart disease and diabetes.

In the health reform law, Congress made some changes to the standards for benchmark benefits. Most notably, it added a requirement that benchmark packages provide all "essential health benefits," which are the benefits that must be provided to people signing up for Exchange plans or coverage in the individual or small group insurance market, beginning in 2014. The HHS Secretary is charged with defining "essential health benefits," and, as a result, it may be some time before it is clear how significant a change in benchmark benefit rules the inclusion of essential health benefits will represent. In addition, the health reform law added new requirements that benchmark benefits include family planning services and, in instances where a state relies on "benchmark-equivalent coverage," mental health services and coverage of prescription drugs.

### *Federal Standards for Benchmark and Benchmark-Equivalent Benefits*

As noted above, the health reform law requires states to provide most newly-eligible adult Medicaid beneficiaries with benchmark or benchmark-equivalent coverage. The major federal rules governing benchmark coverage include:

- **Coverage of essential health benefits.** Benchmark and benchmark-equivalent coverage must include "essential health benefits." These essential health benefits, which will be outlined in more detail by the Secretary of Health and Human Services in the years ahead, also form the basis for the coverage that will be provided to people enrolled in Exchange plans and the individual and small group insurance markets. The specific categories of service that the essential health benefits must include are:
    - Ambulatory patient services;
    - Emergency services;
    - Hospitalization;
    - Maternity and newborn care;
    - Mental health and substance use disorder services, including behavioral health treatment;
    - Prescription drugs;
    - Rehabilitative and habilitative services and devices;
    - Laboratory services;
    - Preventive and wellness services and chronic disease management; and
    - Pediatric services, including oral and vision care.

In providing more detail on these services, the HHS Secretary must ensure that the scope of the essential health benefits is equal to the scope of benefits provided under a typical employer plan. It is not yet clear to what extent the federal rules will address the amount, duration and scope of benefits that must be provided.

- **Coverage must consist of "benchmark" or "benchmark-equivalent" benefits.** In addition to providing essential health benefits, the coverage must be equal to the coverage provided in one of three benchmarks, equivalent in actuarial value to one of the three benchmarks, or a package approved by the Secretary:[5]
  - **Blue Cross/Blue Shield plan.** The standard Blue Cross/Blue Shield preferred provider option plan under the Federal Employee Health Benefits Plan (FEHBP);
  - **State employee plan.** Any state employee plan generally available in a state;
  - **Commercial HMO product.** The HMO plan in a state that has the largest commercial, non-Medicaid enrollment in the state; or
  - **Secretary-approved coverage.** Any plan that the HHS Secretary determines is appropriate for the people who will be covered by it. HHS recently has indicated that it will consider the full Medicaid benefit package to be an appropriate plan under the Secretary-approved coverage option.[6]

States also can provide additional benefits on top of what is included in a benchmark-equivalent plan as long as the services are included in the benchmark plan or could be covered under "regular" Medicaid.[7] For example, a state could decide to provide additional disease management services, care coordination, or therapies.

- **Additional Medicaid requirements.** Benchmark and benchmark-equivalent coverage must meet other Medicaid requirements, including requirements to cover transportation services, family planning services, and care provided by rural health clinics and federally qualified health centers. Also, such coverage, if it is provided through managed care entities, must comply with Medicaid managed care requirements. In addition, states must secure public input prior to filing a proposal with HHS to use benchmark or benchmark-equivalent coverage.[8]

*Groups Exempt from Benchmark Coverage*

The DRA identified a number of groups of people who cannot be required to enroll in benchmark benefits. In the health reform law, Congress explicitly carried these "exemptions" over, applying them also to those newly eligible for Medicaid due to the expansion to 133 percent FPL. The following groups of beneficiaries – including those eligible under traditional Medicaid rules and those eligible under the new expansion to 133 percent FPL – are exempt from mandatory enrollment in benchmark coverage and, instead, must be offered the traditional, full Medicaid benefit package:[9]

- **People with disabilities.** People who qualify for Medicaid because they are blind or disabled, as well as people who are receiving certain long-term care services.
- **Dual eligibles.** People who are enrolled in both Medicaid and Medicare.
- **Medically frail.** People who are medically frail or who otherwise have special medical needs. HHS' final rule on benchmark benefits clarified that a state's definition of who is medically frail must, at a minimum, include people with "serious and complex medical conditions" and people with "physical and/or mental disabilities that significantly impair their ability to perform one or more activities of daily living." A state, however, also could define medically frail more broadly.[10]
- **Certain low-income parents.** Parents or caretaker relatives whom a state is required to cover under federal minimum Medicaid standards (i.e., "Section 1931 parents"). The federal minimum standard for parent coverage varies across states from a low of 17 percent FPL to a high of more than 133 percent FPL; the median is 64 percent FPL for a working parent.[11]
- **Other special groups.** Others whom states cannot require to enroll in benchmark coverage include pregnant women, women who qualify for Medicaid because of breast or cervical cancer, children in foster care or receiving adoption assistance, the medically needy, and individuals receiving only emergency services.

Given that significant health care conditions are relatively prevalent among the low-income adults who will become eligible for Medicaid under the expansion to 133 percent FPL, a considerable share of this population can be expected to be exempt from mandatory enrollment in benchmark coverage.

## Premiums, Deductibles, and Cost-Sharing for Adults

The rules governing how much states can charge newly-eligible adult Medicaid beneficiaries for coverage and services are complex and they vary depending on a beneficiary's income and the service that is being used. In general, though, states are strictly limited in the premiums, deductibles, and cost-sharing amounts that they can charge adult Medicaid beneficiaries, with particularly strong rules for those below 100 percent FPL.[12] For adults in this lowest income range, states cannot charge more than a nominal amount for most services, nor can they impose premiums or any charge for emergency services or family planning services. At state option, adults with more income can face somewhat higher cost-sharing charges – for most services, up to 10 percent of the cost of the service for those with income between 100 percent and 150 percent FPL, and up to 20 percent for those with income above 150 percent FPL. Adults cannot be charged premiums until their income reaches 150 percent FPL. In addition, states must ensure that the total cost of Medicaid premiums, deductibles, and cost-sharing charges for a family in a year does not exceed 5 percent of the family's income.

**MEDICAID PREMIUM AND COST-SHARING STANDARDS FOR ADULTS**

| | ≤100% FPL | 101%–150% FPL | >150% FPL |
|---|---|---|---|
| Premiums | *Not allowed* | *Not allowed* | *Allowed* |
| **Cost-Sharing (may include deductibles, copayments, or coinsurance)**<br>"Nominal" is defined as up to $2.30[1] deductible per month per family, up to $3.40[1] copayment, or up to 5% coinsurance. | | | |
| Most services[2] | *Nominal* | *Up to 10% of the cost of the service or a nominal charge* | *Up to 20% of the cost of the service or a nominal charge* |
| Prescription drugs<br>• Preferred<br>• Non-preferred | *Nominal*<br>*Nominal* | *Nominal*<br>*Nominal* | *Nominal*<br>*Up to 20% of the cost of the drug* |
| Non-emergency use of emergency department | *Nominal* | *Up to twice the nominal amount* | *No limit, but 5% family cap applies* |
| Preventive services | *Nominal* | *Up to 10% of the cost of the service or a nominal charge* | *Up to 20% of the cost of the service or a nominal charge* |
| Cap on total premiums, deductibles, and cost-sharing charges for all family members | *5% of family income* | | |
| Service may be denied for non-payment of cost-sharing | *No* | *Yes* | *Yes* |

NOTE: Some groups of adults are exempt from premiums, deductibles, and most cost-sharing charges described in this table. They include pregnant women (except that those above 150 percent FPL can be charged very modest premiums), terminally ill individuals receiving hospice care, institutionalized spend-down individuals, breast and cervical cancer patients, and Indians who receive services from Indian health care providers. These groups can be charged cost-sharing for non-emergency use of an emergency department and for use of a non-preferred prescription drug.

[1] $2.30 and $3.40 are the "nominal" amounts for federal fiscal year 2009 – the latest available from HHS. They will be adjusted over time to reflect inflation in medical care costs.

[2] Cost-sharing of any kind is prohibited for some services, including emergency services and family planning services.

## Policy Implications

Under the health reform law, states will have considerable flexibility within federal guidelines to design Medicaid benefit packages and cost-sharing rules that are appropriate for newly-eligible adult beneficiaries. The often-extensive health care needs and very low income of the newly-eligible adults are important considerations for states to take into account in making their design choices. The available federal financing is another important factor for states to weigh. The federal government will finance the full cost of care for newly-eligible Medicaid adults for the first three years of reform, and at least 90 percent of the cost thereafter. The matching rate is lower for other, already-eligible populations, but the federal government will still pick up at least 50 percent – and in most cases, more – of the cost of providing them with benefits.[13]

Beyond the question of benefits for the newly-eligible population in particular, the broader issue for states is how to create a coherent Medicaid program that provides the full range of groups served by the program with the benefits that they need when they need them. Many people are likely to experiences changes in their circumstances that move them in and out of "exempt" status. For example, individuals who are mandatorily enrolled in benchmark or benchmark-equivalent coverage could become exempt if they become pregnant, develop a medical condition that causes them to be classified as "medically frail," qualify for Medicare, or experience a drop in income that puts them below pre-reform federal minimum eligibility standards. Given that such changes in income, health status, and other factors are common, coordination and consistency of coverage between groups and over time are key aims. Because individuals may also shift between eligibility for Medicaid and Exchange coverage, identifying ways in which states can promote continuity of care between the two systems is a priority.

As state policymakers decide their direction regarding benefits for newly-eligible Medicaid adults, two major options available to them are:

- **Provide the traditional, full Medicaid package.** While HHS has yet to issue guidance on Medicaid benefits in the context of the health reform law, its recent final rule on benchmark coverage suggests that states will be able to provide newly-eligible adults with the traditional, full Medicaid benefit package.[14] Given the newly-eligible population's low income and health profile, states that have established a Medicaid package for already-eligible adults that is well-designed to meet their needs may decide that they should use the same package for newly-eligible adults. Also, because states must continue to provide full Medicaid benefits to many adults (both already-eligible and newly-eligible) who belong to the groups exempt from mandatory benchmark coverage, this option may be attractive to states seeking to run a streamlined and simplified Medicaid program that does not require them to track beneficiaries in order to capture changes in exempt status.
- **Provide a benchmark benefit package with essential health benefits.** States can elect to use a benchmark benefit package (or benchmark-equivalent package) based on one of three commercial products or an appropriate package under the Secretary-approved coverage option, as long as it covers essential health benefits and complies with other Medicaid requirements. States that rely on a benchmark benefit package (or benchmark-equivalent package) may consider adding services that are tailored to the specific health care needs of low-income adult Medicaid beneficiaries, such as additional mental health services, support for managing chronic conditions, or assistance in care coordination.

Along with making decisions about the benefit package for newly-eligible adults in Medicaid, states will need to explore using delivery systems that are coordinated or even overlapping with those used in Exchange plans while ensuring, at the same time, that beneficiaries retain access to vital, Medicaid-specific services, such as transportation and, in some cases, more extensive help with chronic conditions, serious health issues, and care coordination.

## Conclusion

The content of the coverage provided to the millions of low-income adults slated to secure Medicaid coverage under the health reform law will depend, in part, on how the federal government addresses key issues, such as the definition of "essential health benefits." Most importantly, it will depend on the decisions of state policymakers in the months and years ahead. In light of the limited income and often extensive health care needs of newly-eligible adult Medicaid beneficiaries, it will be critical that they be provided with benefits designed to reflect their unique needs if health reform is to work as intended.

## APPENDIX: Federal Rules Regarding Benefits for Children in Medicaid

The health reform law is expected to make some children newly-eligible for Medicaid. In particular, children ages 6 to 19 in separate CHIP programs with income between 100 percent and 133 percent FPL will move into Medicaid when the major Medicaid expansion takes place on January 1, 2014.

Like other children in Medicaid, those who become newly eligible for Medicaid must be provided with the "EPSDT" benefit, which federal Medicaid rules have long required for children. EPSDT – Early and Periodic Screening, Diagnosis, and Treatment – is designed to cover all medically necessary care for children, in recognition of their unique developmental needs. Under EPSDT, states must fully cover preventive and primary care, including dental, hearing, and vision care, as well as all acute care needs. Further, the EPSDT benefit extends beyond acute care to address long-term care needs, including therapies, medical equipment and other support services that are particularly important for children with special health care needs.

States can provide children in Medicaid with benchmark benefits, but, if they do so, they must supplement the coverage as needed to ensure the child receives the full EPSDT benefit. Technically, states are required to provide benchmark coverage to children who move from separate CHIP plans into Medicaid following the expansion of Medicaid eligibility to 133 percent FPL. However, as a practical matter, the law appears to give states broad flexibility to decide the best way to ensure that Medicaid children receive the EPSDT benefit. Thus, states can opt to use a benchmark issuer (e.g., a state employee plan) to provide coverage and then supplement it as needed. Alternatively, it appears that states can rely on the same delivery system they use for other children to provide benchmark benefits and any supplemental services needed to reach an EPSDT level of coverage.

**MEDICAID PREMIUM AND COST-SHARING STANDARDS FOR CHILDREN**

| | "Mandatory Children"[1] | Other children ≤150% FPL | Children >150% FPL |
|---|---|---|---|
| Premiums | *Not allowed* | *Not allowed* | *Allowed; may vary by group* |
| **Cost-Sharing (may include deductibles, copayments, or coinsurance)** "Nominal" is defined as up to $2.30[2] deductible per month per family, up to $3.40[2] copayment, or up to 5% coinsurance. | | | |
| Most services[3] | *Not allowed* | *Up to 10% of the cost of the service* | *Up to 20% the cost of the service* |
| Prescription drugs<br>• Preferred<br>• Non-preferred | *Not allowed*<br>*Nominal* | *Not allowed*<br>*Nominal* | *Nominal*<br>*Up to 20% of the cost of the drug* |
| Non-emergency use of emergency department | *Nominal* | *Up to twice the nominal amount* | *No limit* |
| Preventive services | *Not allowed* | | |
| Cap on total premium and cost-sharing charges for all family members | *5% of family income* | | |
| Service may be denied for non-payment of cost-sharing | *No* | *Yes* | *Yes* |

Note: Indian children who receive services from Indian health care providers, as well as children in foster care or adoption assistance programs, are exempt from all premiums and cost-sharing charges except those for non-preferred prescription drugs and non-emergency use of the emergency department. Disabled children who qualify for coverage under the Family Opportunity Act option are exempt from cost-sharing charges, but can be charged certain premiums.

[1] "Mandatory children" are those whom the federal government requires states to cover in Medicaid, including children ages 0-5 with family income below 133 percent of FPL and ages 6-18 with family income below 100 percent of FPL. Starting in 2014, under the Affordable Care Act, children of all ages with family income up to 133 percent of FPL will be "mandatory children."

[2] $2.30 and $3.40 are the "nominal" amounts for federal fiscal year 2009 – the latest available from HHS. They will be adjusted over time to reflect inflation in medical care costs.

[3] Cost-sharing of any kind is prohibited for some services, including emergency services and family planning services.

[1] As under prior law, undocumented immigrants will remain ineligible for Medicaid and CHIP, and only certain legal immigrants can secure coverage.

[2] Congressional Budget Office, "H.R. 4872, Reconciliation Act of 2010 (Final Health Care Legislation)," March 20, 2010.

[3] Prior to technical corrections included in the Children's Health Insurance Program Reauthorization Act (P.L. 111-3), the DRA could have been read as giving states broader flexibility to disregard even those Medicaid requirements not directly in contravention of benchmark benefits. As a result of the technical corrections, CMS stated in its final rule on benchmark benefits, issued on April 30, 2010 (Federal Register, Vol. 75, No. 83), that states still must comply with any Medicaid requirement not directly contrary to benchmark benefit flexibilities, including Medicaid managed care regulations and the requirement to provide transportation services.

[4] See page 23076, Federal Register, Vol. 75, No. 83, April 30, 2010.

[5] If a state uses a benchmark-equivalent package, it must submit an actuarial report that attests that the coverage has an aggregate actuarial value equivalent to the benchmark. In making such an assessment, the actuary may take into account the state's ability to reduce benefits to reflect the increase in actuarial value created by using Medicaid cost-sharing rules rather than the benchmark's rules. In addition, the benchmark-equivalent package must include coverage for inpatient and outpatient hospital services, physician services, laboratory and x-ray services, well-baby and well-child care (including immunizations), emergency services, other appropriate preventive services, and, as a result of changes included in the health reform law, family planning services, prescription drugs and mental health services. To the extent the benchmark includes vision and hearing services, the equivalent package also must provide these services and ensure they have an actuarial value equal to at least 75 percent of vision and hearing services in the benchmark.

[6] 42 CFR 440.330(d).

[7] Specifically, states can provide additional services if they use the option to provide benchmark-equivalent coverage, as long as the services could be covered under regular Medicaid rules or are included in the benchmark package. See page 23086, Federal Register, Volume 75, Number 83, April 30, 2010 for a discussion of this issue and 42 CFR 440.335 for the regulatory language.

[8] The basis for the application of these additional requirements varies. For example, the DRA requires that beneficiaries continue to have access to federally-qualified health centers and rural health centers (as has long been required under Medicaid law). In light of technical corrections included in Section 611 of CHIPRA (Public Law 111-3), CMS more recently clarified in its final rule on benchmark benefits, published April 30, 2010, that states are required to provide transportation services and to comply with Medicaid managed care regulations. Finally, the requirements to provide family planning services and comply with mental health parity requirements were included in Sections 2001 and Section 2302, respectively, of the Affordable Care Act (Public Law 111-148), although CMS notes that the family planning services would have been required in benchmark-equivalent plans even without the statutory change because of the existing requirement to provide "appropriate preventive services."

[9] At their option, exempt individuals can choose to sign up for benchmark benefits. They must be informed of any differences between the benefits or cost of coverage under the benchmark benefit package (or equivalent) and a state's standard full Medicaid benefit, be given ample time to arrive at an informed choice, and voluntarily and affirmatively choose to enroll in the benchmark package. Once enrolled, an exempt individual can disenroll from benchmark coverage at any time and must be "promptly" moved into the standard full Medicaid benefit. While the disenrollment request is being processed, exempt individuals must be able to secure all standard Medicaid services.

[10] 42 CFR 440.315(f).

[11] Ross et al. *A Foundation for Health Reform: Findings of a 50-State Survey of Eligibility Rules, Enrollment and Renewal Procedures, and Cost-Sharing Practices in Medicaid and CHIP for Children and Parents During 2009*, Kaiser Commission on Medicaid and the Uninsured, December 2009.

[12] A large body of research indicates that Medicaid beneficiaries otherwise are at high risk of going without needed care. See, for example, Hudman and O'Malley, *Health Insurance Premiums and Cost-Sharing: Findings from the Research on Low-Income Populations*, Kaiser Commission on Medicaid and the Uninsured, March 2003.

[13] Heberlein et al, *Financing New Medicaid Coverage under Health Reform: The Role of the Federal Government and States*, Kaiser Commission on Medicaid and the Uninsured, June 2010.

[14] See 42 CFR Part 440.330(d), which states that "the scope of a Secretary-approved health benefits package will be limited to benefits within the scope of the categories available under a benchmark coverage package or *the standard full Medicaid coverage package under section 1905(a) of the Act*" (emphasis added). In addition 42 CFR Part 440.360 clarifies that states can cover additional services for people enrolled in benchmark or benchmark equivalent plans if the services are within the scope of what is normally allowed under Medicaid. This option also appears to give states the choice to provide a traditional, full Medicaid benefit package.

This brief was prepared by Jocelyn Guyer of Georgetown University's Center for Children and Families and Julia Paradise of the Kaiser Family Foundation's Commission on Medicaid and the Uninsured. The authors wish to thank Judith Solomon of the Center on Budget and Policy Priorities for her review.

This publication (#8092) is available on the Kaiser Family Foundation's website at www.kff.org.

# Affordable Care Act Funding Awards and State Legislative and Legal Reform Challenges

Information Current as of January 24, 2011

| State | Amount (in millions) | State | Amount (in millions) | State | Amount (in millions) |
|---|---|---|---|---|---|
| Alabama | $17.1 | Kentucky | $35.0 | North Dakota | $7.1 |
| Alaska | $14.7 | Louisiana* | $26.1 | Ohio | $50.0 |
| Arizona* | $32.1 | Maine | $12.9 | Oklahoma* | $19.6 |
| Arkansas | $17.0 | Maryland | $62.7 | Oregon | $45.2 |
| California | $431.9 | Massachusetts | $200.1 | Pennsylvania | $78.6 |
| Colorado | $53.6 | Michigan | $57.5 | Rhode Island | $14.0 |
| Connecticut | $48.3 | Minnesota | $33.8 | South Carolina | $15.6 |
| Delaware | $9.2 | Mississippi | $8.3 | South Dakota | $3.1 |
| District of Columbia | $28.1 | Missouri* | $47.0 | Tennessee | $48.7 |
| Florida | $71.4 | Montana | $9.6 | Texas | $83.6 |
| Georgia* | $34.9 | Nebraska | $18.8 | Utah* | $22.8 |
| Hawaii | $22.1 | Nevada | $11.9 | Vermont | $10.3 |
| Idaho* | $21.4 | New Hampshire | $8.9 | Virginia* | $57.7 |
| Illinois | $87.2 | New Jersey | $83.9 | Washington | $82.9 |
| Indiana | $35.0 | New Mexico | $38.1 | West Virginia | $24.8 |
| Iowa | $17.1 | New York | $126.8 | Wisconsin | $37.8 |
| Kansas | $10.9 | North Carolina | $80.6 | Wyoming | $13.9 |

Description

In response to a question posed in the Senate Public Health and Welfare Committee, KHI gathered ACA award totals by state and compared award amounts between states legally or legislatively challenging reform and those not engaged in challenges. On average, there does not appear to be a correlation between a state's legal or legislative challenge to reform and its ability to receive federal funding. Please note that in most cases funding must be applied for, so variance in allotment could largely depend on how aggressively a state (or other entity) seeks funding. Descriptors in the table are described below.

- Yellow shading indicates a state has filed or joined a lawsuit challenging some aspect of the ACA.
- An * indicates a state has enacted a state statute or a state constitutional amendment in response to or in advance of the ACA.
- Funding includes allotments directly to states (state agencies and departments), local governments and communities, and private companies.

KANSAS HEALTH INSTITUTE

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1-50

Safe Kids Kansas

Preventing accidental injury.

January 31, 2011

**Written testimony presented to the**
**Senate Committee on Public Health & Welfare**
**Senate Bill 33**

Chairman Schmidt and members of the Committee on Public Health & Welfare, Safe Kids Kansas is pleased to provide testimony in support of SB 33. Safe Kids Kansas is a nonprofit coalition of over 70 statewide organizations and businesses dedicated to preventing accidental injuries to Kansas children ages 0-14. Senate Bill 33 provides Kansas schools and families with an opportunity to ensure the safety of our youth athletes with these return-to-play standards.

Concussions are one of the most common reported injuries in youth sports. A concussion is a type of traumatic brain injury, or TBI, caused by a bump, blow, or jolt to the head that can change the way your brain normally works. Concussions can also occur from a fall or a blow to the body that causes the head and brain to move quickly back and forth.

Health care professionals may describe a concussion as a "mild" brain injury because concussions are usually not life-threatening. Even so, their effects can be serious. And while prevention of the concussion may not be realistically possible within the confines of a particular sport, it is vital that the brain be given time to heal before sustaining repeated trauma. Identification that a concussion has or may have occurred is key to getting prompt and proper treatment, and return-to-play guidelines that require evaluation by a licensed health care provider trained in concussion evaluation and management help to protect youth from further injury, or even death.

We believe SB 33 would provide the means to educate families about concussions and equip schools to identify when a concussion may have occurred. The return-to-play standards would help ensure youth athletes are not being placed at additional risk for a traumatic brain injury.

Thank you for the opportunity to provide this testimony. By implementing an educational component for parents and guardians of youth athletes and return-to-play requirements, our children are safer from suffering the devastating effects of a traumatic brain injury. Should you need any additional information, please contact Darlene Whitlock, Board of Directors member and legislative liaison, at 785-806-2327.

Attachment:
Safe Kids Kansas Member Organizations

Safe Kids Kansas, Inc. is a nonprofit Coalition of over 70 statewide organizations and businesses dedicated to preventing accidental injuries to Kansas children ages 0-14. Local coalitions and chapters cover Allen, Anderson, Atchison, Butler, Clay, Coffey, Dickinson, Doniphan, Douglas, Elk, Ellis, Finney, Geary, Harvey, Jackson, Jefferson, Johnson, Kiowa, Labette, Leavenworth, Marion, Marshall, McPherson, Mitchell, Montgomery, Pottawatomie, Riley, Saline, Sedgwick, Shawnee, Smith, Sumner, and Wilson counties, as well as the city of Emporia and the Metro Kansas City Area (Wyandotte county and several Missouri counties.) Safe Kids Kansas a member of Safe Kids Worldwide, a global network of organizations whose mission is to prevent accidental childhood injury. The lead agency for Safe Kids Kansas is the Kansas Department of Health and Environment.

1000 SW Jackson Suite 230 Topeka, KS 66612 tel 785-296-1223 fax 785-296-8645
www.safekids.org www.safekidskansas.(

Senate Public Health & Welfare
Date 1-31-2011
Attachment 2

Safe Kids®
Kansas

# Safe Kids Kansas
# Member Organizations

AAA Allied Group
American Academy of Pediatrics – Kansas Chapter
Board of Emergency Medical Services
Brain Injury Association of Kansas
Children's Mercy Hospital
Child Care Providers Together of Kansas
Cusick Jost Consulting, LLC
Dillon Stores
Fire and Burn Safety Alliance of S Central Kansas
Fire Education Association of Kansas
Fire Marshal's Association of Kansas
Head Start State Collaboration Office/SRS
Huggable Images
HCC Fire Service Training Program
Kansas Academy of Family Practice Physicians
Kansas Action for Children
Kansas Association for Counties
Kansas Association of Local Health Departments
Kansas Association of Osteopathic Medicine
Kansas Association of School Boards
Kansas Chapter International Association of Arson Investigators
Kansas Children's Cabinet & Trust Fund
Kansas Chiropractic Association
Kansas Cooperative Extension 4-H
Kansas Dental Association
Kansas Department Health & Environment:
- Bureau of Health Promotion
- Bureau of Family Health
- Bureau of Environmental Health

Kansas Department of Human Resources
Kansas Department of Transportation
Kansas Department of Wildlife and Parks
Kansas District of Kiwanis International
Kansas EMS Association
Kansas Emergency Nurses Association
Kansas Farm Bureau
Kansas Healthy Start Home Visitors
Kansas Highway Patrol
Kansas Hospital Association
Kansas Insurance Department
Kansas MADD
Kansas Medical Society
Kansas Motor Carriers Association
Kansas Operation Lifesaver
Kansas Parent Teachers Association
Kansas Poison Control Center
Kansas Public Health Association
Kansas Recreation & Park Association
Kansas Safe Routes to School Program
Kansas SADD
Kansas School Nurses Organization
Kansas State Association of Fire Chiefs
Kansas State Board of Education
Kansas State Child Death Review Board
Kansas State Fire Marshal's Office
Kansas State Firefighters Association
Kansas State Nurses Association
Kansas Traffic Safety Resource Office
Kansas Trauma Program
Kansas Trial Lawyers Association
Kids and Cars
KNEA
KUMC:
- Burn Center
- Emergency Services
- Trauma Program

NHTSA Regional Office
Office of the Governor
Safety & Health Council of Western MO & KS
SIDS Network of Kansas
State Capitol Area Fire Fighters Association
State Farm Insurance Companies
Stormont-Vail Regional Medical Center
United School Administrators of Kansas
Via Christi – St. Francis Burn Center
Via Christi – Trauma Center
Wesley Medical Center

Membership also includes local Coalitions located in Allen, Anderson, Atchison, Butler, Coffey, Dickinson, Doniphan, Douglas, Elk, Ellis, Finney, Geary, Harvey, Jackson, Jefferson, Johnson, Kiowa, Labette, Leavenworth, Marion, Marshall, McPherson, Mitchell, Montgomery, Pottawatomie, Sedgwick, Shawnee, Sumner, Wilson, and Wyandotte counties, as well as the city of Emporia.

Safe Kids Kansas is a member of Safe Kids Worldwide.
January 1, 2011

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www.safekids.org www.kansassafekids.org

KU THE UNIVERSITY OF KANSAS
School of Education

**To:** Kansas Senate Committee for Public Health and Welfare

**From:** W. David Carr, PhD, LAT, ATC,
Governmental Affairs Representative
Kansas Athletic Trainers Society
Director of the Athletic Training Education Program
University of Kansas

**RE:** Senate Bill 33 – "School Sports Head Injury Prevention Act"

The purpose of this letter is to outline my support for the proposed legislation. The short term and long term effects of concussions have become more evident and much more publicized in recent years. Research in this area is advancing at a very rapid pace and increased emphasis is being placed on conservative approaches to treatment of concussions. Even with this more conservative approach, additional safeguards need to be developed to ensure the safety of the children in the state of Kansas.

Research supports that children respond differently to concussions and will present with varying level of symptoms requiring a more conservative decision for Return to Play (RTP).[1-3] It is paramount that all individuals involved in adolescent sport activity be educated on the potential effects of concussion and the risks associated with activity prior to the healing of this injury.

Coaches, athletes, and parents need to be educated about the long term impacts a concussion upon a person's quality of life. The provisions contained in this bill will ensure that all parties listed above will be required to review current and up-to-date information prior to each year's athletic activity. Furthermore, the proposed bill will help protect the adolescent athlete from returning to activity before they are truly ready. There is a direct conflict of interest having a coach, athlete, or parent make the RTP decision. Only a qualified health care professional trained in current recommendations for the management and treatment of concussions should be allowed to make that decision.


1. **Lee L. Controversies in the sequelae of pediatric mild traumatic brain injury. *Pediatric emergency care.* 2007;23(8):580.**
2. **Purcell L, Carson J. Sport-related concussion in pediatric athletes. *Clinical pediatrics.* 2008;47(2):106.**
3. **Schnadower D, Vazquez H, Lee J, Dayan P, Roskind C. Controversies in the evaluation and management of minor blunt head trauma in children. *Current opinion in pediatrics.* 2007;19(3):258.**



Health,Sports and Exercise Science
Robinson Center | 1301 Sunnyside Ave | Lawrence, KS 66045-7567 |

To: Kansas State Senate Committee on Public Health and Welfare

From: Travis Francis, MS LAT ATC
President – Kansas Athletic Trainers Society
Via Christi Health – Manager of Outreach Sports Medicine Program
Wichita, KS

RE: Senate Bill 33 – "School Sports Head Injury Prevention Act"

As a Certified Athletic Trainer in the State of Kansas and President of the Kansas Athletic Trainers Society (KATS), I am writing this letter to ask for your support for the "School Sports Head Injury Prevention Act" – Senate Bill 33. Simply put, this proposed legislation will protect our young adolescent student-athletes from returning too early from a traumatic brain injury or concussion. One of the most severe and serious injuries an athlete can sustain is a concussion. A concussion can be simply defined as a traumatic brain injury that interferes with normal brain function.

The Kansas Athletic Trainers Society's mission is to help assure top quality health care to the Physically Active in Kansas, and to promote and increase knowledge of the profession of Athletic Training to the citizens of the State of Kansas. We feel it is necessary to enact legislation to insure our children's safety and to protect them from adverse effects of concussions. "Prevention" is a key component not only to my profession but also key to ensuring the student-athletes of the State of Kansas are well cared for on the athletic field. "Awareness" and "Education" are equally important to maintaining a safe environment for our children. The proposed legislation will mandate that coaches, parents, and health care providers are all aware of the signs and symptoms associated with concussions as well as educating them on proper management guidelines. Health care providers will be required to be trained in current recommendations for the evaluation and management of concussion injuries.

As more research is being done, we are gaining a better understanding of both the short and long term adverse effects of concussions. It is a Certified Athletic Trainer's role to ensure the prevention, safety, and protection of the student-athletes of the State of Kansas. I am not writing this letter to educate the committee on the signs and symptoms of concussions, but rather, to ask for your support of this legislation so we can mandate education to coaches, parents, health care providers, and our communities, in addition to, addressing the need for proper management and care by all health care providers to reduce the risk of negative or adverse effects of concussions. Prevention, early detection and treatment are key factors in reducing the risk of sustaining any long term effects.

I want to thank the committee for opportunity on behalf of the Kansas Athletic Trainers Society for understanding the need to both support and pass this critical bill to ensure our children's safety.

Respectfully,

Travis Francis, MS LAT ATC
President – Kansas Athletic Trainers Society

KANSAS MEDICAL SOCIETY
Established 1859

***To:*** Senate Committee on Public Health and Welfare

***From:*** Dan Morin
Director of Government Affairs

***Date:*** January 31, 2011

***Subject:*** SB 33; Concerning school districts; enacting the school sports head injury prevention act

The Kansas Medical Society appreciates the opportunity to appear today on SB 33, which would enact the School Sports Head Injury Prevention Act.

According to the American Academy of Pediatrics, sports related concussions are considered underreported. Football has the highest incidence of concussion but girls have higher concussion rates than boys do when playing similar sports. A national report released last May from the Government Accountability Office showed girls in all sports are more at risk and have a longer recovery period than boys, primarily because of their less-muscular necks. In addition to the frequency of head injuries suffered by scholastic athletes, a 2009 study found that as many as 40 percent of high school athletes who have had concussions return to competition or practice when they may not be fully recovered as reported by the American Medical Association. In 2008, no state required that concussed middle school or high school athletes receive medical clearance to return to play. Today at least 9 do. Washington became the first to state to act after a middle school football player spent months in a coma after suffering two concussions in the same game.

For any sport, the goal must be cautious management of concussions. Just like an injured ankle or knee, an injured brain needs time to heal. Even mild brain injuries can be catastrophic or fatal. The issue was even raised at a congressional hearing last September, when medical experts told lawmakers that student-athletes risked altered lives and permanent brain damage if schools do not protect them from the effects of blows to the head. A concussion can be hard to diagnose because it usually requires a player to recognize and be honest about the symptoms, which means sitting out of the current game and possibly future games. In sport's competitive culture, that does not always happen. Winning a game or a championship trophy, however, is not worth gambling on a student's present or long-term health. Playing again so quickly after this type of injury can cause the student to have more concussions. Even military soldiers are required to leave the ba[illegible] after being exposed to an explosive blast. Military physicians sa[illegible]

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**Date** 1-31-2011
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prevent permanent brain damage that can result if a soldier has a second concussion before the first one heals.

The Kansas State High School Activities Association return-to-play-policy, which was recently endorsed by the Kansas Medical Society, recommends that a player not again participate in practice or competition until cleared by an appropriate health care professional. The policy defines an appropriate health care professional as a Medical Doctor (MD) and a Doctor of Osteopathic Medicine (DO) or a Physician Assistant (PA) or Advanced Registered Nurse Practitioner (ARNP) working under a collaborative agreement with an MD or DO. The AMA, last November, voted to adopt a policy supporting a requirement that athletes in school or youth sports suspected of suffering a concussion not be allowed a return to play or practice without a physician's written approval. By their extensive education, training and knowledge, physicians are best qualified for diagnosing and managing the athlete who suffers from a concussion in sports. Most importantly, a concussion puts a student at risk of chronic traumatic encephalopathy. Players who suffer from chronic encephalopathy as the result of a concussion may have to deal with ongoing disorientation, memory loss, delayed and slurred speech, dizziness and in some cases severe depression. We therefore respectfully recommend the committee amend the bill to require any evaluation and written authorization allowing an athlete to return to play or practice be completed by a physician (i.e., person licensed to practice medicine and surgery) or by a ARNP or PA working under a written collaborative agreement with a physician

In addition, many high schools or middle schools do not have a health care provider present during games, let alone at practices. Currently, coaches in Kansas are not required to pass a concussion-awareness course. Many coaches have limited first aid experience. The committee may want to provide that courses on head trauma be mandated for coaches due to the importance of first identifying players who may have suffered a dangerous head injury. Pennsylvania is currently debating a bill that requires coaches be certified through a concussion management training course every three years; and a school district to suspend coaches who violate the proposed law for removing an athlete from play or returning him or her without written approval by a health care provider. Courses are offered online for no charge by the Centers for Disease Control and Prevention and the National Federation of State High School Associations.

Thank you for the opportunity to present our comments.

Kansas Medical Society; Senate Bill 33 (Senate Public Health and Welfare, 01/31/2011)

(2) "Health care provider" means a person licensed ~~or registered to engage in an occupation which renders health care services~~. to practice medicine and surgery, or an advanced registered nurse practitioner or a physician assistant working pursuant to delegation by or a written collaboration agreement with a person licensed to practice medicine and surgery.

MEDICAL SOCIETY *of* SEDGWICK COUNTY
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**Senate Bill No. 33: School Sports Head Injury Prevention Act**

Thank you allowing me the opportunity to testify before the Public Health and Welfare Committee on this very timely, if not overdue topic. The purpose of my testimony is to share my perspective as a practicing, board certified neurologist on Senate Bill 33. I'm here today as a representative of the Kansas Medical Society and the Medical Society of Sedgwick County.

The brain is the jewel of our anatomy. It is the hard drive and software that holds all our hopes, dreams, desires and potential, making us each truly unique. The human brain is about 4 pounds of tissue with around 100 billion nerve cells all communicating with each other over 1,000 miles of interconnected hair-like structures. Each cell fires from 10 to 100 times a second. Each cell stimulating from 3 to over 100 other cells each time it fires. This is all finely tuned and orchestrated, controlling every movement, thought, sensation, and emotion that comprises the human experience. From this "bio-electrical hum", we achieve consciousness. Each time our head or body gets hit, putting our brain through linear or rotational acceleration and/or deceleration, we run the risk of tearing or damaging these connecting hair-like fibers. These connections, once interrupted, will never be re-connected; they do not grow back, not unlike the damage from a stroke. We think nothing of seeing a star soccer player jump up and deflect a ball with their head towards the goal, however if I took your laptop computer, jumped up and deflected the same soccer ball with the same intensity, you would certainly look at this differently. You would be appalled and furious that such a fine delicate instrument would be used in such a misused fashion. I would like to propose that the human brain is immensely more complicated and elegant, however also more delicate and, unfortunately, largely irreparable.

Senate Bill 33 is an important step toward protecting the delicate brains of the thousands of young children and adults who compete in organized sports in Kansas. The bill essentially establishes conditions under which student athletes are removed and returned to competition.

Why is it so important to remove these concussed athletes from further risk? The answer is twofold; first our brain needs time to repair, allowing swelling to go down and damaged brain cells to be cleaned up. Second, as our brain matures (over 18-20 years) it develops several protective mechanisms guarding it from injury and these also need time to come "back on line" if injured. One can liken the human brain to a newly built office building. This building has several safety systems which will protect it from fire including smoke detectors, heat sensors, sprinkler systems, telephone systems, alarm systems, electrical systems, plumbing, etc. Should someone drop a cigarette in a waste basket in this building, it will likely be easily handled by one of many systems. Now let's say the same building was now traumatized by a delivery truck, which backed through the rear entrance. If the damage disrupted the electricity, plumbing, and phone systems, this building is at much greater risk from the same cigarette falling into the trash can. Once the fire is recognized, the occupants may try to get water out of the sink and find there is no water pressure. They may then try to phone for help to find the phone system is down. The expected early response from the smoke, heat, and sprinkler systems is also off-line because the power is out and the water has been turned off because of interrupted plumbing at the back of the building. If early detection and corrective mechanisms are not fully functional the damage will certainly be greater than if these systems had been repaired. The fire could rage out of control and the building may be lost. Likewise, once the brain has sustained a concussion, many of the connecting fibers are damaged. This may inhibit its protective mechanisms, potentially putting the athlete at greater risk from a sec



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Should a second injury occur before the safety mechanisms are "back online", this can lead to uncontrolled brain swelling and possibly even death. Allowing adequate recovery will allow these mechanisms to repair themselves to the best of their ability and be ready for a second injury should one occur. In the case of the building, the law would never have allowed this building to be re-occupied prior to inspection. A few more days to allow the brain to repair itself may make all of the difference in the world. Putting athletes at risk before their brains are ready to control the next trauma, should injury reoccur, is careless, and once understood, unconscionable.

A concussion can represent a bump, blow or jolt to the head, or a blow to another part of the body with the force transmitted to the head. Concussions represent an estimated 8.9% of all high school athletic injuries. Unfortunately, many parents, coaches, and young athletes seem to believe that youth is a period of indestructibility, however an extensive body of research in the past 10 years certainly suggests otherwise. If you cross reference the words sports and concussion, you will find 135 articles between 1990 and 1999 and upwards of 600 articles between 2000 and 2009 owing to the growing body of evidence suggesting concussion is anything but benign. Some believe that concussions are largely limited to high school football; however, soccer, basketball, and wrestling are also high up on the list. Of interest, girls are reported to have higher rates of concussion than boys in similar sports so no one is immune. With this push to make our athletes stronger, faster, and more aggressive, higher rates of collisions and concussions will certainly follow.

The Kansas State High School Activities Association has a great start with their recommendations for concussion management; however this is not broad enough. I understand it does not cover all high schools, nor does it apply to colleges, junior high, middle schools, or recreational and club sports. Senate Bill 33 is a good step in the right direction, largely mirroring the KSHSAA recommendations, however addressing more student athletes at risk. Should this bill become law the term "Health care provider" should be limited to a medical Doctor (MD), Doctor of Osteopathic Medicine (DO) or Advanced Registered Nurse Practitioner (ARNP) / Physicians Assistant(PA) who are in a direct, collaborative practice with a physician (MD/DO).

Concussion is an invisible/silent epidemic that occurs on a cellular level beyond our ability to see it on CT and MRI scans. Only with a heightened sense of awareness and screening can we hope to impact our recognition and treatment of this common, potentially life altering injury. Education about sports-related concussion is integral in helping to improve this awareness, recognition, and management. This needs to involve the athletes, their parents, and coaching staff. Only trained health care professionals with specific education in concussion and its management should be involved in these important medical decisions regarding return to play. Ultimately our number one goal is to keep our athletes safe so they can go on to lead happy, healthy, productive lives.

Thank you for the chance to share these thoughts and please let me know if I can assist in any further way.

Bart A. Grelinger, M.D., FAAN
2135 N. Collective Lane
Wichita, Kansas 67206-3560
316-261-3220
January 31, 2011

Kansas Chiropractic Association

Est. 1911

Celebrating 100 Years

# TESTIMONY

## Before the Senate Public Health and Welfare Committee

## By John L. Kiefhaber, KCA Executive Director

## January 31, 2011

Supporting passage of Senate Bill 33 – "AN ACT concerning school districts; enacting the school sports head injury prevention act."

Chairperson Schmidt and members of the Committee:

The members of the KCA throughout the state, comprised of doctors of chiropractic practicing in every county and community in Kansas, appreciate the opportunity to be heard on this important health issue. Chiropractic care is one of the healing arts licensed in Kansas and our doctors have training and experience in dealing with sports injuries and musculoskeletal issues common in sports. In fact, many high school and college sports teams use chiropractors in their training and conditioning programs.

KCA would like to stress to the Committee that the provision in the bill requiring specialized training and education on concussion and brain injury is the most important feature of this legislation. Health care providers of all types need to be educated that specialized education and experience by that provider is the issue here – not whether a particular type of provider should be consulted.

KCA member doctors are reviewing national guidelines and the application of these guidelines by colleges and high school athletic programs to be sure we are following educational recommendations.

I would be glad to answer any questions from the Committee. Thank you

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Date 1-31-2011
Attachment 7

Kansas Association of Osteopathic Medicine
1260 SW Topeka Boulevard
Topeka, Kansas 66612
Phone (785) 234 5563
Fax (785) 234 5564

# TESTIMONY

## Senate Committee on Health and Human Services
## SB 33

My name is Bob Williams, Executive Director of the Kansas Association of Osteopathic Medicine. Thank you for this opportunity to address the committee regarding SB 33.

The Kansas Association of Osteopathic Medicine (KAOM) is in support of SB 33. SB 33 establishes criteria for the participation by a student athlete in sport activities following a "suspected" head injury or concussion. As the attached article indicates, "...up to 40% of players who experience a concussion are back on the field before their brains have fully healed."

SB 33 is a step in the right direction by providing specific guidelines for young athletes who suffer a head injury.

We encourage your support of SB 33.

Thank you.

**Senate Public Health & Welfare**
**Date** 1-31-2011
**Attachment** 8

+ CHECKLIST
**Concussed Kids**
A child's brain is a fragile thing, and too many are getting hurt

+ DR. OZ
**Keeping It Safe**
It's up to parents and coaches to know when a kid needs to sit it out

# Headbanger Nation. Concussions are clobbering U.S. kids. Here's why

BY JEFFREY KLUGER

I DIDN'T GET A GOOD LOOK AT THE little boy who injured my daughter in the science museum in Mexico City. He seemed to be about 7, my daughter Elisa was not yet 3, and the two of them were part of a scrum of kids playing on an indoor patio. At precisely the wrong moment, she turned left, he turned right, and they collided. Physics being physics, the smaller mass yielded to the larger one, and my daughter fell down. She landed first on her bottom, then tipped backward and hit her head on the floor.

The sound was one that parents dread: the singular clunk of skull striking cement. I winced, Elisa wailed, and I gathered her up. Soon she stopped crying and went off to play, but even as she did, a dangerous process had begun to unfold inside her skull.

When Elisa's head hit the floor, the deceleration was sudden, but—physics again—her brain stayed in motion for an instant, moving through the small intracranial space until it collided with the back of the inside of her skull. Concussive energy radiated through the tissue. As it did, channels in the neurons opened wide, allowing calcium ions to flow into the cells, depressing their ability to metabolize energy. Brain tissue began swelling, but with nowhere to go, it squeezed up against the skull wall. Shearing forces tore axons connecting the cells, damaging their myelin sheathing, which can disrupt nerve signals. All of that was the best-case scenario. The worst case was a brain bleed, which could be fatal without immediate surgery.

Within 20 minutes, Elisa grew withdrawn. An hour later, back in our hotel, she vomited and then began thrashing convulsively. We rushed her to a hospital, where doctors struggled to get a line into one of the tiny veins in her arm, shouting at her to stay awake.

"Open your eyes!" I shouted at her in English. *"Abre tus ojitos!"* my wife echoed. Elisa understood both languages; she answered in neither.

Finally, the doctors got her into a CT scanner, then administered an EEG. There

**3.8 MILLION**
**Number of Americans who sustain concussions per year—and there may be untold others that go unreported**



8-2

was no bleeding, but there was swelling. Elisa spent three days in the hospital taking antiseizure and antiswelling medication and finally was released. On the flight home, she was a terror—but only in the way a toddler is supposed to be.

For us, that was a first-time—and, we dearly hoped, last-time—experience, but we're hardly alone in having gone through it. In the U.S., concussions are an alarmingly commonplace injury, particularly among kids and most particularly among active, athletic ones. Up to 3.8 million Americans are getting concussed per year, according to the Centers for Disease Control and Prevention, and even that big a figure is a moving target. In 2005, the number of children who visited emergency rooms for treatment of concussions was more than twice what it had been in 1997, according to a new study in the journal *Pediatrics*. High school football players alone sustain 100,000 full-blown, diagnosed concussions per year. Flying under the radar are injuries mild enough to get passed off by coaches as a mere ding or ignored by players anxious to get back on the field.

According to a study by neuroscientist Kevin Guskiewicz of the University of North Carolina, the average college football player sustains a breathtaking 950 to 1,100 subconcussive blows per season—hits that are enough to do cumulative damage to young brain tissue but not enough to cause immediate symptoms. "There's what we call a dose response," Guskiewicz says. "After a certain number of hits, the damage starts to show."

But while football is responsible for more than half the concussions kids suffer playing team sports, there more blame to go around. The success of Title IX, which forbids gender discrimination in scholastic athletics, has led to a 900% increase in girls' sports teams since the law's passage in 1972. But guaranteeing girls equal access to sports also guarantees them equal access to injuries. Girls' soccer accounts for nearly 12% of total team-sports concussions, compared with just 6.6% for boys' soccer. Girls' basketball causes 7%. Even volleyball weighs in at 1.1%.

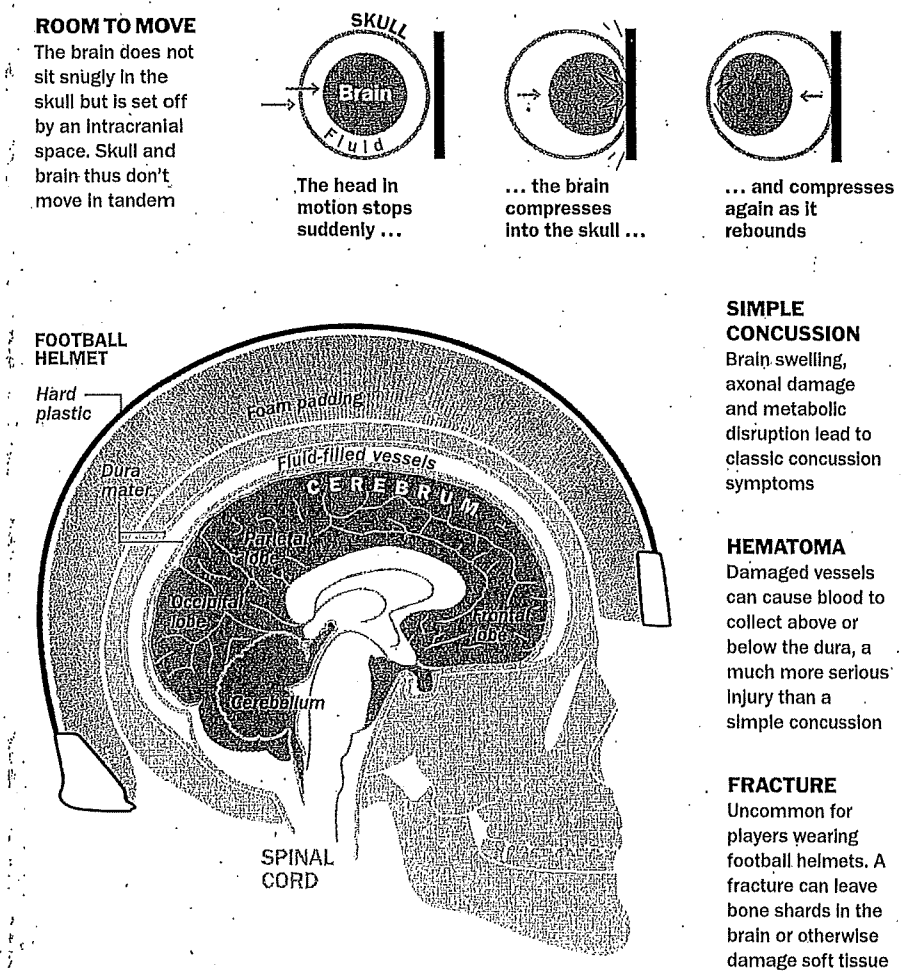
What's more, a third of all concussions among kids are caused by nonteam activities such as ice skating, bicycling and playground recreation. Gaining fast too are newer head-cracking activities like snowboarding and extreme skateboarding. Kids may be the first group to fall in love with such sports, but they're the last group—neurologically speaking—that should engage in them.

"The immature brain is still developing," says Julian Bailes, a neurologist at West Virginia University and the medical director for the Pop Warner Youth Football program. "That makes it more susceptible to damage and more likely to suffer repetitive injury." How this shapes overall development is unknown. A child's brain is like a ship en route to somewhere: a concussion can blow it off course.

The severity of the damage—both acute and chronic—is what researchers are now trying to understand and what legislators and the sports-equipment industry are trying to control. Even as scientists look deeper into the physics, neurochemistry and genetics of brain injury, lawmakers are imposing new rules governing how kids should be assessed for concussions and when they should and should not be eligible to play. Equipment manufacturers, particularly those who make football helmets, are being pushed to redesign their product lines and reform the testing standards that essentially allow the industry to police itself. Pro teams too are feeling the heat for selling an elbow-throwing, stick-swinging, headbutting ethos that may be fine for millionaire athletes who know what they're getting into but is hurting, and in some cases killing, the kids who emulate them.

"I keep telling kids, Your brain is not your knee. It's not your shoulder. It's your future," says neuropsychologist Gerard Gioia, chief of pediatric neuropsychology at Children's National Medical Center in Washington. "We have to protect it better than we are."

## Concussion Physics. Simple laws of motion are behind a very complex injury




### The Science of a Hit

IF IT'S FOOTBALL THAT RECEIVES MOST OF the attention in conversations about concussions, it's partly because the hits



8-3

inflicted in the game can be so shocking. In soccer, basketball or even hockey, violence is typically a by-product of aggressive play. In football, it *is* the play. Guskiewicz conducts his studies by placing accelerometers in players' helmets and recording not just how often they get hit but also how hard. The unit of measure he uses is g-force. Liftoff of a Saturn V moon rocket exposed its crew to a maximum of four g's. A roller coaster may exceed six g's. College football players, by contrast, collide with each other with an impact of nearly 23 g's—and that's the average. Higher-end blows range from 85 to 100 g's. "The highest we ever recorded was 180 g's," says Guskiewicz.

Worse, it's not necessary to be hit in the head for that kind of impact to do concussive damage. A player struck in the chest can suffer whiplash just like a passenger in a car accident, and when the head snaps back and forth, the brain sloshes around with it. "One sign," says Gioia, "is when a player complains of neck pain. That's often an indicator that the head has moved around hard."

Many of those blows don't necessarily lead to a concussion, and in a way, that's unfortunate. Only about 10% of concussions lead to loss of consciousness, but the other signs are hard to miss, including headache, vomiting, dizziness, balance problems, sensitivity to light or noise, confusion, irritability and amnesia. A player with any of those symptoms is likely to be sent to the bench—at least for a while. A player whose brain has been jolted at a subconcussive level is much likelier to stay on the field and return there week after week with no recuperation time. The damage that does can be deadly.

In April 2010, University of Pennsylvania football star Owen Thomas committed suicide in his off-campus apartment, having never before exhibited any sign of mental illness. When researchers at Boston University examined his brain, they found it flecked with what are called tau proteins, telltale signs of a condition known as chronic traumatic encephalopathy (CTE), which is often seen among dementia patients and NFL players with a lifetime of concussions behind them. Thomas had never sustained a concussion, but that might not have mattered.

"He'd been playing since he was 9," says neuropsychologist Robert Stern, part of the team that conducted the analysis. "That suggests he had a great deal of exposure to repeated subconcussive blows."

The link between tau and brain damage is straightforward. The protein is one of the major structural materials of nerve tissues. When the brain is shaken too hard, nerve fibers are torn and the tau is released. The brain tries to clean up the mess, and given enough time, it could. If the hits keep coming, however, the proteins just accumulate. "I describe [the tau deposits] as a form of sludge," says Bailes.

It's not unusual for players like Thomas suffering from CTE to die in violent or otherwise dramatic ways. Bailes was part of a team that found tau protein in the brain of Chris Henry, a player for the Cincinnati Bengals who was killed in 2009 when he got into an argument with his fiancée and jumped on the back of her pickup truck as she drove away—taking a fatal tumble onto the road. In 2007 wrestler Chris Benoit murdered his wife and son and then hanged himself. In 2004 former Pittsburgh Steeler Justin Strzelczyk, who suffered from hallucinations, died when he drove his car into a tractor trailer while fleeing police. Both Benoit and Strzelczyk had CTE. "This disease starts young and progresses through life," says Stern.

Until recently, doctors didn't know just how young, but they're getting an idea. Michael (not his real name) is a ninth-grade football player visiting an outpatient concussion clinic Gioia runs in Rockville, Md. Michael got clobbered in a game in mid-September, suffered many of the immediate concussion symptoms and four months later is still not well. Recovery time varies for all patients, though three months is a good benchmark; four months suggests trouble. Michael's sleep remains disturbed, his temper remains erratic, and his school performance has cratered. An honor-roll student in eighth grade, he has gotten mostly D's and F's this year. "The change," says his mother, "it's shocking."

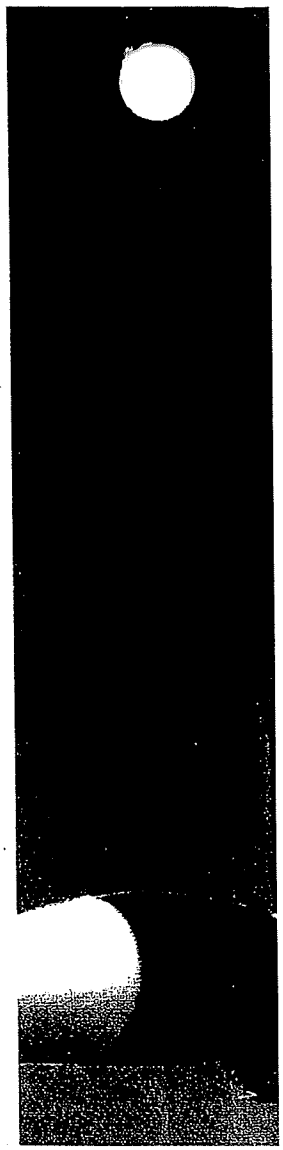
It's not possible to diagnose anything like CTE from just those symptoms, particularly because Michael's recent academic problems began before his concussion. But he already had a history of what he calls stingers, or head blows—none of which kept him off the field. What's more, his coach allowed him to return to play only a month or so after his recent concussion, a game in which he took another blow to the head, then lost his temper and got ejected.

Michael is hardly the only student athlete playing roulette with his brain, and his coach is hardly alone in abetting such recklessness. One study has shown that up to 40% of players who experience a concussion are back on the field before their brains have fully healed. That, Gioia says, is especially worrisome since sometimes two mild injuries can do more damage than one severe one. In some cases—mercifully rare—players who return to the field before they're fully recovered may even suffer what is known as malignant brain edema, or second-impact syndrome, in which another blow to the head leads to a fatal brain bleed. About half a dozen kids per year die from second impact.

It's easy enough to make the case that any person who has suffered a brain injury

**'I didn't have any exams until two months after the injury ... I lost focus during one test and had no idea what I'd just written.'**

—MARY, 16, AN HONORS STUDENT AND CONCUSSION PATIENT





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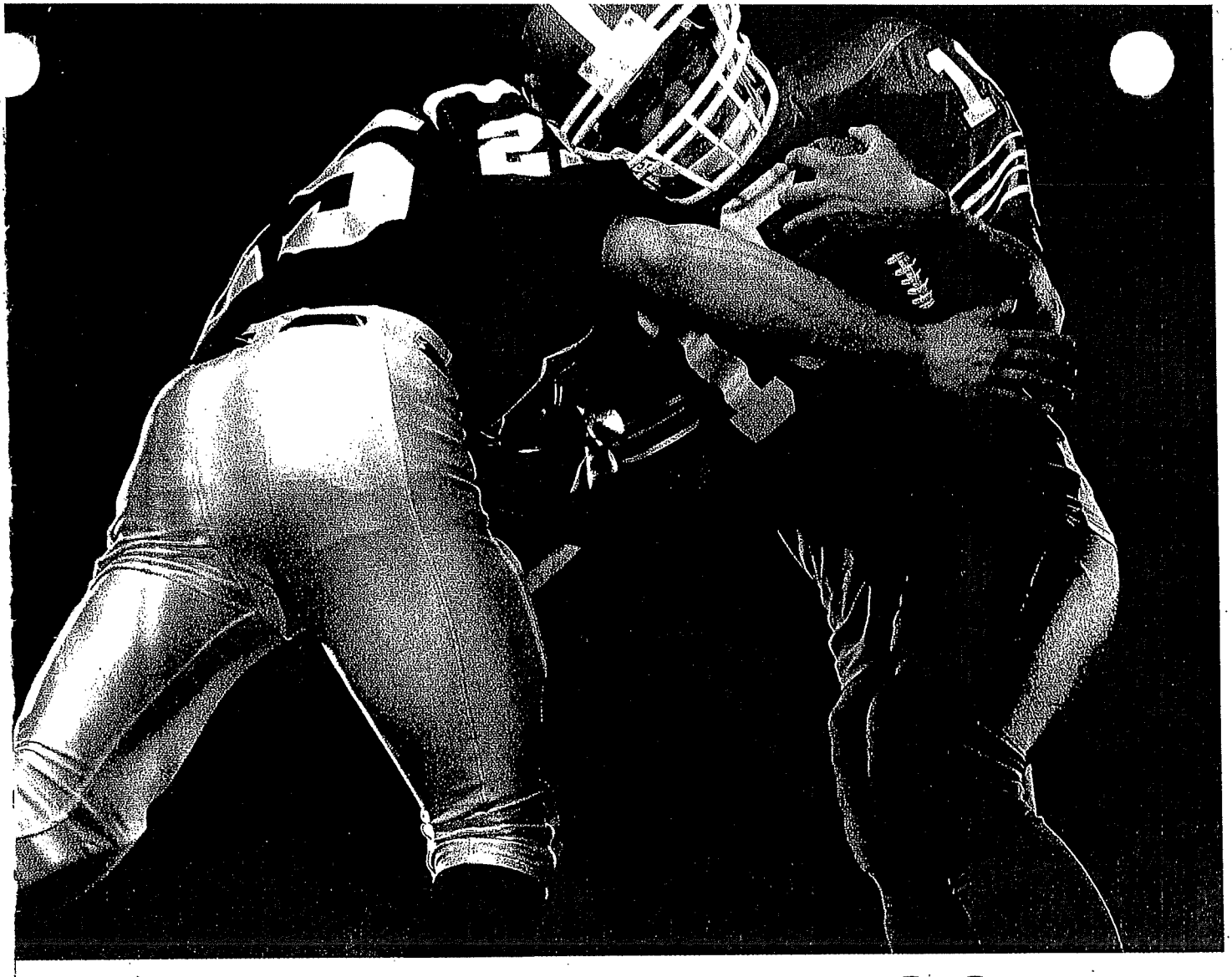

**Average g-forces generated by a collision between two college football players**

**4** **Average g-forces absorbed by lunar astronauts on liftoff**

**180** **Maximum g-forces between college football players**

GREGG SEGAL FOR TIME

needs a long period of recuperation before returning to vigorous physical activity. But what about vigorous intellectual activity? The brain is a cognitive machine, and it requires an enormous amount of energy to keep its gears moving. That's a fact concussed kids often confront when they resume their classwork after an injury and find that their symptoms return the moment they crack a book. "Cognitive exertion requires a high degree of metabolic activity," says Gioia. "If you have a brain that's already impaired, that ability is going to be reduced."

Mary, a high school junior and another patient at Gioia's clinic, has suffered three concussions over the past three years as a goalie for her soccer team. Surprisingly, it is not heading the ball that leads to most concussions in soccer—though the limited studies that have been done have looked only at young adults, and none have explored subconcussive injury. Rather, the damage is done mostly by collisions with other players or, as in Mary's case, with equipment. Her third concussion came last November, when she hit her head against the frame of the goal. She remains an honors student in the International Baccalaureate program in her high school, but the struggle to keep up that level of academic excellence has been grueling.

"I didn't have any exams until two months after the injury," she says. "But when I did, the headaches and fatigue came back immediately. I lost focus during one test and had no idea what I'd just written." She got through all the same and has gone back to school full time, but every day is a battle with pain, exhaustion and sensitivity to noise and light. She has also accepted that soccer—which was a passion—is just not an option anymore. "I can't afford another concussion," she says.

### Digging Deep

THE FACT THAT NO TWO CONCUSSIONS follow the same recovery arc is one of the things that makes them so challenging to diagnose and treat. But that same particularity of injury also provides scientists insights into which people are at the greatest concussive risk.



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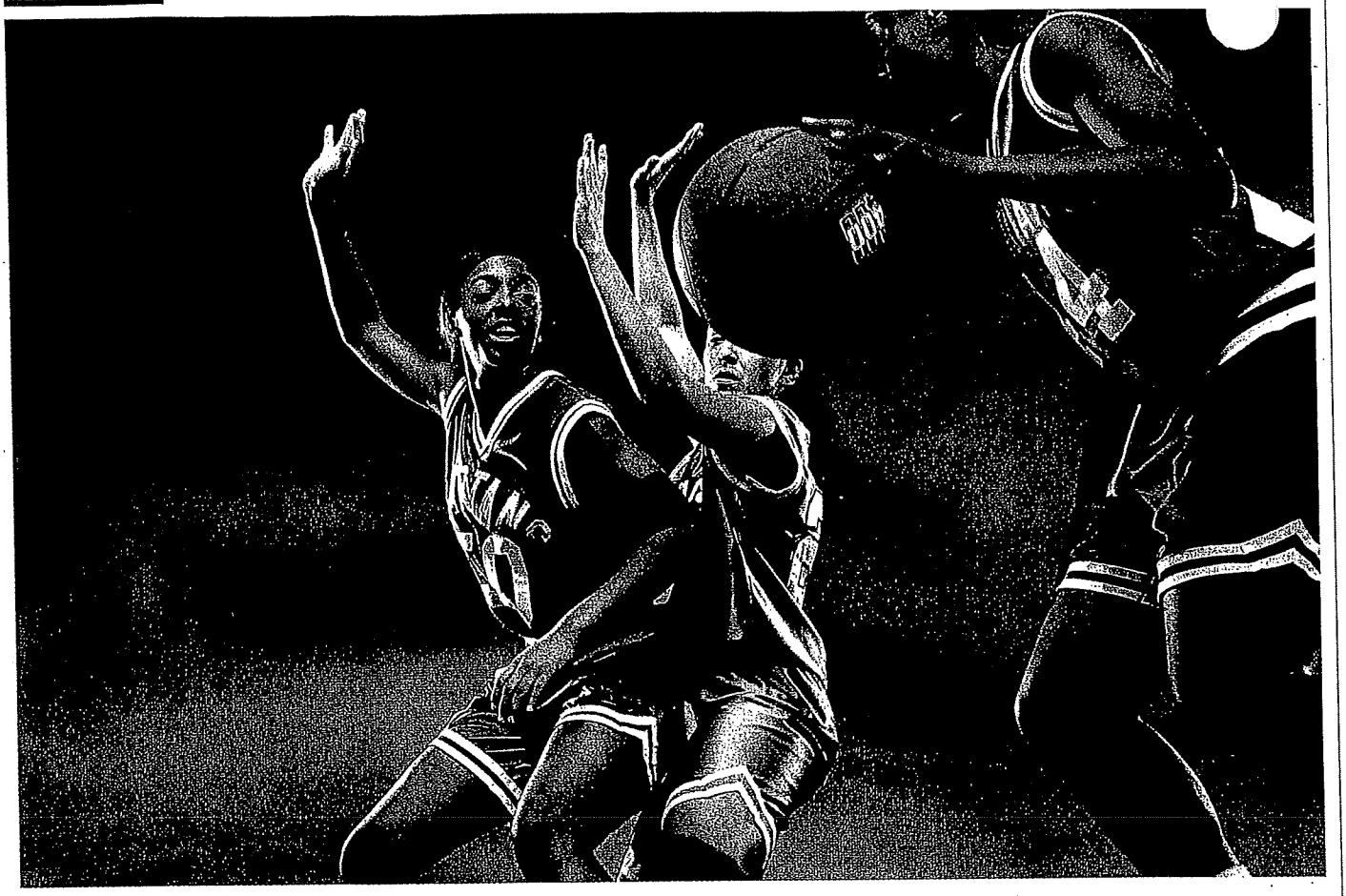


Gender, for one thing, seems to play a role. Mary may be recovering faster from her injury than Michael is, but on the whole, females are both more susceptible to concussions than males are and suffer more-severe symptoms. So far, the reason for that gap is unclear. There is some thought that a girl's comparatively weaker neck muscles may leave her head more susceptible to violent shock. Hormones too may play a role. Among epileptic girls and women, rising and falling estrogen levels are known to make the brain more or less vulnerable to seizures. The thinking is that this may apply to concussion symptoms as well—though it's unclear whether a girl's hormonal makeup leaves her more concussion-prone throughout the month or just during menstruation.

Genes may also be involved. The fact is, plenty of athletes make it through their careers battered and scarred but cerebrally intact, while others who may not get hit with any greater frequency suffer all manner of brain damage. Researchers at the Children's National Medical Center are studying the genomes of both concussed and nonconcussed kids, looking for markers that may explain the difference.

"There could be a genetic predisposition that affects metabolic activity," says geneticist Susan Knoblach. "People always assume that there's a genetic component in degenerative conditions but not acute ones, but of course there can be."

Maryland's Fairfax County has instituted a program in which student athletes spit into cups so their genetic profiles can be taken. The genomes of the ones who come down with concussions can then be compared for key similarities. Early attention is focusing on a gene that codes for a protein called ApoE, which has been implicated in Alzheimer's disease. In the long run, teasing out concussion genes could lead to better drugs or gene therapy to treat or prevent the injury. In the short run, it could help parents and coaches determine in advance which sports kids are best suited to play. Says Gioia: "We may actually find out, 'You know what? You're not set up to be a football player. You might be a better tennis player.'"

Newer brain-scanning technology is also making a difference, helping doctors diagnose concussions and track recovery. The microscopic size of tau proteins and nerve fibers makes them impossible to

**7.0%**
**Share of team-sport concussions caused by girls' basketball, in a recent study of high school players**

**11.9%**
**Share of team-sport concussions caused by girls' soccer. Collision with players or hard surfaces is the usual reason**



8-6

see without a postmortem exam, but three noninvasive techniques can help sidestep that problem. Magnetic resonance spectroscopy measures not direct damage to the brain but its metabolic activity—a good way to evaluate the very system that breaks down first when a brain is concussed. Diffusion tensor imaging can observe transmission along nerve-fiber tracks, providing a sense of the integrity of the neural wiring. And resting fMRI allows physicians to watch the brain when it's not performing a task, providing a look at basic function.

### Changing the Rules

SMART MEDICINE, OF COURSE, CAN DO ONLY so much to reverse the number of concussions. Smart policy must do the rest. To keep kids from hurting themselves—and to prevent coaches from enabling them—10 states, including New Jersey, Oregon, Virginia and football-mad Oklahoma, have passed return-to-play laws requiring kids who have sustained even a suspected concussion in any sport to be pulled from play and not returned until a doctor or certified athletic trainer declares them fit. A handful of other states are considering similar legislation, and last year two separate bills along the same lines were introduced in the House of Representatives. Both will have to be resubmitted under the new GOP majority. Still, the national trend is clear: "When in doubt, sit them out" is how the advocates put it.

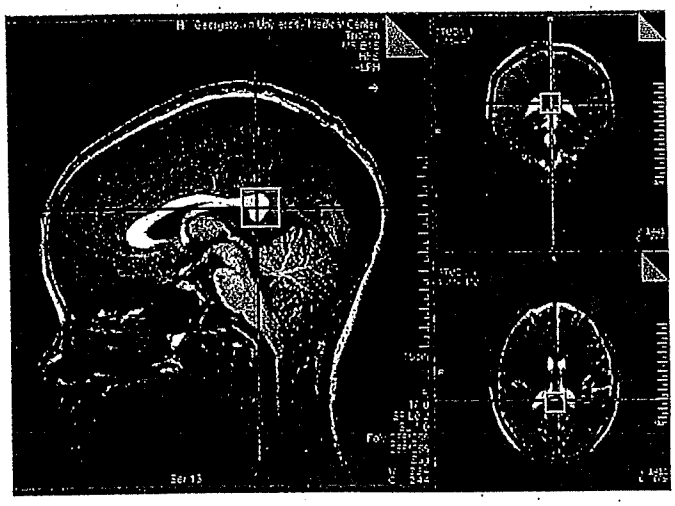
Most major professional sports leagues in the U.S., as well as most large universities and 4,000 high schools, now also use a computer program known as ImPACT (for Immediate Post-Concussion Assessment and Cognitive Testing) that measures such basic skills as memory, word recognition and pattern recognition. Players are required to take a baseline test at the beginning of the season and are periodically retested, especially post-concussion, to determine if there's been any erosion of skills. "I used to sit across from athletes doing paper-and-pencil memory tests," says ImPACT developer Mark Lovell, a neuropsychologist at the University of Pittsburgh Medical Center. "That would never work with large groups of kids. There aren't that many neuropsychologists alive."

**The football helmet was designed to prevent lacerations and fractures—which it does very well—but it does little or nothing to prevent concussions**

Reform is also coming—slowly—to the major manufacturers of football helmets, driven mostly by the NFL, which has imposed much stricter concussion and tackling rules in the past season. The NFL is anxious both to protect its players and to shake its image as a weekly tutorial for student athletes learning all the wrong safety lessons from pros who should know better. Currently, the group that certifies helmets is the National Operating Committee on Standards for Athletic Equipment (NOCSAE), which sounds reassuringly official except for the fact that it's essentially funded by the manufacturers t[illegible]ves. NOCSAE has come under fire no[illegible]y for this seeming conflict of interest but also for what critics consider unreliable testing. The larger problem, though, is that the standard football helmet was designed to prevent only lacerations and fractures—a job it does very well—and to do little or nothing to prevent concussions. "The science just isn't there today," says Dr. Robert Cantu, a neurosurgeon at Boston University and a member of NOCSAE's board.

That's not NOCSAE's or the NFL's fault, but they're trying to do something about it. In December the league and the helmet manufacturers convened a sort of head-injury summit in New York—a gathering that also included officials from NASCAR and the military—to consider helmet modifications that could reduce the concussive carnage. For football, those modifications could include better padding, stronger chin straps and redesigned face masks that distribute shock differently. Kids' helmets must also be more than simply smaller versions of those used by adults. The padding inside all helmets is designed to compress at the forces generated by colliding adult bodies. With the smaller forces kids produce, the padding stays rigid, essentially becoming one more hard surface for the head to strike. Innovations introduced in football could ripple out to other sports' playing fields, to say nothing of battlefields.

Athletics will never be stripped of all danger, and terrible as the blown knee or wrecked elbow may be, there is always an assumption of those risks when you elect to play the game. But the brain is more than a joint or a limb. It's the seat of the self. We overlook that fact at our peril and—much worse—at our children's. ■



GEORGETOWN UNIVERSITY MEDICAL CENTER/CENTER FOR FUNCTIONAL AND MOLECULAR IMAGING

## A Look Inside. New brain scans are making it easier to spot concussions

**Magnetic resonance spectroscopy (MRS)** Traditional magnetic resonance imaging (MRI) is not able to pick up the microscopic physical changes caused by a concussion. MRS *(left)* can't either, but it can assess the brain's metabolic function. That's key, since the metabolic system falters when a brain is concussed. Unhealthy metabolism means an injured brain

**Diffusion tensor imaging (DTI)** Axons, which transmit impulses between brain cells, can be damaged by a concussion. Those fibers are too small to see, but DTI reveals how well they're functioning by tracking the movement of water along them. For the brain to function well, water must move smoothly among its various regions

**Resting functional magnetic resonance imaging (fMRI)** Ordinary fMRI reveals how the brain functions when it's presented with a cognitive task such as reading or problem solving. Resting fMRI looks at the brain in its quiet state—when it's being asked to do nothing at all. That provides a better look at its underlying integrity



8-7

# Dr. Oz

**MORE PRESCRIPTIONS**
Dr. Oz will appear in all of TIME's **Health Specials** with ideas that will help you start getting healthier today

## **Playing Defense.** Kids don't always look out for themselves. It's up to parents and coaches to keep them safe from concussions

IT'S HARD TO MAKE THE CONcussion statistics any scarier than they are. With hundreds of thousands of sports-related concussions each year occurring in the U.S. and perhaps only 1 in 10 kids who get hurt reporting the injury, there's no telling exactly what the scope of the damage is. We don't expect children to be the best guardians of their own health, but we expect parents and coaches to watch out for them. And yet it's those very adults who sometimes drop the ball when it comes to preventing and treating concussions. So how can we protect and preserve the precious and sensitive brain function of the kids in our care?

The first thing we need to do is become smarter. Many coaches, parents and kids are still not aware of the risk of concussion in youth sports, though that's slowly changing. Understanding the danger also means learning to recognize symptoms. The Centers for Disease Control and Prevention (CDC) is trying to raise awareness through a comprehensive education program called Heads Up: Concussion in Youth Sports. Available on the CDC website, the program has been adopted by many experts in youth sports and includes critical information about not just spotting concussions when they occur but preventing them in the first place.

If I'm treating you and I suspect you have a concussion, the first question I'd ask is, "Do you remember the injury?" If you answer no or are confused or move clumsily, you most likely have a concussion and need to avoid for at least two weeks any activity that could lead to further injury. That may seem hard to do, but what you get in return is a lifetime of memory and intact neurologic function.

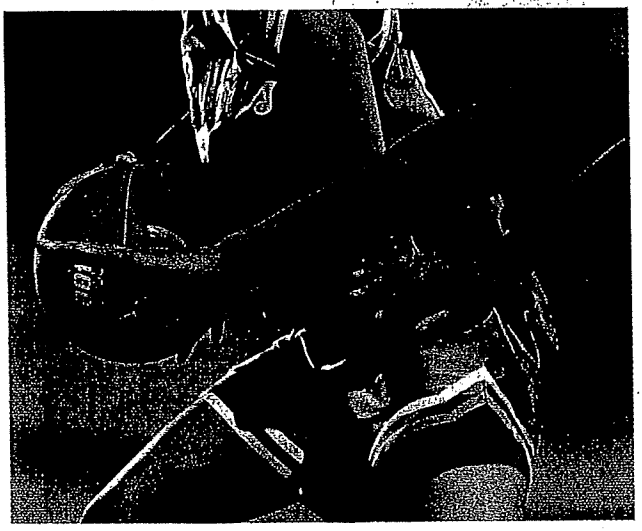
Of course, what I know as a physician isn't always the same as what I feel as a parent—and that's something all parents may experience. When my 16-year-old daughter Zoe banged her head into another girl while playing basketball, I wanted her to get back into the game even though she looked a bit awkward after the collision. Her coach had more sense and sat her down. When a parent pressures a child to get back in the saddle too soon, it can have catastrophic consequences, and the same can be true of pressure from a coach with a championship game on the line and a star player who's taken a hit and is looking wobbly. In these situations, concern must precede encouragement, and zeal has no place in the parent's or coach's tool kit.

Head injuries don't happen only on the basketball court or the playing field. Everyone—adults and kids alike—should wear helmets when they're skiing, snowboarding, skateboarding or bicycling. The home can be a minefield as well, but there are some simple precautions we can all take. Fall-proof your home to prevent slips by making sure living space is uncluttered, rugs and carpets don't slide, and spills are cleaned up immediately. Be careful on the road too. Always wear your seat belt, since automobile accidents are one of the more common causes of concussions—as any physician who has worked a shift in the ER could tell you.

There are unexpected new ways to speed recovery from a concussion. A little-known New Zealand study from 2006 showed that tai chi improved the overall mood in patients with traumatic brain injury in a number of ways, including decreasing sadness (12%), confusion (12%), anger (8%), tension (15%) and fear (10%) and increasing energy (14%) and happiness (7%).

The DHA omega-3 fatty acid, a building block of brain tissue, is showing promise in preventing and treating the effects of concussions. In fact, some college athletic associations, like the University of Georgia's, have already introduced the use of algal DHA as part of their postconcussion protocol for all athletes. Unfortunately, while optimal levels of DHA consumption are 100 to 160 mg per day, the average among kids in the U.S. is just 30 to 50 mg. Adults are not doing much better.

Parents should ensure that their children reach their daily DHA goal, either through diet—fish is the main source—or supplements. We are the watchdogs of our kids' minds and health for just 18 years before we send them out into the world. We owe it to them to give them the best possible chance to be happy and thrive there. ■



GREGG SEGAL FOR TIME

*Mehmet Oz is vice chairman and professor of surgery at Columbia University, a best-selling author and the host of the nationally syndicated television talk show* The Dr. Oz Show



8-8

NATIONAL FOOTBALL LEAGUE

January 28, 2011

ROGER GOODELL
*Commissioner*

The Honorable Vicki Schmidt
Chairwoman
Senate Public Health and Welfare Committee
State of Kansas
State Capitol
300 Southwest 10th Avenue, Room 552 South
Topeka, KS 66612-1504

RE: SB 33 – the School Sports Head Injury Prevention Act

Dear Chairwoman Schmidt and Members of the Public Health and Welfare Committee:

The National Football League is pleased to support SB 33 – the School Sports Head Injury Prevention Act. The bill will help to raise awareness and protect youth athletes from the dangers of preventable brain injuries.

The NFL is playing a leading role in this important issue for the safety of our own players as well as athletes at all levels of sports. Our primary rule is this: the medical decisions of health care professionals take precedence over the playing decisions of coaches and players. Given our experience at the professional level, we believe a similar approach is appropriate and necessary when dealing with concussions in youth sports.

Concussions can occur in male and female athletes of any age and in any sport or recreational activity. In fact, the Centers for Disease Control and Prevention estimates that there may be as many as 3.8 million sports and recreational-related concussions each year in the United States.

In addition, medical researchers have determined that children and teenagers whose brains still are developing are more susceptible to concussions than adults, and they recover more slowly. Recognizing and responding to concussions when they occur aid recovery and help to prevent prolonged concussion symptoms, chronic impairment and even death.

That is the reason the NFL supports the passage of this bill and similar legislation in states throughout the country. SB 33 contains three core principles: (1) concussion education for youth athletes, parents and coaches on an annual basis; (2) immediate removal of a youth athlete who is suspected of sustaining a concussion from play or practice; and (3) mandatory clearance of that youth athlete by an appropriate licensed health care professional before returning to play or practice.

280 Park Avenue, New York, New York 10017 Tel (212) 450-2000 Fax (21

Senate Public Health & Welfare
Date 1-31-2011
Attachment 9

The bill as drafted applies these principles to school-based youth sports. While this is vital, we encourage the sponsors to consider amending the legislation to include other youth sports leagues as well. All young athletes deserve the protections offered in Senator Schmidt's bill.

The Concussion Awareness Act provides better protection for Kansas's youth athletes by mandating a more formal, aggressive and uniform approach to the treatment of concussions. We applaud the sponsors of the bill and offer our assistance in aiding its passage.

Parents, coaches, teachers and school personnel will benefit from this measure. And, most importantly, our youth athletes will as well.

Sincerely,

ROGER GOODELL

**ROGER GOODELL**
*Commissioner*

KANSAS CITY CHIEFS FOOTBALL CLUB

**Clark Hunt**
Chairman and CEO

January 28, 2011

The Honorable Vicki Schmidt
Chairwoman
Senate Public Health and Welfare Committee
State of Kansas
State Capitol
300 Southwest 10th Avenue, Room 552 South
Topeka, KS 66612-1504

Dear Chairwoman Schmidt and Members of the Public Health and Welfare Committee:

I write on behalf of the Kansas City Chiefs in strong support of Senate Bill 33, the "School Sports Head Injury Prevention Act." The bill makes youth sports safer by protecting athletes against concussions and other preventable brain injuries.

I understand the risks associated with concussions are greatest among our young people as their brains are still developing. While concussions occur in football, they are also prevalent in many youth sports including soccer, hockey, and basketball - whether played by boys or girls. This legislation will help parents, teachers, coaches, and the youth athletes themselves recognize the signs and symptoms of concussions and respond appropriately.

We in the NFL are changing our culture in terms of this issue. Heath care professionals – not the football staff – now determine when an NFL player returns to the field after suffering a concussion. Our Chiefs players and coaches are more aware of the symptoms and more sensitive to the dangers of brain injuries than ever before.

The "School Sports Head Injury Prevention Act" reflects the best practices for treating sports concussions. It provides concussion education for youth athletes, parents and coaches; orders the immediate removal of a youth athlete who appears to have suffered a concussion; and mandates clearance of that youth athlete by a licensed health care provider who is trained in the evaluation and management of concussions.

This legislation provides essential protections for Kansas's youth athletes. The Chiefs applaud the sponsors of the bill and hope that they have success in moving this legislation forward.

Best regards,

Clark Hunt



Senate Public Health & Welfare
Date 1-31-2011
Attachment 10

# KANSAS STATE HIGH SCHOOL ACTIVITIES ASSOCIATION
# RECOMMENDATIONS FOR IMPLEMENTATION
# OF THE NATIONAL FEDERATION SPORTS PLAYING RULES RELATED TO CONCUSSIONS

The following language will appear in all National Federation sports rulebooks for the 2010-2011 school year:

> **"Any athlete who exhibits signs, symptoms, or behaviors consistent with a concussion (such as loss of consciousness, headache, dizziness, confusion, or balance problems) shall be immediately removed from the contest and shall not return to play until cleared by an appropriate health care professional."**

The National Federation has provided the following explanation regarding the intent of the rule:

> "The rules language above, which will appear in all NFHS Rules Books for the 2010-11 school year, reflects a strengthening of rules regarding the safety of athletes suspected of having a concussion, but not a revision in primary responsibilities in these areas. Previous rules required officials to remove any athlete from play who was "unconscious or apparently unconscious." This revised language reflects an increasing focus on safety, given that the vast majority of concussions do not involve a loss of consciousness. However, the revised language does not create a duty that officials are expected to perform a medical diagnosis. The change in this rule simply calls for officials to be cognizant of athletes who display signs, symptoms or behaviors of a concussion from the lists below, and remove them from play. At that point, the official's job is done."

**The KSHSAA offers the following guidelines and recommendations for implementation of the NFHS playing rule related to concussions:**

1. Unless it can be conclusively determined that the signs, symptoms or behaviors are <u>not</u> the result of a concussion, the rule applies and the student: (1) must be immediately removed from the contest or practice and (2) may not again participate in practice or competition until cleared by an appropriate health care professional. The student may not be cleared for practice or competition the same day that the concussion consistent sign, symptom or behavior was observed.

2. *What are the "signs, symptoms, or behaviors consistent with a concussion"?* The National Federation rule lists some of the signs, symptoms and behaviors consistent with a concussion. The U.S. Department of Human Services, Centers for Disease Control and Prevention has published the following lists of signs, symptoms and behaviors that are consistent with a concussion:

| SIGNS OBSERVED BY OTHERS | SYMPTOMS REPORTED BY ATHLETE |
|---|---|
| • Appears dazed or stunned<br>• Is confused about assignment<br>• Forgets plays<br>• Is unsure of game, score, or opponent<br>• Moves clumsily<br>• Answers questions slowly<br>• Loses consciousness<br>• Shows behavior or personality changes<br>• Cannot recall events prior to hit<br>• Cannot recall events after hit | • Headache<br>• Nausea<br>• Balance problems or dizziness<br>• Double or fuzzy vision<br>• Sensitivity to light or noise<br>• Feeling sluggish<br>• Feeling foggy or groggy<br>• Concentration or memory problems<br>• Confusion |

**These lists may not be exhaustive**

3. *What is an "appropriate health care professional"?* Under Kansas law, a Medical Doctor (MD) and a Doctor of Osteopathic Medicine (DO) are licensed to treat a concussion and therefore would be an appropriate health care professional. A Physician's Assistant (PA) can perform medical procedures which are delegated or established by written protocols with a supervising physician. An Advanced Registered Nurse Practitioner (ARNP) can engage in medical care based upon an agreement for collaborative practice with a physician. Unless the school can determine that a licensed PA or ARNP has been authorized by a physician to issue a return to play clearance, a return to play clearance should only be accepted from a licensed MD or DO.

4. Return to Play Clearance Requirements:
   A. The clearance must be in writing and signed by the health care professional.
   B. The clearance may not be issued on the same day the athlete was removed from play.

5. *What should be done after the student is cleared by an appropriate health care professional?* After a clearance has been issued, the student's actual return to practice and play should follow a graduated protocol. The National Federation has included the following graduated protocol in its Suggested Guidelines for Management of Concussion in Sports:

**Medical Clearance RTP Protocol**

1. No exertional activity until asymptomatic.
2. When the athlete appears clear, begin low-impact activity such as walking, stationary bike, etc.
3. Initiate aerobic activity fundamental to specific sport such as skating or running, and may also begin progressive strength training activities.
4. Begin Non-contact skill drills specific to sport such as dribbling, fielding, batting, etc.
5. Full contact in practice setting.
6. Game play.

A. ATHLETE MUST REMAIN ASYMTOMATIC TO PROGRESS TO THE NEXT LEVEL.[1]
B. IF SYMPTOMS RECUR, ATHLETE MUST RETURN TO PREVIOUS LEVEL AND SHOULD BE REEVALUATED BY AN APPROPRIATE HEALTH CARE PROFESSIONAL.
C. MEDICAL CHECK SHOULD OCCUR BEFORE CONTACT.[2]

**This is simply a suggested protocol. The appropriate health care professional who issues the clearance may wish to establish a different graduated protocol.**

6. *Parents and students should be provided information regarding concussions prior to participation.* Following is a Concussion Information Form that can be provided to help educate students and parents. It is designed so that the student and parent will sign and return the document to the school prior to participation.

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[1] It is often suggested that an athlete not be allowed to progress more than one level per day
[2] Final written clearance from the appropriate healthcare professional should be obtained before the student-athlete engages in any un-restricted or full contact activity

(INSERT SCHOOLNAME HERE)

**Concussion Information Form**

A concussion is a brain injury and all brain injuries are serious. They are caused by a bump, blow, or jolt to the head, or by a blow to another part of the body with the force transmitted to the head. They can range from mild to severe and can disrupt the way the brain normally works. Even though most concussions are mild, **all concussions are potentially serious and may result in complications including prolonged brain damage and death if not recognized and managed properly.** In other words, even a "ding" or a bump on the head can be serious. You can't see a concussion and most sports concussions occur without loss of consciousness. Signs and symptoms of concussion may show up right after the injury or can take hours or days to fully appear. If your child reports any symptoms of concussion, or if you notice the symptoms or signs of concussion yourself, seek medical attention right away.

**Symptoms may include one or more of the following:**

- Headaches
- "Pressure in head"
- Nausea or vomiting
- Neck pain
- Balance problems or dizziness
- Blurred, double, or fuzzy vision
- Sensitivity to light or noise
- Feeling sluggish or slowed down
- Feeling foggy or groggy
- Drowsiness
- Change in sleep patterns
- Amnesia
- "Don't feel right"
- Fatigue or low energy
- Sadness
- Nervousness or anxiety
- Irritability
- More emotional
- Confusion
- Concentration or memory problems (forgetting game plays)
- Repeating the same question/comment

**Signs observed by teammates, parents and coaches include:**

- Appears dazed
- Vacant facial expression
- Confused about assignment
- Forgets plays
- Is unsure of game, score, or opponent
- Moves clumsily or displays incoordination
- Answers questions slowly
- Slurred speech
- Shows behavior or personality changes
- Can't recall events prior to hit
- Can't recall events after hit
- Seizures or convulsions
- Any change in typical behavior or personality
- Loses consciousness

Adapted from the CDC and the 3rd International Conference in Sport

**What can happen if my child keeps on playing with a concussion or returns to soon?**

Athletes with the signs and symptoms of concussion should be removed from play immediately. Continuing to play with the signs and symptoms of a concussion leaves the young athlete especially vulnerable to greater injury. There is an increased risk of significant damage from a concussion for a period of time after that concussion occurs, particularly if the athlete suffers another concussion before completely recovering from the first one (second impact syndrome). This can lead to prolonged recovery, or even to severe brain swelling with devastating and even fatal consequences. It is well known that adolescent or teenage athlete will often under report symptoms of injuries. And concussions are no different. As a result, education of administrators, coaches, parents and students is the key for student-athlete's safety.

**If you think your child has suffered a concussion**

Any athlete even suspected of suffering a concussion should be removed from the game or practice immediately. No athlete may return to activity after an apparent head injury or concussion, regardless of how mild it seems or how quickly symptoms clear, without medical clearance. Close observation of the athlete should continue for several hours. You should also inform your child's coach if you think that your child may have a concussion Remember its better to miss one game than miss the whole season. And when in doubt, the athlete sits out.

For current and up-to-date information on concussions you can go to: http://www.cdc.gov/ConcussionInYouthSports/

| _____ | _____ | _____ |
|---|---|---|
| Student-athlete Name Printed | Student-athlete Signature | Date |
| _____ | _____ | _____ |
| Parent or Legal Guardian Printed | Parent or Legal Guardian Signature | Date |

Adapted from the CDC and the 3rd International Conference in Sport

## SIGNS AND SYMPTOMS OF CONCUSSION

Concussions can appear in many different ways. Listed below are some of the signs and symptoms frequently associated with concussions. Most signs, symptoms and abnormalities after a concussion fall into the four categories listed below. A coach, parent or other person who knows the athlete well can often detect these problems by observing the athlete and/or by asking a few relevant questions of the athlete, official or a teammate who was on the field or court at the time of the concussion. Below are some suggested observations and questions a non-medical individual can use to help determine whether an athlete has suffered a concussion and how urgently he or she should be sent for appropriate medical care.

1. **PROBLEMS IN BRAIN FUNCTION:**
   a. Confused state – dazed look, vacant stare or confusion about what happened or is happening.
   b. Memory problems – can't remember assignment on play, opponent, score of game, or period of the game; can't remember how or with whom he or she traveled to the game, what he or she was wearing, what was eaten for breakfast, etc.
   c. Symptoms reported by athlete – Headache, nausea or vomiting; blurred or double vision; oversensitivity to sound, light or touch; ringing in ears; feeling foggy or groggy; dizziness.
   d. Lack of sustained attention – difficulty sustaining focus adequately to complete a task, a coherent thought or a conversation.

2. **SPEED OF BRAIN FUNCTION:** Slow response to questions, slow slurred speech, incoherent speech, slow body movements and slow reaction time.

3. **UNUSUAL BEHAVIORS:** Behaving in a combative, aggressive or very silly manner; atypical behavior for the individual; repeatedly asking the same question over and over; restless and irritable behavior with constant motion and attempts to return to play; reactions that seem out of proportion and inappropriate; and having trouble resting or "finding a comfortable position."

4. **PROBLEMS WITH BALANCE AND COORDINATION:** Dizziness, slow clumsy movements, inability to walk a straight line or balance on one foot with eyes closed.

**IF NO MEDICAL PERSONNEL ARE ON HAND AND AN INJURED ATHLETE HAS ANY OF THE ABOVE SYMPTOMS, HE OR SHE SHOULD BE SENT FOR APPROPRIATE MEDICAL ARE.**

## CHECKING FOR CONCUSSION

The presence of any of the signs or symptoms that are listed in this brochure suggest a concussion has most likely occurred. In addition to observation and direct questioning for symptoms, medical professionals have a number of other instruments to evaluate attention, processing speed, memory, balance, reaction time, and ability to think and analyze information (called executive brain function). These are the brain functions that are most likely to be adversely affected by a concussion and most likely to persist during the post concussion period.

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If an athlete seems "clear" he or she should be exercised enough to increase the heart rate and then evaluate if any symptoms return before allowing that athlete to practice or play.

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Computerized tests that can evaluate brain function are now being used by some medical professionals at all levels of sports from youth to professional and elite teams. They provide an additional tool to assist physicians in determining when a concussed athlete appears to have healed enough to return to school and play. This is especially helpful when dealing with those athletes denying symptoms in order to play sooner.

For non-medical personnel, the Centers for Disease Control and Prevention (CDC) has also developed a tool kit ("Heads Up: Concussion in High School Sports"), which has been made available to all high schools, and has information for coaches, athletes and parents. The NFHS is proud to be a co-sponsor of this initiative.

## PREVENTION

Although all concussions cannot be prevented, many can be minimized or avoided. Proper coaching techniques, good officiating of the existing rules, and use of properly fitted equipment can minimize the risk of head injury. Although the NFHS advocates the use of mouthguards in nearly all sports and mandates them in some, there is no convincing scientific data that their use will prevent concussions.

*Prepared by NFHS Sports Medicine Advisory Committee. 2009*


**References:**

NFHS. Concussions. 2008 NFHS Sports Medicine Handbook (Third Edition). 2008: 77-82.

NFHS. http://www.nfhs.org.



**National Federation of State High School Associations**

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Phone: 317-972-6900 | Fax: 317.822.5700

www.nfhs.org


National Federation of State High School Associations

# SUGGESTED GUIDELINES FOR MANAGEMENT OF CONCUSSION IN SPORTS

**EVEN SEEMINGLY MINOR CONCUSSIONS CAN HAVE DEVASTATING RESULTS**

## INTRODUCTION

Concussions are a common problem in sports and have the potential for serious complications if not managed correctly. Even what appears to be a "minor ding or bell ringer" has the real risk of catastrophic results when an athlete is returned to action too soon. The medical literature and lay press are reporting instances of death from "second impact syndrome" when a second concussion occurs before the brain has recovered from the first one regardless of how mild both injuries may seem.

At many athletic contests across the country, trained and knowledgeable individuals are not available to make the decision to return concussed athletes to play. Frequently, there is undo pressure from various sources (parents, player and coach) to return a valuable athlete to action. In addition, often there is unwillingness by the athlete to report headaches and other findings because the individual knows it would prevent his or her return to play.

Outlined below are some guidelines that may be helpful for parents, coaches and others dealing with possible concussions. Please bear in mind that these are general guidelines and must not be used in place of the central role that physicians and athletic trainers must play in protecting the health and safety of student-athletes.

## SIDELINE MANAGEMENT OF CONCUSSION

1. **Did a concussion take place?** Based on mechanism of injury, observation, history and unusual behavior and reactions of the athlete, even without loss of consciousness, assume a concussion has occurred if the head was hit and even the mildest of symptoms occur. *(See other side for signs and symptoms)*

2. **Does the athlete need immediate referral for emergency care?** If confusion, unusual behavior or responsiveness, deteriorating condition, loss of consciousness, or concern about neck and spine injury exist, the athlete should be referred at once for emergency care.

3. **If no emergency is apparent, how should the athlete be monitored?** Every 5- 10 minutes, mental status, attention, balance, behavior, speech and memory should be examined until stable over a few hours. If appropriate medical care is not available, an athlete even with mild symptoms should be sent for medical evaluation.

4. **No athlete suspected of having a concussion should return to the same practice or contest, even if symptoms clear in 15 minutes.**

## MANAGEMENT OF CONCUSSIONS AND RETURN TO PLAY

*(See "SIDELINE DECISION-MAKING" Below)*

Increasing evidence is suggesting that initial signs and symptoms, including loss of consciousness and amnesia, may not be very predictive of the true severity of the injury and the prognosis or outcome. More importance is being assigned to the duration of such symptoms and this, along with data showing symptoms may worsen some time after the head injury, has shifted focus to continued monitoring of the athlete. This is one reason why these guidelines no longer include an option to return an athlete to play even if clear in 15 minutes and why there is no discussion about the "Grade" of the concussion.

Any athlete who is removed from play because of a concussion should have medical clearance from an appropriate health care professional before being allowed to return to play or practice. The Second International Conference on Concussion held in Prague recommends an athlete should not return to practice or competition in sport until he or she is asymptomatic including after exercise.

Recent information suggests that mental exertion, as well as physical exertion, should be avoided until concussion symptoms have cleared. Premature mental or physical exertion may lead to more severe and more prolonged post concussion period. Therefore, the athlete should not study, play video games, do computer work or phone texting until his or her symptoms are resolving. Once symptoms are clear, the student-athlete should try reading for short periods of time. When 1-2 hours of studying can be done without symptoms developing, the athlete may return to school for short periods gradually increasing until a full day of school is tolerated without return of symptoms.

Once the athlete is able to complete a full day of school work, without PE or other exertion, the athlete can begin the gradual return to play protocol as outlined below. Each step increases the intensity and duration of the physical exertion until all skills required by the specific sport can be accomplished without symptoms. These recommendations have been based on the awareness of the increased vulnerability of the brain to concussions occurring close together and of the cumulative effects of multiple concussions on long-term brain function. Research is now revealing some fairly objective and relatively easy-to-use tests which appear to identify subtle residual deficits that may not be obvious from the traditional evaluation. These identifiable abnormalities frequently persist after the obvious signs of concussion are gone and appear to have relevance to whether an athlete can return to play in relative safety. The significance of these deficits is still under study and the evaluation instruments represent a work in progress. They may be helpful to the professional determining return to play in conjunction with consideration of the severity and nature of the injury; the interval since the last head injury; the duration of symptoms before clearing; and the level of play.

### SIDELINE DECISION-MAKING

1. No athlete should return to play (RTP) on the same day of concussion.
2. Any athlete removed from play because of a concussion must have medical clearance from an appropriate health care professional before he or she can resume practice or competition.
3. Close observation of athlete should continue for a few hours.
4. After medical clearance, RTP should follow a step-wise protocol with provisions for delayed RTP based on return of any signs or symptoms.

### MEDICAL CLEARANCE RTP PROTOCOL

1. No exertional activity until asymptomatic.
2. When the athlete appears clear, begin low-impact activity such as walking, stationary bike, etc.
3. Initiate aerobic activity fundamental to specific sport such as skating or running, and may also begin progressive strength training activities.
4. Begin non-contact skill drills specific to sport such as dribbling, fielding, batting, etc.
5. Full contact in practice setting.
6. If athlete remains asymptomatic, he or she may return to game/play.

**A. ATHLETE MUST REMAIN ASYMPTOMATIC TO PROGRESS TO THE NEXT LEVEL.**

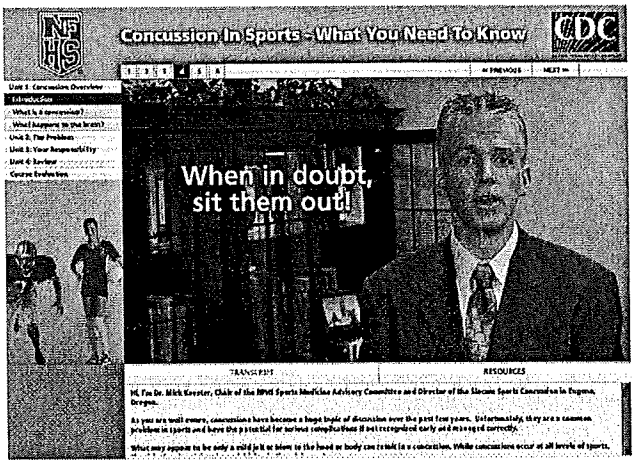
**B. IF SYMPTOMS RECUR, ATHLETE MUST RETURN TO PREVIOUS LEVEL.**

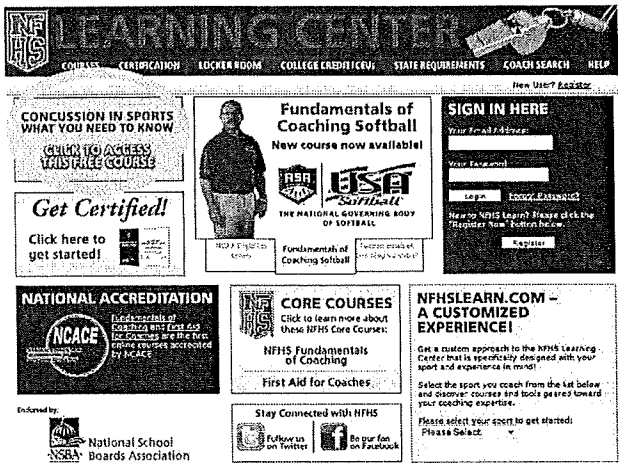
**C. MEDICAL CHECK SHOULD OCCUR BEFORE CONTACT.**

National Federation of State High School Associations

# Concussion in Sports - What You Need to Know

## Ordering Information at www.nfhslearn.com




## Steps to access the FREE course:

1. Go to **www.nfhslearn.com**
2. Sign in with your e-mail and password if you have previously registered.
3. If you need to register, it will only take a couple of minutes. All users at www.nfhslearn.com must be registered with a unique e-mail address and password.
4. Toward the upper left-hand part of the screen , you will see the "Click to Access This Free Course" for **"Concussion in Sports — What You Need to Know."**
5. You can order licenses as an individual to take the course yourself OR you can purchase courses in bulk if you intend to distribute the courses to others (there is a limit of 99 licenses per any one order).
6. Note: You will need to click on "Save" once you have put the course(s) in your cart and before you can proceed to Checkout.
7. As you go through the process you will see that you are using the "purchasing process" that is standard for NFHS Coach Education courses. You are not being charged anything for the Concussion courses. You do have the ability to order other courses at the same time, and you will be asked for payment for those.
8. You can then start the course if you ordered as an individual or begin distributing the licenses if you ordered in bulk.
9. If necessary, refer to the form regarding distributing bulk licenses. It can be found in the Locker Room at www.nfhslearn.com.

**The online concussion course is offered at no cost to the user.** Once you have finished, you will be added to the database as having completed the course. The name of the individual completing the course will appear in the "Coach Search" feature as having completed this course along with any other courses completed at **www.nfhslearn.com**.

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Centers for Disease Control and Prevention
Your Online Source for Credible Health Information

# Heads Up to Schools: Know Your Concussion ABCs

**A—Assess** the situation
**B—Be** alert for signs and symptoms
**C—Contact** a health care professional

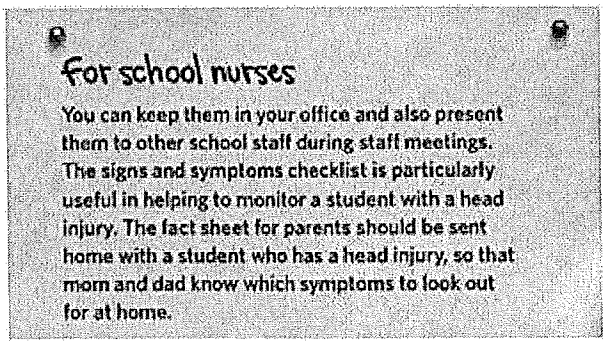
***Concussions don't only happen to athletes on the playing field.***

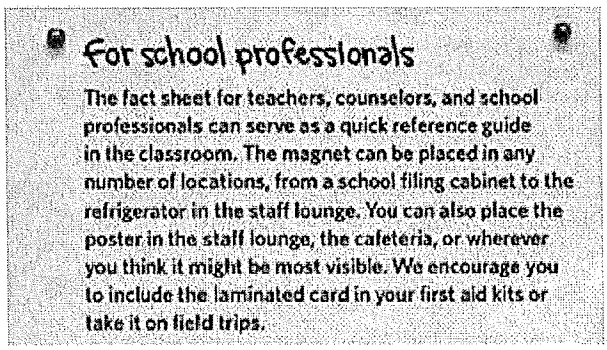
Any one of your students could take a spill, knock his/her head, and get a concussion in **any number** of school settings ranging from the hallway, the playground, the cafeteria, and beyond.

That's why—whether you're a principal, school nurse, teacher or other school professional—the CDC and several other distinguished medical, educational, school-health and school-professional organizations encourage you to use the ***Heads Up to Schools: Know Your Concussion ABCs*** materials.

This flexible set of materials, developed for professionals working with grades K-12, will help you identify and respond to concussions in an array of school settings.

## How do you use them?




## Download or Order Free Materials

Order these materials at no cost on the Publications Order Form page.

Download more "Heads Up" videos, PSAs, and web banners or other promotional materials on the Concussion Resources page.

## Information for School Nurses

- Fact Sheet for School Nurses [PDF 526KB]
- Concussion Signs and Symptoms Checklist (can be ordered as a 25 sheet tear-off pad) [PDF 128KB]
- Magnet with Concussion Signs and Symptoms [PDF 172KB]
- Poster with Concussion Signs and Symptoms [PDF 792KB]

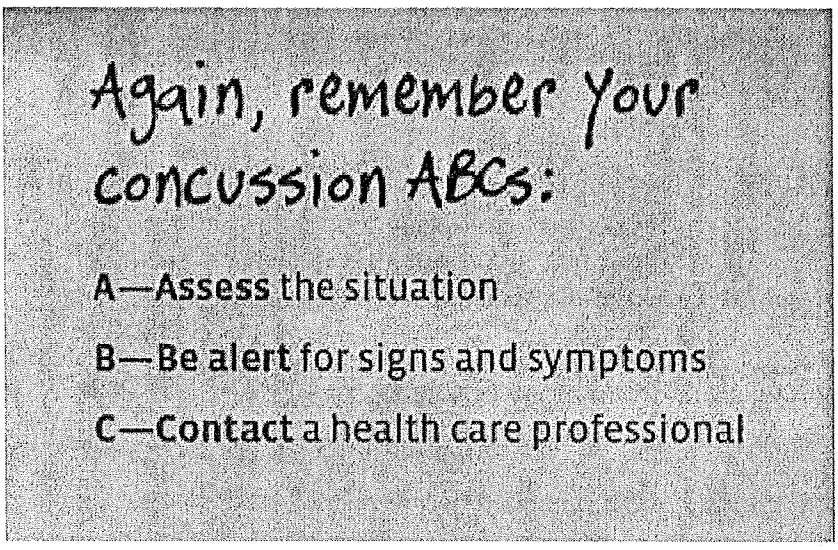
## Information for Teachers, Counselors, and School Professionals

Fact Sheet for Teachers, Counselors, and School Professionals [PDF 363KB]
Laminated Card with Concussion Signs and Symptoms [PDF 213KB]

## Information for Parents

Fact Sheet for Parents English [PDF 261KB]

**For information on concussion in sports, see Heads Up: Concussion in Youth Sports and Heads Up: Concussion in High School Sports.**

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Centers for Disease Control and Prevention 1600 Clifton Rd. Atlanta, GA 30333, USA
800-CDC-INFO (800-232-4636) TTY: (888) 232-6348, 24 Hours/Every Day -
cdcinfo@cdc.gov

The **REAP** Project

**R**educe
**E**ducate
**A**ccommodate
**P**ace

A Partnership between:

Rocky Mountain Hospital For Children at Sky Ridge Medical Center

Swedish Medical Center

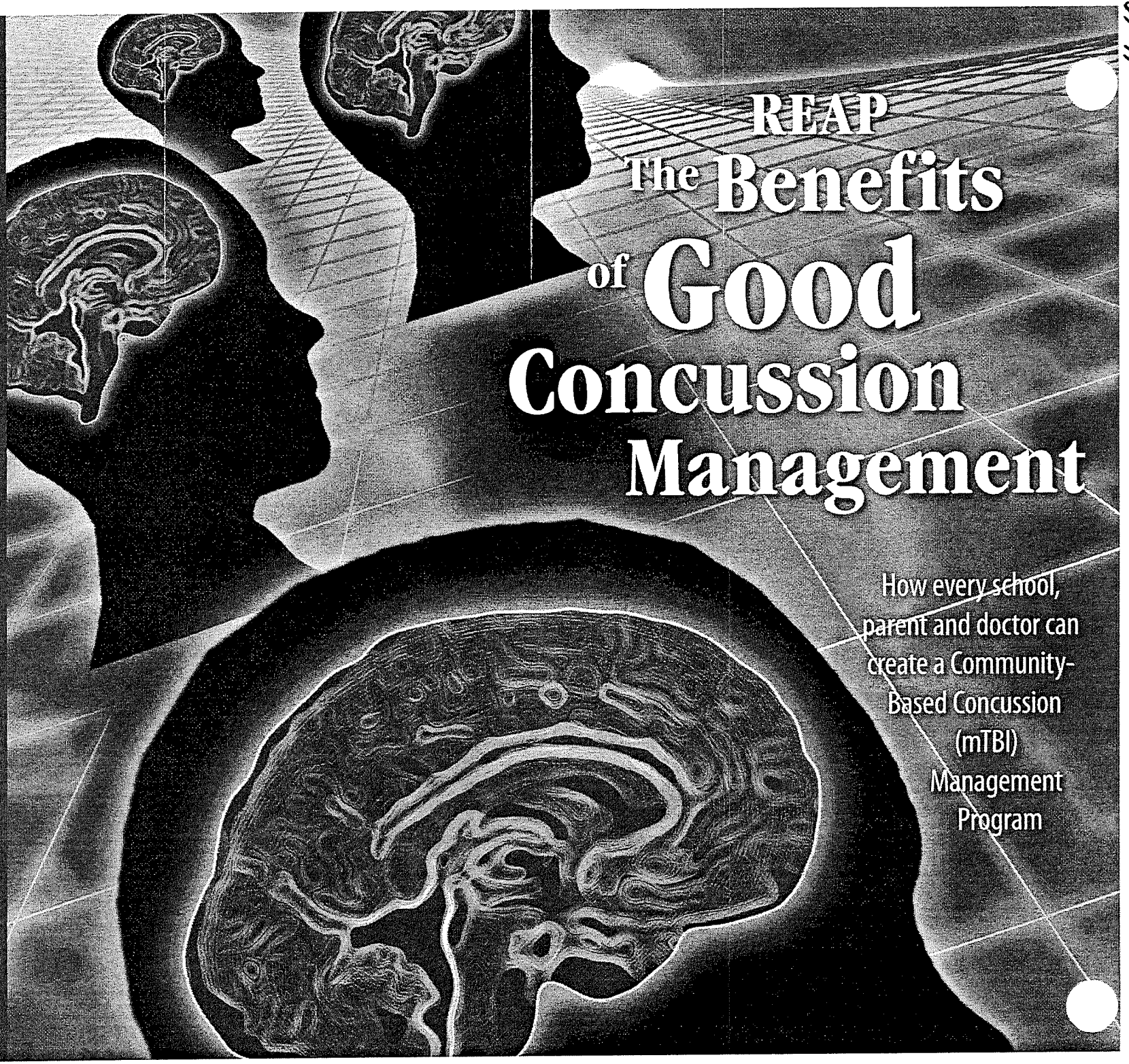
and

Cherry Creek Schools
Denver Public Schools
Aurora Public Schools
Littleton Public Schools

Authored by:
Karen McAvoy, Psy.D.

Endorsed by the:
Colorado Department of Education

Made possible by a grant from the:
Colorado TBI Trust Fund



# REAP
# The Benefits of Good Concussion Management

How every school, parent and doctor can create a Community-Based Concussion (mTBI) Management Program

The REAP Project is a TBI Trust Fund Education grant between Rocky Mountain Hospital for Children/Health One Emergency Departments and four school districts. The REAP Project is the culmination of a study funded by the Center for Disease Control (CDC) from 2004 to 2007. Originally, the study was designed to focus on the efficacy of a new baseline/post-concussion neurocognitive screening tool. More than one thousand student athletes at Grandview High School, in the Cherry Creek School District, were given baseline screening over three years. Ninety-two students went on to suffer at least one concussion (from sports and non-sports related activities). The researchers compared the 92 concussed students with typical peers, matched for the same sport, grade and gender. The results of the study were enlightening... the researchers found that the two most essential factors to good concussion management are: Education and Collaboration – essentially, good communication between a School Team, a Family Team and a Medical Team. As a result, the REAP Project has compiled all of the lessons learned into this manual to promote a Community-Based Approach to Concussion Management.

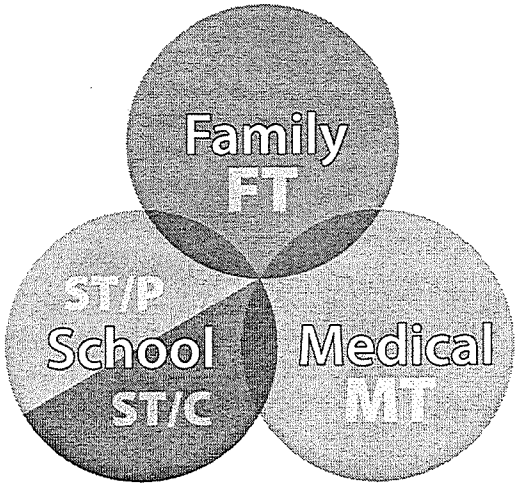
## Good concussion management requires school/family/medical collaboration.

- More than 80% of concussions resolve very successfully if managed well within the first three weeks post-injury.[1] The first three weeks after the injury is our "window of opportunity".
- The day of the injury is considered Day 1 of the concussion. Recovery *also* starts on Day 1. The Reduce/Educate/Accommodate/Pace (REAP) Project will help the School Team, Family Team and Medical Team maximize recovery during the entire three weeks post-injury. Research shows that the average recovery time for a child/adolescent is longer than for an adult.[2]
- If your child/student suffers a concussion, the REAP project will educate your school teams, family team and medical teams (at no charge) in an effort to maximize the 3 week "window of opportunity". The REAP Project can be accessed by calling 720-554-4252. Rocky Mountain Hospital for Children/HealthOne Emergency Departments can also access the REAP project by faxing a Head Injury Follow-Up Form to ATTN: REAP @ 720-554-4272.

**TRUE or FALSE?** ***Loss of consciousness (LOC) is necessary for a concussion to be diagnosed.***

**False!** According to the American Academy of Neurology (AAN), a concussion is any "traumatically induced alteration in mental status that may or may not involve a loss of consciousness". CDC reports that an estimated 1.6 to 3.8 million sports and recreation related concussions occur in the United States each year.[3] 90% of concussions do not involve a loss of consciousness. While many students receive a concussion from sports-related activities, numerous other concussions occur from falls and from motor vehicle, bicycle and playground accidents.

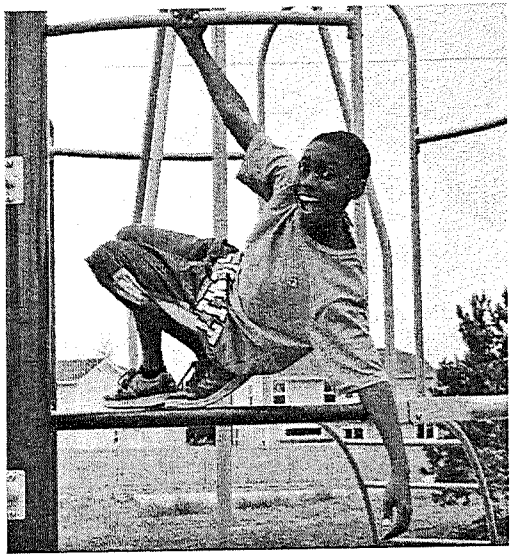
# Community-Based Concussion Management Team




| | | |
|---|---|---|
| FT | Family Team | Student, Parents; may include Friends, Grandparents, Primary Caretakers, and others... |
| ST/P | The School Physical Team | Coaches, Certified Athletic Trainers (ATC), Physical Education Teachers, Playground Supervisors, School Nurses, and others... |
| ST/C | The School Cognitive Team | Teachers, Counselors, School Psychologists, School Social Workers, Administrators, and others... |
| MT | Medical Team | Emergency Department, Primary Care Physician, Family MD, Physician's Assistant, Nurse, Concussion Specialist, and others... |

**Medical note from Sue Kirelik, MD. Director of Pediatric Emergency Medicine, Sky Ridge Medical Center, REAP Medical Advisor.**

Newer recommendations are that children and teens should be treated much more conservatively than adults when it comes to a head injury. The developing brain is very different from the adult brain; it is much more likely to manifest symptoms later and have longer term problems when injured, especially if the child is not allowed to rest and recover. Because each concussion and each child is different, grading scales are no longer recommended. Care for each child and each concussion must be individualized.



**TRUE or FALSE?** ***A concussion is benign; it is just a "bump on the head".***

**False!** Actually, a concussion is a mild traumatic brain injury (mTBI). The symptoms following a concussion can range from mild to severe and usually involve: confusion, disorientation, memory loss, slow reactions and extreme emotional reactions. The severity of the symptoms cannot be predicted at the time of the injury. The terms *concussion* and *mTBI* will be used interchangeably throughout the rest of this manual.

# How to use this Manual

Because it is important for each member of the Concussion Management Team to know and understand their part and the part of others members, this manual was written for the entire team. However, as information is especially pertinent to a certain group, it is noted by a color.

Pay close attention to the sections in **YELLOW**.

| | |
|---|---|
| FT: Parents, Students, Guardians, Grandparents, Friends | For more specific information for parents, download parent fact sheets from the *Heads Up Toolkit: For Coaches and For Physicians* from the CDC website: www.cdc.gov/ConcussionInYouthSports/english/toolkit_parents_factsheet.htm |

Pay close attention to the sections in **BLUE**.

| | |
|---|---|
| ST/P: Coaches, Certified Athletic Trainers (ATC), Physical Education Teachers, Playground Supervisors, School Nurses | For more specific information, download the free *Heads Up Toolkit for Coaches* from the CDC website: www.cdc.gov/ncipc/tbi/Coaches_Tool_Kit.htm |

Pay close attention to the sections in **PURPLE**.

| | |
|---|---|
| ST/C: Teachers, Counselors, School Nurses, School Psychologists, School Social Workers, Administrators | The REAP manual places more emphasis on tips for educators as there are few resources available detailing specific concussion guidelines for educators. General information can be found on the CDC website: www.cdc.gov/ncipc/duip/spotlite/SafeYouthSafeSchools.htm |

Pay close attention to the sections in **GREEN**.

| | |
|---|---|
| MT: Pediatricians, Family Doctors, Primary Care Physicians (PCP), Physician Assistants (PA), Nurses, School Nurses | For more specific information for medical professionals, download *Heads Up: Brain Injury in your Practice, Toolkit For Physicians* from the CDC website: www.cdc.gov/ncipc/tbi/physicians_tool_kit.htm |

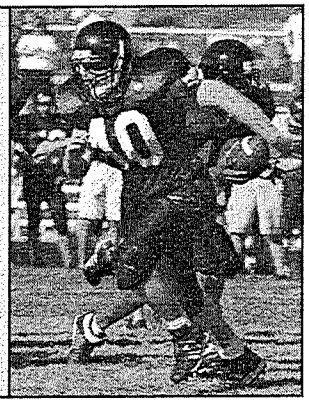
# REDUCE

*After your child/student has been evaluated and diagnosed for their concussion,*

## There is One Immediate and Essential Focus.

**1 Reduce** the potential of further injury to the brain! Second Impact Syndrome (SIS) is the phenomenon in which a person sustains a second blow to the head before the first concussion has healed. SIS is known to cause permanent damage and/or even death.[4] It takes minimal impact to cause the second concussion.Therefore, it is imperative that until a concussion is 100% resolved, a student must be removed from any activity that can potentially cause further injury.

In the Fall of 2004, Jake Snakenberg was a freshman football player at Grandview High School. He likely sustained a concussion in a game the week prior, but his symptoms were mild and he did not fully understand that he had experienced a concussion. One week later, Jake took a typical hit in a game, he collapsed on the field and never regained consciousness. Jake passed away from "Second Impact Syndrome" on September 19, 2004



**2 Reduce** physical and cognitive demands! Typically when an athlete is injured, physical demands on that injured area are immediately decreased (in REAP, this is REDUCE) and then slowly returned during rehabilitation (in REAP, this is PACE). If an athlete is running a marathon and sprains an ankle, the immediate action is removal from the race. With proper management and recovery from the injury, the athlete may be allowed to run again in a later race. Athletes know, failure to immediately reduce the physical demands following injury can have serious and long-term effects.

In the marathon of life, a concussion is like the sprained ankle – it is an injury to the brain. Since the brain is the organ responsible for managing all physical and cognitive functions of the body, both physical and cognitive demands on the brain must be reduced during recovery from concussion. Failure to reduce both physical and cognitive demands will hamper recovery. School is the place where cognitive demands are the highest. Providing strategies for cognitive reduction in school (in REAP, this is ACCOMMODATE) is essential to the recovery process.

### Message to Parents

If you want to maximize your child's recovery from concussion, double up on your R's. REDUCE and REST! Insist that your child rest, especially for the first few days post-concussion and throughout the three week recovery period.

Don't let your child convince you he/she will rest "later" (after the prom, after finals). Rest must happen immediately! The school team will help your child reduce cognitive load (see ACCOMMODATE). However, it is your job at home to help to reduce sensory load – i.e., it is advised that teens avoid loud group functions (games, dances), limit video games and text messaging. Because a concussion will almost universally slow reaction time, driving should be limited/restricted pending medical clearance.

Plenty of sleep and quiet, restful activities post-concussion maximizes your child's chances for a great recovery!

### Message to Educators

Message to Educators – REAP cannot stress enough, management of concussion requires that there is an equal partnership between the members of the school team who manage the physical reduction and members of the school team who manage cognitive reduction. See ACCOMMODATE for how to reduce cognitive load.

## Once the injury happens, the treatment of choice is to EDUCATE and MANAGE!

**Did you know...** a doctor cannot predict the course of recovery at the time of the injury?. The course of recovery depends 100% on the on-going (sometimes daily!) monitoring, management and resolution of symptoms. Symptoms tell the story!

# STEP 1: Know the Symptoms

Knowing ***if*** the student is recovering from the symptoms of concussion and ***how*** the student is recovering from his/her symptoms is still the best measure of recovery. Therefore, it is essential that everyone understand, recognize and be mindful of ALL symptoms related to concussion. Every symptom is important. The common symptoms of concussion cluster in general categories:

### PHYSICAL

| | |
|---|---|
| Headache/Pressure | Nausea |
| Blurred vision | Vomiting |
| Dizziness | Numbness/Tingling |
| Poor balance | Sensitivity to light |
| Ringing in ears | Sensitivity to noise |
| Seeing "stars" | Disorientation |
| Vacant stare/Glassy eyed | Neck Pain |

### COGNITIVE

Feel in a "fog"
Feel "slowed down"
Difficulty remembering
Difficulty concentrating/easily distracted
Slowed speech
Easily confused

### EMOTIONAL

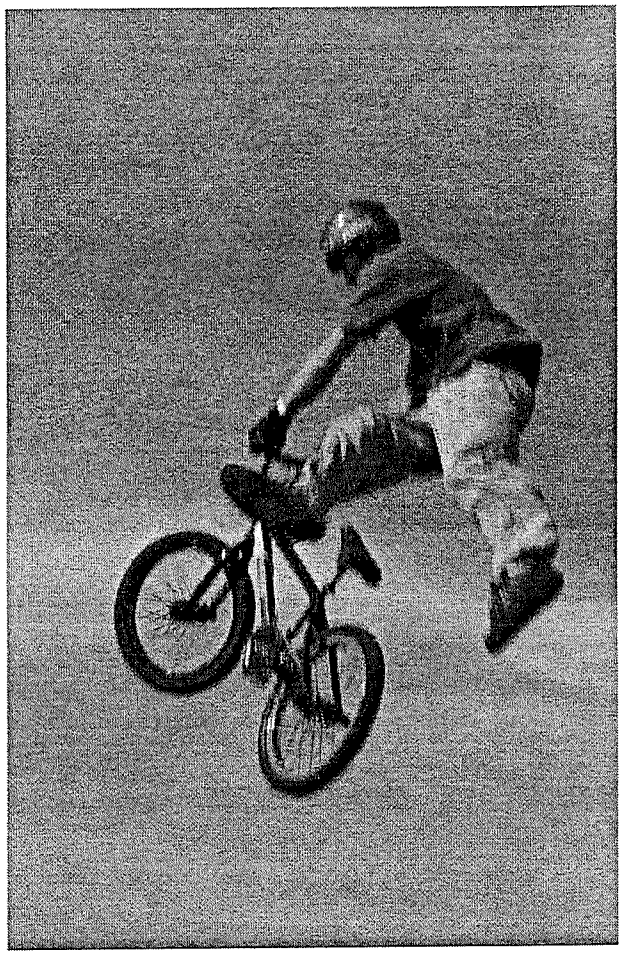
| | |
|---|---|
| Inappropriate emotions | Irritability |
| Personality change | Sadness |
| Nervousness/Anxiety | Lack of motivation |
| Feeling more "emotional" | |

### MAINTENANCE

| | |
|---|---|
| Fatigue | Drowsiness |
| Excess sleep | Sleeping less than usual |
| Trouble falling asleep | |

Thorough symptom monitoring is the key to good management. Therefore, REAP strongly suggests that all Concussion Team members, especially the child/student, learn to rate symptoms on a scale of 0 to 6. Assigning numbers to symptom intensity provides an objective measure and a common language for all team members to understand (see the Graded Symptom Checklist (GSC) and the Post-Concussion Symptom Scale in the Appendix).

**IMPORTANT!**
All symptoms of concussion are important; monitoring of physical symptoms is critical. If physical symptoms worsen, especially headache, confusion, disorientation, vomiting, difficulty awakening, within the first 48 to 72 hours, it is often a sign that a more serious medical condition is developing in the brain.
***SEEK IMMEDIATE MEDICAL ATTENTION!***



**Medical Box**

*"It is not appropriate for a child or adolescent athlete with concussion to Return-to-Play (RTP) on the same day as the injury, regardless of the athletic performance."*[5]
Consensus Statement on Concussion in Sport: the 3rd International Conference on Concussion in Sport, Zurich 2008

EDUCATE

EDUCATE

# STEP 2: Managing Your Concussion Management Team

The CDC/Grandview High School study demonstrated that symptom frequency and intensity are typically highest Days 1 through 4, continue throughout Week 1 and begin to wane throughout Weeks 2 and 3. You will notice that REAP has developed a suggested timeline by which symptoms are checked and monitored – and REAP has assigned responsibilities to certain team members/certain teams to manage specific symptoms. As every mTBI is different and unique, your team will need to be fluid and flexible.

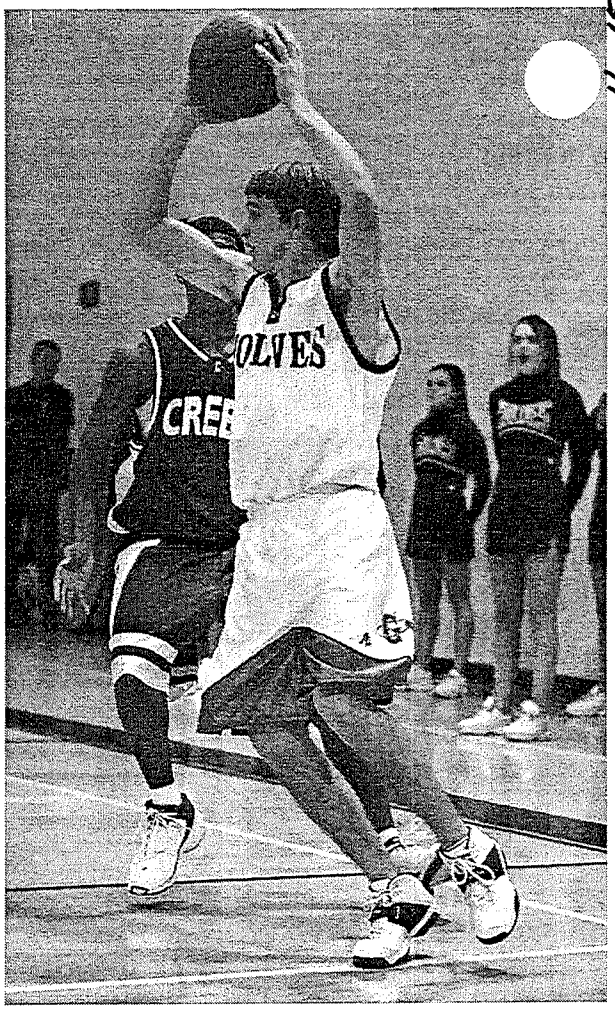
Within the guidelines set forth in the REAP timeline, it is recommended that the Concussion Management Team decide (case by case):

- Who will be the School Team – Physical **ST-P** point person,
- Who will be the School Team – Cognitive **ST-C** point person,
- Who from the school will communicate with the Family Team **FT**
- Who will communicate with the Medical Team **MT**.

During the CDC/Grandview study, the ATC often acted as the ST-P; other times the School Nurse acted as the ST-P. The School Psychologist or Counselor usually acted as the ST-C. Frequently, a teacher was the point person for cognitive symptoms. The REAP model suggests that one person take responsibility for meeting with the student (daily or at specified intervals) to objectively rate symptoms. That one point person is assigned the duty of helping the student complete, in writing, the symptom rating scale. Areas of symptom concern/improvement are then shared with other point people managing various symptoms so that accommodations/decisions can be made. REAP suggests that if resources allow for only one point person at the school, that person must be equally capable of managing cognitive/emotional symptoms as well as physical symptoms. The majority of the communication in the CDC/Grandview study happened via phone, email or one-on-one. Meetings were infrequent.

**Ciera was 15 years old when she suffered a concussion while playing basketball.** Her symptoms of passing out, constant headaches and fatigue plagued her for the remainder of her freshman year. One of the most helpful accommodations for Ciera has been:

*"It really helped me when my teachers had class notes already printed out. That way I could just highlight what the teacher was emphasizing and focus on the concept rather than trying to take notes. Since having a brain injury, I don't really see words on the board, I just see letters. Therefore, having the notes beforehand takes some of the frustration off of me and I am able to concentrate and retain what is being taught in class. Being able to rest in the middle of the day is also very important for me. I become very fatigued after a morning of my rigorous classes, so my counselors have helped me adjust my schedule which allows me some down time so I can keep going through my day. Lastly, taking tests in a different place such as the conference room or teacher's office has helped a great deal."* CIERA LUND



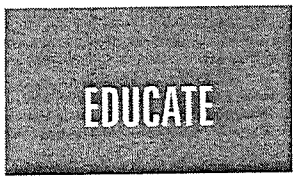
**TRUE or FALSE?** *A concussion is usually diagnosed by neuroimaging tests (ie. CT scan or MRI).*

**False!** Concussions cannot be detected by neuroimaging tests; a concussion is a functional, not structural injury. Concussions are typically diagnosed by careful examination of the signs/symptoms of concussion at the time of injury and the resolution of symptoms afterwards. While a CT scan or an MRI is often used to rule out more serious bleeding in the brain, it is not a diagnostic test for concussion. A "negative" scan does n mean that a concussion did not occur.

# EAP suggests the following timeframe:

| | TEAM | WEEK 1 | WEEK 2 | WEEK 3 |
|---|---|---|---|---|
| FT | **Family Team**<br>Help child understand he/she must be a "honest partner" in the rating of symptoms | • Impose rest.<br>• Assess symptoms daily – especially monitor maintenance symptoms and emotional symptoms. | • Continue to assess symptoms (at least 3X week or more as needed), monitor if symptoms are improving.<br>• Increase demands and assess symptoms. | • Continue with all assessments (at least 2X week or more as needed).<br>• Increase or decrease demands based upon outcome (see PACE). |
| ST/P | **School Team – Physical Coach/ATC/SchoolNurse**<br>(1 point person to oversee/ manage physical symptoms) | • REAP suggests immediate removal from play/ physical activities!<br>• Assess physical symptoms daily, use objective rating scale.<br>• ATC/Coach: assess postural-stability (see NATA reference in RESOURCES).<br>• School Nurse: monitor visits to school clinic<br>If symptoms at school are significant, contact parents and send home from school. | • Continue to assess that symptoms are improving (at least 3X week or more as needed).<br>• Step-wise increase in physical demands (see PACE).<br>• ATC/Coach: postural-stability assessment. | • Continue with all assessments (at least 2X week or more as needed).<br>• Increase or decrease demands based upon outcome (see PACE).<br>• ATC/Coach: postural-stability assessment. |
| ST/C | **School Team – Cognitive Educators, School Psychologist, Counselor, Social Worker**<br>(1 point person to oversee/ manage cognitive/emotional symptoms)<br>*Get a Release of Information signed immediately to talk to MD | • Reduce all cognitive demands (reduce, do not eliminate cognitive demands).<br>• Meet with student individually to create academic accommodation plan for cognitive/ emotional reduction no later than Day 2/3 & then assess again by Day 7.<br>• Educate all teachers on the symptoms of concussion (see "Concussion is More Than a Bump to the Head" in Appendix).<br>• Make immediate academic accommodations.<br>• See ACCOMMODATE section. | • Continue to assess that symptoms are improving (at least 3X week or more as needed).<br>• Slow increase in cognitive demands (see PACE).<br>• Continue academic accommodations as needed. | • Continue with all assessments (at least 2X week or more as needed).<br>• Increase or decrease demands based upon outcome (see PACE).<br>• Continue academic accommodations as needed.<br>• Assess if longer term academic accommodations are needed (504 Plan, IEP, etc.). |
| MT | **Medical Team** | • Assess and diagnose concussion.<br>• Monitor that symptoms are improving throughout Week 1 – not worsening in the first 48 to 72 hours. | • Continue to consult with school and home teams.<br>• Follow-up medical check including: comprehensive history, neurologic exam, detailed assessment of mental status, cognitive function, gait and balance. | • Continue to consult with school and home teams.<br>It is best practice that a medical professional be involved in the management of each and every concussion. |

Don't be alarmed that there are symptoms, there are going to be symptoms - symptoms are the hallmark of concussion.
The goal is to be watching for a slow and steady improvement in ALL symptoms over time.
If symptoms persist into Week 4, see SPECIAL CONSIDERATIONS.



# Most Common Cognitive Problems Post-Concussion
## and suggested accommodations

| Areas of concern | Suggested Accommodations |
|---|---|
| **Fatigue, specifically Mental Fatigue** | "Strategic rest" – strategic rest is scheduled. Do not wait until the student is so over-tired that he/she has a "meltdown". Adjust the schedule to incorporate a 15-20 rest period mid-morning and a rest period mid-afternoon. Missing recess or reading quietly does not constitute a rest period. |
| **Difficulty concentrating** *Feels like being in a "fog"* | Reduce the cognitive load. Smaller amounts of learning will take place during the recovery. Since learning during recovery is compromised, you must decide: What is the most important concept for the student to learn? Do not tax them cognitively. |
| **Slowed processing speed** *Feels like being converted from high speed internet to dial up internet* | Extra time on tests and projects. Assess whether the student has large tests or projects due during the 3 week recovery period. Remove or adjust due dates. Provide copies of teacher's notes or a peer note taker. |
| **Difficulty with working memory** *The ability to temporarily store and manage information during complex cognitive processes such as learning and reasoning* | Initially exempt from routine work/tests. During recovery, the student has limited working memory: What is the most important concept(s) you want them to know? Work toward comprehension of a smaller amount of material versus rote memorization. |
| **Difficulty converting new learning into memory** | Allow student to "audit" the material during this time. Remove "busy" work that is not essential for comprehension. Making the student accountable for all of the work missed during the recovery period (3 weeks) places undue cognitive and emotional strain on them and may hamper recovery. Ease student back into full load. |
| **Emotional symptoms** | Be mindful of emotional symptoms throughout! Students are often scared, overloaded, frustrated, irritable, angry and depressed as a result of mTBI. They respond well to education and support during recovery. |

### School Team Educators

When an athlete is injured, the coaches keep the athlete "engaged" with the team (by attending practices, traveling with the team) even when the athlete cannot play. This concept of keeping the student involved and engaged in academics, in spite of the concussion, is very important. While cutting back on the cognitive load, the school team must devise a plan to keep the student "academically conditioned and engaged in learning" throughout the entire three week recovery period.

**Interesting research note:** The CDC/Grandview Study demonstrated that concussed students were minimally absent from school during their recovery and yet recovered well. This finding is reinforced by a 2008 study showing that concussed students who maintained moderate levels of activity (not 100% bed rest and not 100% on-the-go) had the most positive recovery![6]

More in-depth information and recommendations can be found in the BrainSTARS Manual (see RESOURCES)

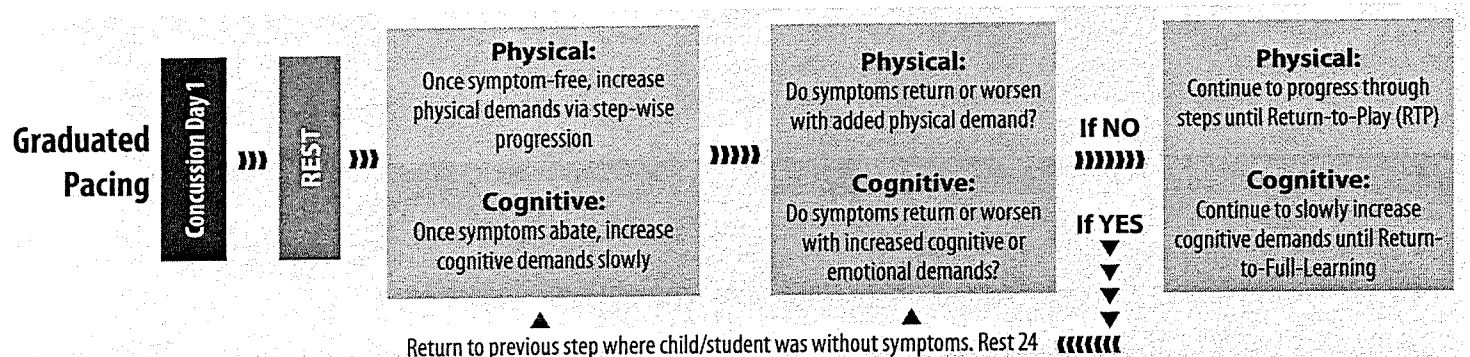
Medical Box

The newest research shows that neuropsychological testing has significant clinical value in concussion management, especially with children and especially when baseline scores are available. The addition of neuropsychological tests is emerging best practice. However, limited resources and training are a reality for school districts. An extensive list of paper and pencil neurocognitive tests known to be sensitive to mTBI can be found at COkidswithbraininjury.com. Whether or not a school district chooses to include any type of neurocognitive testing, REAP is still the foundation of the Concussion Management program. Data gathered from serial post-concussion testing (by Day 2/3, by Day 7, by Day 14 and by Day 21, until asymptomatic) can only serve to provide additional information. No test score should ever be used in isolation. All ethical quidelines of test administration and interpretation must be adhered to.

The 2008 Zurich Consensus Statement on Concussion in Sport Recommends

# A Graduated Return-to-Play (RTP)

| STAGE | ACTIVITY | FUNCTIONAL EXERCISE | CHILD/STUDENT EQUIVALENT | OBJECTIVE OF STAGE |
|---|---|---|---|---|
| 1 | No physical activity as long as there are symptoms *(This step could take days or even weeks)* | Complete physical rest | Quiet time with maximum rest | Recovery |
| | *When 100% symptom free for 24 hours proceed to Stage 2. (Younger children may need a longer symptom-free period.)* ▼ | | | |
| 2 | Light aerobic activity | Walking, swimming, stationery cycling, 10-15 minutes of exercise, no resistance | Solitary play or quiet play alone or with parent | Increase heart rate *(light to moderate workout not requiring cognitive attention or high degree of coordination)* |
| | *If symptoms reemerge with this level of exertion then return to the previous stage. If the student remains symptom free for 24 hours after this level of exertion then proceed to the next stage.* ▼ | | | |
| 3 | Sport-specific exercise | Skating /running drills, 20-30 minutes - no weightlifting, no head contact | Supervised play, low risk activities | Add movement *(increased attention and coordination required)* |
| | *If symptoms reemerge with this level of exertion then return to the previous stage. If the student remains symptom free for 24 hours after this level of exertion then proceed to the next stage.* ▼ | | | |
| 4 | Non-contact training drills | Progression to more complex training drills, may start progressive resistance training | May run/jump as tolerated | Exercise, coordination *(mimics athlete's sport without risk of head injury)* |
| | *If symptoms reemerge with this level of exertion then return to the previous stage. If the student remains symptom free for 24 hours after this level of exertion then proceed to the next stage.* ▼ | | | |
| 5 | Full-contact practice | Following medical clearance, participate in normal training activities; full exertion | Normal participation with parental/ adult supervision | Restore confidence and assess functional skills by coaching staff *(or family)* |
| | *If symptoms reemerge with this level of exertion then return to the previous stage. If the student remains symptom free for 24 hours after this level of exertion then proceed to the next stage.* ▼ | | | |
| 6 | Return to Play | Normal game play | Normal playtime | No restrictions |

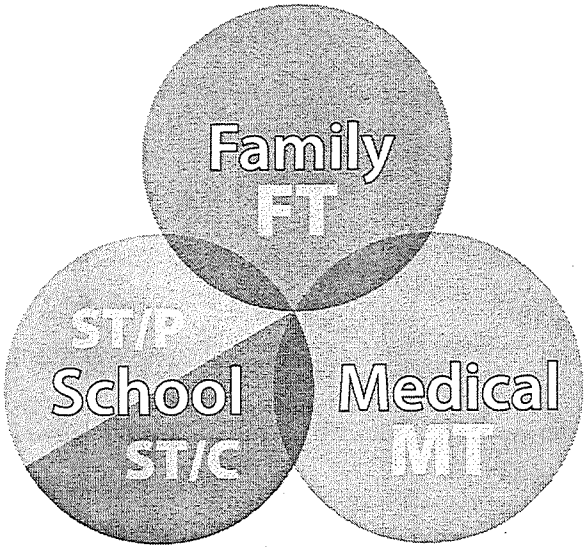



**Graduated Return-to-Learning/Cognitive Return**

Resumption of normal cognitive activity follows the same principles as the resumption of graduated physical activity with mental rest until symptom free and then a gradual increase of cognitive demands. Unless a child/student is acutely ill from the concussion, he/she may return to school without significant delay as long as academic accommodations are in place. Cognitive activity is gradually increased as long as the student remains symptom free. If symptoms emerge with mental exertion, then the cognitive activity is again reduced until the student is able to complete that level of cognitive lc without symptoms.

PAGE

# Management of Concussion is Difficult Because it is a *Moving Target*




A medical doctor, whether in the Emergency Department or at your follow-up clinic, cannot predict the length and the course of recovery from concussion. The ***best*** assessment of whether a student is ready to return 100% to play or to learning is:

- **» are symptoms resolving?**
- **» do symptoms worsen or return upon exertion?**

That information is only available on a daily basis to the student, the family and the school team. Even the most involved medical doctor will likely not be able to see the student on a daily basis, therefore, the assessment and monitoring of symptoms must be collected by the school team, the family team and must be shared with the medical doctor. The key to success is *communication and collaboration!*

In the spirit of teamwork, the decision for the child/student to return to full 100% activities (or play) cannot or should not be made by any one single member of the team. For example, an ATC should not return a child/student to contact play without educator/family/medical professional input and support. Likewise, an outside medical professional should not make a RTP decision without the school and family input. In other words, the RTP/R-to-Learning decision must be made by consensus of the Concussion Management Team, in consultation with medical professionals.

## When Symptoms do not Resolve as Expected

Approximately 10% to 20% of concussions do not resolve in 3 weeks. When and if symptoms (physical, cognitive, emotional or maintenance) do not resolve as expected, it is suggested that the child/student work with their medical professional to pursue a more specialized outpatient evaluation (medical or psychiatric).

As stated throughout the manual, an uncomplicated concussion will generally resolve within three weeks. It is extremely rare and not advised for students to be absent from school (other than the first day or two when the concussion is most acute). However, if the long-term symptoms of the concussion cause or require an extended absence from school and/or results in the need for specialized assessment and/or programming (IDEA or 504 Plan), it would be wise to classify the student as having a traumatic brain injury and staff through "Traumatic Brain Injury" services. It is beyond the focus of this manual to direct the scope of assessment and programming for a brain injury, however, many school districts have Brain Injury Teams for consultation and support. Guidelines to help educators consider brain injury in schools can be found on the COkidswithbraininjury.com website. Other brain injury resources are listed in the **RESOURCES** section.

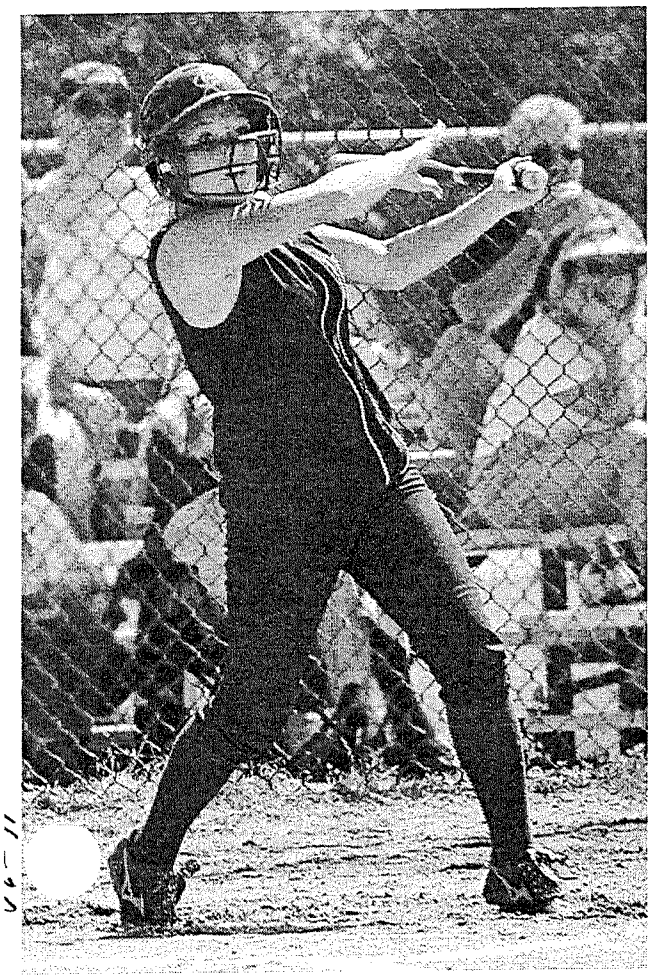
## TRUE or FALSE?

***A parent should awaken a child who falls asleep after a head injury.***

**False!** Current medical advice is that it is not dangerous to allow a child to sleep after a head injury, once they have been medically evaluated. The best treatment for a concussion is sleep and rest.

**Medical Box**

Students who have Attention Deficits, Learning Disabilities, a history of migraine headaches, sleep disorders, depression or other psychiatric disorders may have more difficulty recovering from a concussion. Students who have had multiple concussions, a recent prior concussion or who are getting symptomatic after less impact may be at risk for long term complications. Research supports the fact that a person who sustains one concussion is at higher risk for sustaining a future concussion.[7]



# Special Considerations...

## Long-Term Monitoring

Studies have not been able to estimate the numbers of children/students who initially recover well from a mTBI/concussion but suffer later from learning, emotional, behavioral issues. Are those problems related to the earlier mTBI/concussion? No one can say for sure but educators suspect there may be some connection, especially in the case of multiple concussions. The REAP Project provides a template by which schools, parents and medical professionals can manage the short-term, three week recovery post-injury. However, the second phase of the REAP Project is to hand off the long term monitoring of concussed children/students to the Brain Injury Teams in the four participating school districts – Cherry Creek, Denver, Aurora and Littleton Public Schools. The REAP Project and the Colorado Department of Education thank these 4 school districts for their willingness to follow these children/students over time - to better assess the long-term picture of mTBI/concussion. It is not necessary to have a Brain Injury Team in a school district to follow a child/student long-term post-REAP. Any caring educator or knowledgeable parent can watch over a child/student through the lens of mTBI and is encouraged to express concern to the school team if problems emerge later in the school career.

## CDC/Grandview Study

The most important lesson learned from the CDC/Grandview study is that good concussion management goes beyond neurocognitive screening and the RTP decision. Although gaining in popularity at this time, no one single assessment (computerized, paper/pencil or otherwise) should ever be used in isolation to make a RTP/RTLearning decision. In fact, good concussion management, also known as good mTBI management, involves ***exceptional communication*** and ***collaboration*** among a School team, a Family team and the Medical team. When making a serious decision about the health and well-being of a child/student, it is best practice to consider multiple data points, collected from multiple sources. That is the richness of the Community-Based Concussion Management REAP Project.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## RESOURCES

| | | |
|---|---|---|
| Center for Disease Control (CDC): | www.CDC.gov | 1-800-CDC-INFO |
| Colorado TBI Trust Fund: | www.tbicolorado.org | 303-866-4779 |
| CO Child/Adolescent Brain Injury website | www.COkidswithbraininjury.com | |
| Brain injury Association of Colorado (BIAC) | www.biacolorado.org | 303-355-9969 |
| Brain Injury Association of America (BIAA) | www.biausa.org | 1-800-444-6443 |
| Colorado Department of Education | www.cde.state.co.us | 303-866-6779 |
| BrainSTARS | www.lapublishing.com | |
| National Association of Athletic Trainers (NATA) | www.nata.org/ www.journalofathletictraining.org | |


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- School Districts:
  - Cherry Creek Brain Injury Team
  - **Kristi McCullom**, Denver Public Schools
  - **Jessica O'Muireadhaigh**, Aurora Public Schools
  - **Nate Thompson**, Littleton Public Schools
- The TNT (TBI Networking Teams) Steering Committee
- **Kelli Jantz, Shannon Jantz**, the Jantz/ Snakenberg families
- **Ciera Lund** and the Lund family
- The Colorado TBI Trust Fund





All questions or comments can be directed to:

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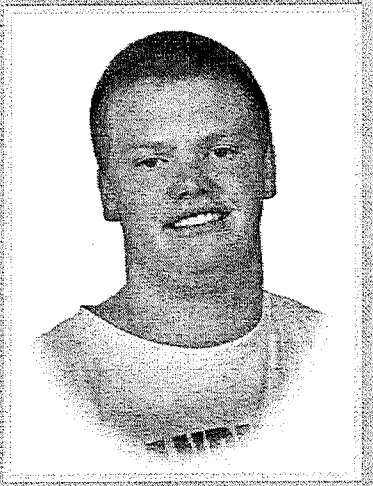


**The REAP Project is dedicated in memory of:**

**JACOB SNAKENBERG**

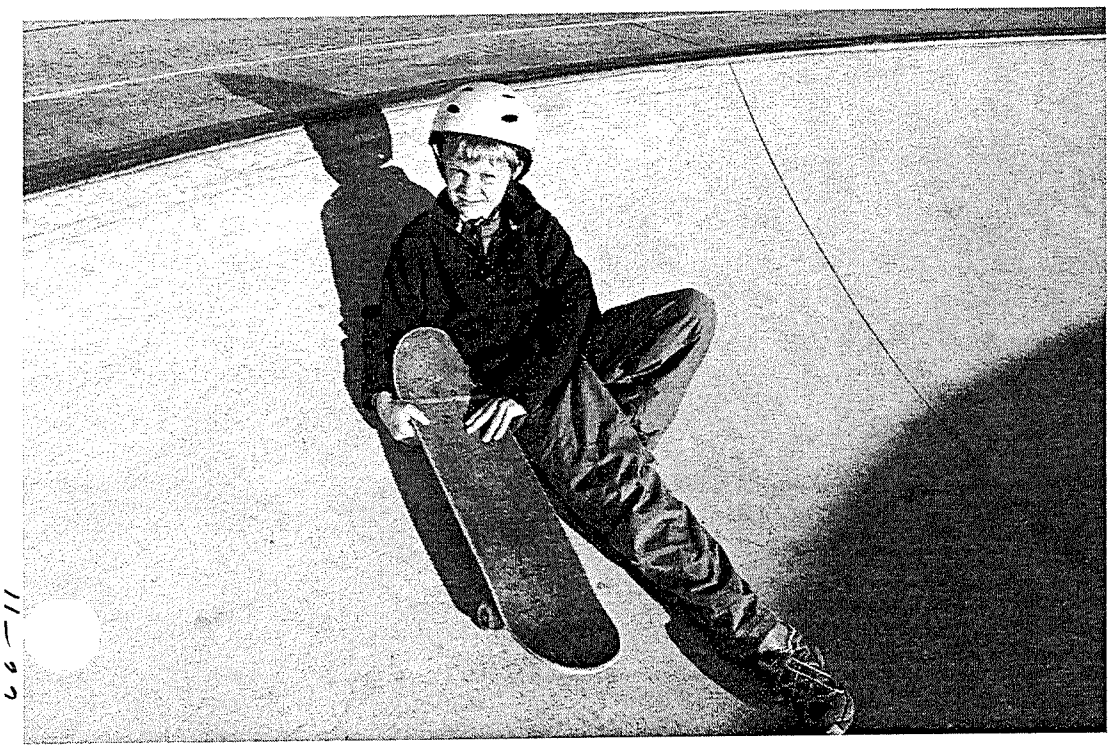
**April 19, 1990 – September 19, 2004**

***To prevent future loss of life due to concussion***

# Concussion In Children *It's more than just a bump on the head!*

Concussions in children can cause temporary changes in how they act, think, and feel. If your child has had a concussion, he or she might act differently and probably will more tired for awhile. It's a good idea to let your child have a few days off from school, take more rest and have fewer expectations to meet for the next week or two. Over the next several weeks, watch for these possible changes:

| Changes in Behavior and Energy | Changes in Thinking | Changes at School | Changes in Feelings |
|---|---|---|---|
| » Has lots of headaches<br>» Is very tired; sleeps too much or too little<br>» Tantrums; impulsive or aggressive at times; "short fuse"<br>» Quiet, shy, or talking less than usual<br>» Doesn't seem "motivated"; not concerned about performance<br>» Doesn't listen when corrected; doesn't seem to care when in trouble<br>» Not interested in usual activities<br>» Has trouble getting started on work or activities | » Not organized; doesn't complete tasks<br>» Forgets or can't remember things<br>» Is upset by noises, lights, crowds, or busy places | » Forgets assignments or does not hand in work<br>» Does well one day and poorly the next; grades are worse<br>» Messy, incomplete, or disorganized work<br>» Doesn't pay attention in class | » Big emotional reactions<br>» Gets upset easily; more worried or moody<br>» Quiet or sad<br>» Seems easily overwhelmed |



Keep in mind that new problems in acting, thinking, or feeling can be due to your child's concussion. Remember that you can get help for these problems. Tell your child's doctor, your school nurse, school psychologist, and a teacher about the concussion. Ask your school personnel to reduce the demands on your child for the next few weeks. The Colorado Department of Education (CDE), Brain Injury Association of Colorado (BIAC) and COkidswithbraininjury.com have helpful information on mTBI management on their websites.

APPENDIX

APPENDIX

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## POST-CONCUSSION SYMPTOM SCALE

| SYMPTOMS | SEVERITY RATING | | | | | | |
|---|---|---|---|---|---|---|---|
| Headache | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Nausea | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Vomiting | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Balance Problems | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Dizziness | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Fatigue | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Trouble Falling Asleep | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Sleeping More than Usual | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Sleeping Less than Usual | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Drowsiness | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Sensitivity to Light | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Sensitivity to Noise | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Irritability | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Sadness | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Nervous/Anxious | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Feeling More Emotional | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Numbness or Tingling | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Feeling Slowed Down | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Feeling like "In a Fog" | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Difficulty Concentrating | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Difficulty Remembering | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Visual Problems | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Other | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| OTAL | | | | | | | |

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## GRADED SYMPTOM CHECKLIST (GSC)

| SYMPTOM | TIME OF INJURY | 2-3 HOURS POST-INJURY | 24 HOURS POST-INJURY | 48 HOURS POST-INJURY | 72 HOURS POST-INJURY |
|---|---|---|---|---|---|
| Blurred Vision | | | | | |
| Dizziness | | | | | |
| Drowsiness | | | | | |
| Excess Sleep | | | | | |
| Easily Distracted | | | | | |
| Fatigue | | | | | |
| Feel "In a Fog" | | | | | |
| Feel "Slowed Down" | | | | | |
| Headache | | | | | |
| Inappropriate Emotions | | | | | |
| Irritability | | | | | |
| Loss of Consciousness | | | | | |
| Loss of Orientation | | | | | |
| Memory Problems | | | | | |
| Nausea | | | | | |
| Nervousness | | | | | |
| Personality Change | | | | | |
| Poor Balance/Coordination | | | | | |
| Poor Concentration | | | | | |
| Ringing in Ears | | | | | |
| Sadness | | | | | |
| Seeing Stars | | | | | |
| Sensitivity to Light | | | | | |
| Sensitivity to Noise | | | | | |
| Sleep Disturbance | | | | | |
| Vacant Stare/Glassy Eyes | | | | | |
| Vomiting | | | | | |

NOTE: The GSC can be used not only for the initial evaluation but also for each subsequent follow-up assessment until all signs and symptoms ...e cleared at rest and during physical exertion. In lieu of simply checking each symptom present, the ATC can ask the athlete to grade or score ...e severity of the symptoms on a scale of 0–6, where 0 = not present, 1 = mild, 3 = moderate, and 6 = most severe.

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Aurora Public Schools

Cherry Creek Schools

Denver Public Schools

Littleton Public Schools

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