

## Old Toxin, But New Insights on How Dangerous It Is

by David O. Carpenter, MD, Institute for Health and the Environment, University at Albany



Dr. David O. Carpenter, MD

Polychlorinated biphenyls (PCBs) were manufactured in the US between 1929 and 1976 until their manufacture and use was outlawed by the Toxic Substances Control Act. So why are they still a concern?

The answer is that they are persistent, both in the environment and in the bodies of humans and animals. Their persistence is due to the multiple chlorines that are around the biphenyl ring. Many chemicals with multiple chlorines in their structure are persistent, as, for example, DDT. Even though DDT has also not been manufactured in the US for many years, we all have significant concentrations of DDT and its more stable metabolite, DDE, in our bodies. The same is true for PCBs. Each of us has PCBs in our

body at significant concentrations that are easily measured and new research continues to show that the higher the concentration of PCBs in our bodies, the greater is our risk for developing a variety of diseases.

PCBs are actually a mixture of up to 209 different chemicals, containing anywhere from 1 to 10 chlorines that are positioned among the 10 possible binding sites on the molecule. In the US, almost all PCBs were manufactured by the Monsanto Corporation plants in Anniston, Alabama and Sauget, Illinois. A number of commercial mixtures were produced that varied in the average number of chlorines bound to the molecules. Common mixtures were called "Aroclors" and were sold as Aroclor 1242, 1248, 1254 and 1260, among others. These mixtures contained 42%, 48%, 54% and 60% chlorine by weight. As the percentage chlorine increased, the consistency of the mixture went from that of light to viscous oil. Being relatively non-flammable, PCBs were good lubricators and insulators. The mixtures that were more fluid were widely used as solvents for paint and caulk, as well as a hydraulic fluid. Those with more chlorines were used as insulators in capacitors and transformers. PCBs were used in carbon-less paper in the past as well. PCBs were primarily used for most purposes that mineral oil would be used in today. With a number of very positive uses, PCBs were viewed as being valuable and useful substances until it was found that they

were accumulating in the environment and in all living creatures, including humans. The prohibition of PCB manufacturing and use came in 1976 following the discovery that PCBs could be found widespread in life forms, but the information on their toxicity at this time was significantly lacking.

Chlorinated compounds are difficult to destroy, and in the environment they last for decades if not centuries. There are some bacteria that derive energy by removing chlorines from the molecule, but lack the ability to destroy the molecule. Thus these bacteria, which do not require oxygen to grow, can change more highly chlorine PCBs to those that are less chlorinated, but do not reduce the concentration of total PCBs. Most PCBs in the environment are bound to soil or sediment particles. Being oil, they are not very water soluble, although those with fewer chlorines are more soluble and more volatile than those with more chlorines.

The major route of exposure to humans is food. PCBs, when taken into animals or human, dissolve in fat. This begins the process of bioaccumulation. For example, in a contaminated river or lake PCBs are mainly bound to sediment. Small creatures—worms and insects—ingest the sediment, and it is favorable for PCBs to be in the fat of the worm or insects than on the sediment. As worms and insects eat more sediment, more PCBs accumulate. Then, small fish eat the worms or

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by Robert Reece, County Administrator, Pottawatomie County, Kansas



**NACA President,  
Robert Reece**

I hope this article finds each and every one of you doing well and having had the opportunity to reflect upon the many successes within your community and organization as well as personal growth and achievements in 2014. With 2014 clearly in our rearview mirror, focus quickly turns to 2015 and the many known and unknown opportunities before us. One of the many known opportunities I am looking forward to for 2015 is the NACo Legislative conference and the slate of informative and educational opportunities at the conference. NACA board and committee members have worked closely with NACo staff to develop activities and educational sessions I hope you will take advantage of and attend.

Additionally, NACA members will meet with NACo staff in advance of the Legislative Conference to begin developing topics for sessions at the annual NACo conference in Charlotte / Mecklenburg County this summer. Here is my first request to you for your involvement on the NACA Program Committee. For those of you who will be attending the NACo Annual Conference in July, I am requesting that you please take a little time to think about possible educational topics you would like to see at the conference. Better yet, if you or someone in your organization have a certain area of experience or expertise and are willing to share information you are passionate about and believe it will make a good session topic, I encourage you to share that with us so we can pass it on to NACo conference planning staff for their consideration. With your participation, I am certain we can make it a conference to remember.

Last November, NACA members participated in the ICMA Annual Conference planning session in Seattle / King County. I hope you will plan to attend ICMA 101 in September. We continue to see an increase in participation by County administrators and managers at the ICMA Annual Conference, and the county perspective adds significant value.

Just as a reminder ICMA has sent out the schedule for regional summit meetings. If you can break away and make it to one of these I would encourage you to do so. Besides the opportunity for a great educational session, it's also an opportunity to participate with ICMA leadership and colleagues in the region. NACA will be represented on each of the five regional nominating committees which will gather to interview prospective regional vice presidents for the ICMA Executive Board at the end of each summit.

Finally, I hope you will consider putting the interactive NACA communications vehicles to use. Your participation creates valuable dialogue and information sharing.

- Our NACo sponsored listserv can be accessed at: [countymanager@lists.naco.org](mailto:countymanager@lists.naco.org)
- Our ICMA sponsored discussion group on the Knowledge Network can be accessed [at this link](#).

The best way NACA can improve as an organization is through your participation, and what better way to get involved than through your participation on one of the NACA Committees. We continue to look towards our members to improve NACA. So please let us hear from you and consider participating in any one of the following committees; Strategic Planning, Program, Awards and Scholarships, Membership, Communication and Sponsorship.

A very special acknowledgement goes out to ICMA Past President and NACA member, *Sedgwick County, Kansas Manager* William Buchanan who announced last October that he will retire on July 1, 2015. Bill your leadership, commitment, and passion will be greatly missed.

*Robert E. Reece  
NACA President*



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insects and extracts all the PCBs accumulated in their fat. Then bigger fish eat the smaller fish and gets all of the PCBs. Bioaccumulation occurs as a result, meaning the higher the animal is in the food chain in an aquatic environment, the higher the PCB concentration in that animal. Consumption of contaminated fish is an important source of exposure for humans.

Unfortunately it is not only fish that are contaminated with PCBs. Over the nearly 40 years since PCB manufacture stopped in the US and most developed countries (they are still manufactured in North Korea) they have spread to all animal fat. Every BigMac, every piece of chicken or sausage, eggs, whole milk and butter contain PCBs. This has happened because of what farm animals are fed. Commercial animal food is often derived from fish meal and oil. Unfortunately, waste fat from the slaughter of farm animals is usually recycled into animal food. Because of the concern about mad cow disease a few years ago we no longer add cow fat to commercial cow feed, but the cow fat is put in food for chickens and pigs, while the chicken and pig fat is fed to cows. This has resulted in the recycling of old PCBs in the food we eat, and is a major reason why we all have PCBs in our bodies.

Until recently there has been little attention given to PCBs in water or air, but that is changing rapidly with new evidence that these media are important routes of exposure to humans. In water, most of the PCBs are bound to the particulates that are removed in drinking water treatment plants, preventing most PCBs from getting into drinking water. However the lower chlorinated PCBs have significant water solubility and these soluble PCBs are not easily removed from drinking water without very potent activated carbon treatment, which is often not the case. This can result in low concentrations of PCBs in municipal drinking water, which can be a

contributor to total exposure. This is similar to the exposure in drinking water to pharmaceuticals, which are known to accumulate in waste water from human excretion as well as the common practice disposing expired medicines down the toilet. What is dissolved in waste water often ends up in drinking water.

Vapor phase PCBs are an even more important route of exposure; as with water solubility, PCBs with fewer chlorines that are more volatile, but all PCBs can volatilize to some degree. The long-term problem from vapor-phase PCBs is most strikingly shown by the contamination of the Arctic and Antarctic. PCBs go into the air in tropical and temperate climates, and the air currents carry them to the cold Polar Regions where they come out of the vapor phase and precipitate, then bioaccumulate in the local environment, animals and foods. One of my research studies involves the people on St. Lawrence Island, Alaska, located just below the Arctic Circle. These people live a subsistence life style, consuming whale, seal and walrus. The blubber of these animals contains high concentrations of PCBs and, in spite of the fact that there is no local industry, the people of St. Lawrence Island have concentrations of PCBs in their body that are significantly higher than those in the lower 48 United States. Even penguins are contaminated with PCBs.

Vapor-phase PCBs are also now being found to be a major problem in indoor air. Recent studies have focused on schools, but the issue applies to almost all buildings constructed before 1980. PCBs were used in the fluorescent light ballasts, and are still present if these ballasts have not been replaced. In New York City schools, many of which are old and suffer from inadequate funding, drops of pure PCBs from a leaking light ballast recently fell on a student's head! In a survey of older schools, 772 were identified as likely having PCB-containing ballasts which either were leaking or in need of replacement. Because of heat generated by the light-

ing most of these PCBs are volatilized. PCBs were also widely used as the solvent of caulk in older buildings (including my office!). As the caulk ages, the PCBs slowly evaporate, and as a result PCBs accumulate in the air that is breathed and absorbed by everyone in the building. This is a particular issue for schools, since, as described below, exposure to PCBs leads to reduced IQ and shortened attention span which is about the last thing one wants to be happening in schools. But the problem is certainly not limited to schools.

In the body of humans or animals there are enzymes that try to destroy PCBs, but they are not efficient. As a result you will have about half of the PCBs you ate last night with that meal of contaminated fish still in your body some 5 to 10 years from now. Those PCBs with fewer chlorines are more easily destroyed but still stay in the body for weeks to months. The PCBs with more chlorines stay in the body for decades, being dissolved in body fat. PCBs in humans are usually measured by taking a blood sample, where the PCBs are in the fat that circulates. If the blood sample is taken after an overnight fast the PCBs in the blood fat will be in equilibrium with that in other body fat and therefore represent a good measure of total exposure. Although the PCBs with fewer chlorines aren't as persistent as those with more chlorines, one can obtain important information on recent as compared to older exposures by investigating the pattern of the 209 different PCBs, which are called congeners. Because most of us take in PCBs more rapidly that we can metabolize them, levels in our blood tends to increase with age. However a pattern with higher concentrations of lower chlorine congeners indicates recent exposure, often reflecting inhalation of vapor phase PCBs or consumption of drinking water with dissolved PCBs. The concentration of the more highly chlorinated PCBs is a good indicator

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of total life-time exposure, even from decades ago.

PCBs have a great variety of actions in the human body, which is why they are so many different health effects. And to make things more complicated, each of the 209 different PCB congeners has its own profile of actions, many of which are not the same as those of other congeners.

The least complicated actions are those where the PCBs bind to sites to interfere with the actions of other hormones. For example, PCBs are somewhat similar in structure to thyroid hormone, the hormone that regulates metabolism. Thyroid hormone is normally transported in blood bound to certain proteins, and if not bound it is degraded. But PCBs bind to this transport protein more strongly than does thyroid hormone and the result is that the active form of thyroid hormone is depleted, resulting in hypothyroidism. PCBs can also have direct actions at receptors for normal hormones.

Some PCBs, and especially some of the metabolites of PCBs are weakly estrogenic, and mimic the female sex hormone. My colleagues have demonstrated that girls with higher concentrations of PCBs reach puberty at a younger age than those with lower concentrations. While age at puberty is not really a “disease”, this result clearly demonstrates that the PCBs have estrogenic activity, since puberty is stimulated by elevated estrogen.

These estrogenic actions of PCBs can also cause major problems if a woman who has high PCB levels is pregnant with a male infant. The male fetus can be feminized and also develop birth defects of the male reproductive organs as a result. Dutch investigators have shown that little boys with high PCBs levels prefer to play with dolls rather than guns, which is not considered gender-typical in our society.

PCBs have very adverse effects on the brain and behavior, although the detailed mechanisms of these actions are not well understood. There is

strong evidence that exposure to PCBs, especially *in utero* or early life, results in a long-term reduction in IQ, a shortened attention span and a reduce ability to deal with frustration. These effects appear to be long-lasting, and even permanent. In a classical study of children born to mothers who ate PCB-contaminate fish from the Great Lakes, where the PCB concentrations were measured in the umbilical cord blood, those children exposed to higher PCB concentrations had a 6.2 decrement in IQ at age 11 years as compared to children with the lowest PCB exposure. While young children are more vulnerable, studies have also shown that memory and learning are reduced in adults with high PCB concentrations.

The more common and complex action of PCBs is that they act to change the expression of genes. And they can change the expression of many very different genes, leading to a great variety of effects. The best studied action of this type is that some PCB congeners have effects similar to that of dioxin, the dangerous component of Agent Orange that was used in the Vietnam War. These congeners act on a receptor on the inside of cells, called the aryl hydrocarbon receptor. Once the PCBs bind to this receptor, the complex migrates to the DNA of the cell and causes genes to change their “expression”. The result is that some functions of the genes are increased, whereas others are decreased. Studies have shown that more than 300 different genes are changed by exposure to these PCBs. While only a few of the PCB congeners have this particular action, many activate other different receptors that also cause changes in gene expression, but of different genes. The result is changes in many physiological and pathological functions.

The results mentioned above have indicated that PCBs can alter hormonal function and affect the brain and behavior. But there are many other diseases for which risk is known to be increased in persons exposed

to PCBs, and it is likely that these are due in great part to the effects on gene expression. PCBs are known human carcinogens. It has been known for a long time that dioxin is a carcinogen, and that dioxin-like PCBs have similar actions. In 2013, the International Agency for Research on Cancer, an agency of the World Health Organization, declared all PCBs to be human carcinogens, including the lower chlorinated PCBs that can be inhaled. The cancer for which the evidence is strongest is malignant melanoma, but there is also strong evidence for female breast cancer and non-Hodgkin’s lymphoma. There is also some evidence for increases in risk of prostate, thyroid, brain, gastrointestinal, pancreatic, lung and bone cancers, however the research on these has been less extensive. Because no one is unexposed to PCBs, studies only can compare rates of cancer among people more exposed as compared to those who are less exposed. In addition we all have other known carcinogens in our bodies, often located in the same fat deposits as the PCBs, so it is difficult to prove which chemical is the actual cause of the cancer. There is definitive proof that PCBs cause cancer in animals, however, where one can control exposure.

PCBs are known to reduce and/or alter immune system function. For example children with high PCBs do not respond to immunization as well as other children, because the PCBs suppress the antibody response to the vaccination. Exposed children have been found in many studies to have more ear and respiratory infections than less exposed children. PCBs, however, appear to reduce the incidence of allergic reactions, which reflect a hyperactive immune system.

The effects of PCBs and dioxins on rates of asthma are complex and interesting with regard to mechanism. There is strong evidence that dioxins reduce the risk of asthma which, like allergies, reflects an abnormally

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elevated immune system. However, other studies have found that while dioxins reduce asthma, PCBs appear to increase asthma attacks. The exact mechanisms for this apparent disparity are not known, but the answer probably lies in the great variety of effects of PCBs on genes which differ from those of dioxin alone.

My group has done two major types of studies in an effort to determine which diseases are associated with PCB exposure. The first type of study looks at large populations but does not have good assessment of exposure. In New York we have an excellent record of the hospitalization and emergency room visits of every person who enters a state-regulated hospital (all but federal hospitals), maintained by the State Department of Health. There are some 2,500,000 hospitalizations each year and many more emergency room visits. The available data includes the primary disease diagnosis and up to 14 additional diseases found in each admitted patient, plus the patient’s age, sex, race/ethnic group, zip code of residence and how they paid for their admission. Although data with personal identifiers are collected we do not have access to names and addresses beyond the zip code of residence. We have matched this data to information collected and maintained by the New York State Department of Environmental Conservation which identifies all of the federal and state “superfund” sites, areas of environmental contamination that are judged to pose a potential threat to human health. For each of these sites we know the location and the identity of the major chemical contaminants. Therefore we have investigated rates of hospitalization for various diseases in residents of zip codes that have a hazardous waste site with PCBs as compared to those without any hazardous waste site, or hazardous waste sites containing other contaminants but not PCBs or other

persistent organic pollutants. Because socio-economic status is a very important factor in risk of disease, we have used Census data to control for median household income by zip code and have used the federal and state Behavioral Risk Factor Surveillance System to identify regional differences in such factors as smoking rates, fruit and vegetable consumption and frequency of exercise.

These studies have shown clear evidence of elevation in hospitalization rates for a variety of diseases after controlling for the other risk factors. Such diseases include coronary heart disease, myocardial infarction, stroke, hypertension, type 2 diabetes, asthma and respiratory infections. These studies cannot be viewed as proof that the PCBs caused the disease, but they certainly suggest that this might be the case. We hypothesize that the major route of exposure is inhalation of vapor-phase PCBs, since people that simply live near to a hazardous waste site are unlikely to have any other major route of exposure.

Because of the fact that the exposure assessment in these studies is inadequate, we performed different studies of smaller populations where we could measure their serum PCB concentrations and also obtain measurements of disease, based on medical history and measurement of blood pressure and clinical chemistry parameters. So we used the studies of the large populations as hypothesis generating studies, and then tested those hypotheses with a smaller group of individuals where we could directly monitor exposure. In studies of hypertension and blood pressure, carried out with residents of Anniston, Alabama, the home of the Monsanto plant that made PCBs, we found that serum PCB concentration was the strongest of all risk factors for hypertension except for age. Furthermore, even in those persons whose blood pressure did not exceed the “normal” levels, we found that the higher the PCB concentration, the higher the blood pressure.

We have also studied rates of type 2 diabetes among a Native American population that lives at the juncture of New York, Quebec and Ontario along the St. Lawrence River. These people live just downriver from three aluminum foundries that used PCBs as hydraulic fluids, which leaked into the St. Lawrence River and contaminated the fish. Earlier studies showed that consumption of local fish was a major source of exposure, but consumption of local fish declined in the late 1980s when tribal leaders advised against their consumption. In our recent studies, we find that when we adjust for age, sex, and obesity and then further adjust for the blood concentrations of chlorinated pesticides and all of the other groups of PCBs, the association with the development of diabetes is strongest for low chlorinated congeners that do not have dioxin-like activity. This is most consistent with the conclusion that inhalation of PCBs is the most important route of exposure, at least insofar as diabetes is concerned.

Demonstration of associations between exposure and disease does not ever prove causation, but with a building body of evidence from multiple studies by different investigators it is almost impossible to ignore the fact that PCB exposure is causally associated with a variety of human diseases. Furthermore, it is clear that concentrations of PCBs common in the general population increase risk of disease, not just in those persons with exceptionally elevated exposures. Moreover there is no effective known mechanism that will help remove PCBs the human body.

These conclusions pose significant problems for governments at all levels for several reasons. It is very difficult and expensive to get rid of PCBs. Much money is spent dredging rivers like the Hudson River in New York and the Fox River in Wisconsin. But even removing the most contaminated sediments will not immediately bring the PCB levels in fish down to levels

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that are “safe”. Even when removed, the contaminated sediments are placed in secure landfills where they will remain forever. There is no cost-effective method of destroying PCBs at present. The Great Lakes are all very highly contaminated, and there is concern over the safety of eating most Great Lakes fish. One can hardly stop eating all animal fats, and there is not the will to stop the recycling of animal fats in animal food. The evidence that people living near hazardous waste sites containing PCBs are at greater risk of several diseases is strong, and this leads to disparities in health related to socio-economic status. Poor people are more likely to live near to waste sites than more affluent people. And the new evidence for air-borne PCBs in the indoor air in schools and older buildings indicates a problem affecting millions of people who live and work in buildings constructed before 1980.

Perhaps the most important lesson to be learned from the PCB fiasco is that we need to give much more attention to the safety of commercial chemicals before they are widely produced. Most of the diseases associated with PCB exposure do not occur within short periods of time following exposure, but occur years later. The short term assays commonly used to assess toxicity of new chemicals were inadequate in the case of PCBs, and how dangerous they are was only

appreciated long after they had been manufactured for many years. Caution must particularly be used when chemicals are persistent because, in this case, even when manufacture is stopped there is little that can be done to remove them from the environment and from our bodies. While at one time the sites of PCB contamination were limited, because of their wide use in a variety of consumer products, they are now everywhere and it will be centuries (if ever) before they are gone.

While all of this sounds very pessimistic, there are things that both governments and individuals can do to prevent exposure. Steps need to be taken to provide consumer information on PCB concentration in foods and to reduce PCBs in all animal fats. PCB removal from buildings is expensive but important, and is especially important in schools and places of learning. It is also important to remove highly contaminated soils and sediments, as these are significant sources of exposure.

**Biographical sketch:**

**Dr. David O. Carpenter**

*David O. Carpenter is a public health physician whose current position is Director of the Institute for Health and the Environment at the University at Albany, as well as Professor of Environmental Health Sciences within the School of Public Health. After receiving his MD degree from Harvard Medical School he chose a career of research and public health. After*

*research positions at the National Institute of Mental Health and the Armed Forces Radiobiology Research Institute, he came to Albany in 1980 as the Director of the Wadsworth Center for Laboratories and Research of the New York State Department of Health, the third largest public health laboratory in the US. In an effort to build ties to an academic program, he initiated efforts to create a partnership between the New York State Department of Health and the University at Albany, resulting in the creation of the School of Public Health in 1985. He was then appointed as the founding Dean of the School of Public Health, a position he held until 1998 when he became the Director of the Institute of Health and the Environment.*

*Dr. Carpenter has numerous international collaborations and activities, with research collaborations in China, Japan, Pakistan, Australia, Romania, Armenia and Uganda. He is the former Chair of the Pacific Basin Consortium for Environment and Health, and an International Scholar of the Soros Foundation. He is currently a member of Science Advisory Board of the International Joint Commission, the body which advises the governments of Canada and the US on issues around the Great Lakes. He has over 370 publications and has edited five books. His primary research interest is human diseases caused by environmental agents. ■*



## Congressional Committee Changes Made After Elections and Regulators Permit Deferred Annuity Features in Target Date Funds



**Post-election Congressional changes.** Every two years the House and Senate are reconstituted, a process that often results in changes to committees' leaders and membership,

based on election results and party rules. With Republicans gaining control of the Senate and the retirement of the Chairman of the House Ways and Means Committee, there will be significant changes to the leadership of committees with jurisdiction over retirement policy. The table below shows the leadership of key committees for 2015–2016.

Chairpersons, and to a lesser extent Ranking Members, play a powerful role in setting the Committee agendas. The House Ways and Means Committee and the Senate Finance Committees have jurisdiction over tax policy, including the tax deferrals in Section 401 and 457 plans. Tax reform has been under discussion for several years and may be formally considered in the new Congressional term. Because the exclusion of pension contributions and earnings for defined benefit, defined contribution and Individual Retirement Accounts are the second largest tax expenditure in the federal budget, significant tax

reform may impact public retirement plans. The Senate Health, Education, Labor & Pensions Committee and the House Education and the Workforce Committee have jurisdiction over non-tax related features of retirement plans.

**IRS and DOL allow deferred annuities in target date plans.** In October, the Internal Revenue Service (“IRS”) and Department of Labor (“DOL”) released guidance to facilitate the use of deferred annuities within target date funds (“TDFs”) made available through qualified defined contribution (“DC”) retirement plans. IRS Notice 2014–66 encourages the use of income annuities in DC plans as part of its ongoing effort to help retirees receive a reliable stream of retirement income for life. The Notice provides that a plan sponsor making available a TDF that includes a deferred annuity, will not violate Internal Revenue Code (“Code”) nondiscrimination rules because the TDF is solely made available to participants in the TDF target age band. While public retirement plans are exempt from the Code section 401(a)(4) nondiscrimination rules, this regulatory guidance may support the availability of TDFs with deferred annuity features as investment options in public plans.

In a related Information Letter issued to the Department of the Treasury (“Treasury”), the DOL

confirmed that a TDF that includes a deferred annuity is also consistent with rules for Qualified Default Investment Alternatives (“QDIAs”). The Information Letter also confirmed that plan sponsors generally will not be liable for the investment manager’s selection of a TDF’s annuity provider.

**Revised contribution limits.** Each year, the IRS adjusts retirement plan contribution limits based on an inflation index. The IRS has announced revisions to contribution limits. (See Plan Limit tables on Page 8).

### IRS Modifies “One Rollover per Year” Rule for Indirect IRA Rollovers

The Code mandates that within any one-year period, an individual cannot have more than one “indirect” IRA rollover—that is, rollovers where the individual withdraws assets from an IRA and re-deposits it into the same or another IRA within 60 days. Such rollovers generally are tax free. The IRS has traditionally applied this rule separately to each IRA a taxpayer owns, so a taxpayer with several IRAs potentially could make multiple tax-free indirect rollovers each year. In March, the US Tax Court ruled in *Bobrow v. Commissioner* that the “one rollover per year” applies on an aggregate basis across all IRAs owned by a taxpayer. Following this ruling, the IRS released Announcement 2014–15, which said that the IRS will follow the Tax Court’s interpretation for distributions made after December 31, 2014.

In November, the IRS issued Announcement 2014–32, reaffirming that it will follow the aggregated IRA rule for post-2014 distributions, and providing a special transition rule for

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Committee	Chairperson	Ranking Member
Senate Finance	Sen. Orrin Hatch (R-UT)	Sen. Ron Wyden (D-OR)
Senate Health, Education, Labor & Pensions	Sen. Lamar Alexander (R-TN)	Sen. Patty Murray (D-WA)
House Ways and Means	Rep. Paul Ryan (R-WI)	Rep. Sander Levin (D-MI)
House Education and the Workforce	Rep. John Kline (R-MN)	Rep. Bobby Scott (D-VA)

(“Capitol Review” from page 7)

distributions made in 2015. Under the transition rule, an IRA distribution initiated in 2014 and re-deposited in 2015 will not count as a 2015 event. This transition rule applies only if the 2014 and 2015 distributions are from different IRAs and neither IRA made nor received the 2014 rollover distribution.

The “one rollover per year” rule does not apply to trustee-to-trustee transfers (i.e., “direct” rollovers) between IRAs, and it also is not applicable to rollovers (direct or indirect) to or from qualified plans or 457(b) plans.

### Department of Treasury and DOL Release Proposed Regulatory Agenda

Treasury and the DOL recently updated their anticipated regulatory agenda. The following are items on that agenda that may be of particular interest to public retirement plans, with targeted release dates based on the agenda or subsequent indications from the regulatory agencies:

- **Lifetime Income Disclosure on Benefit Statements.** The DOL plans to propose in July a regulation implementing a requirement from the Pension Protection Act that ERISA-governed DC plans provide quarterly benefit statements to plan participants. This proposed regulation also may require plans to provide a lifetime income estimate on benefit statements.
- **Annuity Safe Harbor.** The DOL plans to propose in November

Plan Limits	2014	2015
<b>457 Plans</b>		
Annual Deferral Limit	\$17,500	\$18,000
“Pre-Retirement” Catch-Up Limit	Additional \$17,500	Additional \$18,000
“Age 50” Catch-Up Limit	Additional \$5,500	Additional \$6,000

Plan Limits	2014	2015
<b>401 Plans</b>		
401 Defined Contribution Plans - Annual Additions (§415(c)(1)(A))	\$52,000	\$53,000
401 Defined Benefit Plans - Maximum Annual Benefit* (§415(b)(1)(A))	\$210,000	\$210,000
401 Annual Compensation Limit** (non-grandfather/ grandfather) (§401(a)(17))	\$260,000/ \$385,000	\$265,000/ \$395,000
Annual Deferral Limit for (§401(k) Plans (§402(g))	\$17,500	\$18,000
401(k) “Age 50” Catch-Up Limit	Additional \$5,500	Additional \$6,000

amendments to rules that define the factors a fiduciary should consider when making annuities available as a distribution option from an individual account plan.

- **Target Date Fund Disclosures.** The Securities and Exchange Commission plans to release a new proposal on target date funds in October, and the DOL plans to release a final rule on target date fund disclosures in November.
- **Determination of a Qualified Governmental Plan Sponsor.** Treasury’s agenda continues to reflect a proposed regulation regarding whether a plan is a governmental plan. This follows release of an Advanced Notice

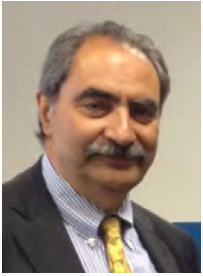
of Proposed Regulations in 2013, which garnered more than 2,000 comments from interested parties and the public. While the official agenda targeted December 2014 for release of the proposal, its release has slipped into 2015.

- **“Pick Up” Contributions.** Treasury plans to release a proposed regulation, targeted for June 2015, on the rules for “pick-up” contributions to retirement plans and on the treatment of certain elections made under “pick-up” arrangements.

While regulators use agendas to guide their workflow, projected releases of new rules frequently are deferred. ■



## Partnerships that enable counties to leap forward with new technologies



Every day, headlines announce yet another new leap in the technology market place. New telecommunications pathways, new applications that convert smart phones into data receivers or sensors sniffing dangerous gases, and new alternative energy sources promising reduced impact on the environment. There is only one problem: hard stressed county budgets cannot keep up with this incessant pace of change. Having bought expensive systems one year, it is hard to make the argument to abandon them a year or two later and make the jump to such more advanced platforms. So the gap between the possible and the practical grows, and county residents, visitors and businesses are not able to move forward at the speed the markets allow.

So what can the thinking county administrator do?

Beyond the “make” strategy, there is a collaborative partnership platform that has been available at least for the last thirty years- that of partnerships with the private sector. Sometimes called PPPs for public-private partnerships, these collaborations allow a hybrid mechanism to take hold, under which the private entity provides the technology, the county provides access to end users and they both share in the risk and reward system in a man-

ner proportionate to each partner’s exposure and investment. Given the speed of technology changes, and the inability of county governments to constantly refresh and replace, it may be time to re-examine the value of PPPs in today’s stressed county budgets.

One perfect example is high speed, broadband networks that many consider indispensable for the economic growth of any region. It is clear that businesses small and large need this infrastructure in order to thrive and be competitive at a global scale. But so do the public safety networks of the county that drive radios, Computer Aided Dispatch and other priority systems. So do the complex traffic light systems that by now have interconnectivity requirements that rival major military systems! So the question of partnering and seeing whether the large capacity of, let’s say, fiber optic strands can serve both public and private purposes. In a potential partnership, it is important for each partner to bring something unique to the table. The private sector could bring the ability to constantly finance and improve the technology infrastructure, while the public sector could bring the Right of Way management ability that only government can provide. Together, a hybrid PPP could indeed power a connectivity solution that could rival any other solution that would be purely public or purely private.

Of course the governance of such an endeavor (some might call it the Orgware”, contrasting it with the

Hardware and Software aspects that are the easy ones!) is very important to get just right. Questions of priority service scheduling, Service Level Agreements and methods to secure the privacy as well as security of each partner’s data streams have to be addressed early and comprehensively. And such discussions have to include three tiers of partner leadership: the political, the management and the technological. Each will have their own agenda, and each must understand the uniqueness of the structure and the importance of overcoming barriers of tradition and “not invented here” reactions. But the end result could be a system that could deliver services at great price points, and refreshed at a pace that public agencies alone cannot match.

This example could be repeated in sectors such as power generation and distribution, in waste management and in WiFi hot spots—any area where the technology changes quickly and where both public and private partners can bring something of a competitive advantage to the partnership. Ultimately, the success of any PPP lies in the ability of the partners to share not only in the investment made, but also in the revenues that may be generated and might accrue to the partnership once expenses have been covered. A fair and honest assessment of the potential, and a strong governance model can lead to great and timely results. ■

*(continued on page 9)*

# FROM YOUR NACO REPRESENTATIVE

by Eugene Smith, NACA Past President, County Manager, Dunn County, Wisconsin



At the December 2014 meeting of the NACO Executive Board, Executive Director Matt Chase provided a new in-depth presentation on the vision, mission, objectives,

programs and services of the National Association of Counties (NACO).

The presentation provides a snapshot of NACO's 2015 priorities while also reflecting on the association's recent advocacy, education, financial services, and training activities. The association's highest imperatives are to:

- Increase membership engagement, especially newly elected county officials
- Drive relevancy of county government in the federal policy arena

- Enhance portfolio of membership benefits and enterprise solutions
- Upgrade Voice of NACO through design, content, work flow and systems

[Click here for the complete presentation.](#) ■

## Local Government Strategies to Address Rising Health Care Costs

by Elizabeth Kellar, President & CEO, Center for State & Local Government Excellence



Although increases in health care costs have slowed recently, the continued rise in health care costs over the last decade has prompted

many local governments to make changes to their plans and strategies. A nationwide survey, developed by the Center for State and Local Government Excellence (SLGE) with the International Public Management Association for Human Resources (IPMA-HR) and conducted in the summer of 2014, found that:

- Most local governments have seen their health care costs for employees and retirees increase moderately (between 6 and 15 percent)

over the past five years. Increased claim and prescription drug costs, an aging workforce, insurance company price increases, and federal health care policy were cited as the key reasons for increases.

- Increased cost sharing of premiums paid by employees (57 percent), wellness programs and increased deductibles paid by employees (53 percent) were the top strategies adopted by local governments. Wellness programs that provide incentives and include a health assessment to identify health risks have shown good results.
- Nearly half of the respondents reported that their local governments have changed the way health insurance is provided: 19 percent of those reporting changes shifted employees to a high-deductible plan with a health savings account; 14 percent established a health reimbursement arrangement; and 12 percent shifted from a fully-

insured plan to a self-funded plan.

- Retiree health benefits have changed, especially for new hires: 10 percent report that retiree health benefits for dependents were eliminated; 8 percent increased the years to vest in retiree health benefits; and 7 percent shifted from a defined benefit to a defined contribution plan for retirees. Jackson County, Michigan, introduced a retiree health savings account for new employees to replace the defined benefit retiree health plan for retirees. This made it possible for the county to offer retiree health benefits to more employees while decreasing the average lifetime cost for retiree health coverage from \$500,000 to approximately \$50,000 per employee.

[Download the full report from the Center for State & Local Government Excellence.](#) ■

# ICMA Honorary Member Dr. Charldean Newell Dies at 75

by Amanda Relyea, Director of Professional Development, ICMA



Charldean Newell, Ph.D.; 1940-2015

Charldean Newell, Ph.D., regents professor emerita of public administration, University of North Texas, and honorary member of ICMA, passed away on Saturday, November 22, 2014.

Newell's many contributions to ICMA include editing *The Effective Local Government Manager (ELGM) and Managing Local Government: Cases in Effectiveness*; teaching ELGM for the [Emerging Leaders Development Program](#) since 2005 and for the [Mid-Career Managers Institute](#) since 2012, serving in one of two academic spots on the ICMA Voluntary Credentialing Advisory Board since [the program's](#)

inception in 2001, serving on the ICMA University Board of Regents 1994-1999, teaching the Essential Management Skills certificate program in 2000, writing for ICMA publications, and donating to the [ICMA Fund for Professional Management](#). Newell was instrumental in the development of the [ICMA University](#) and the ICMA Voluntary Credentialing Program. She provided key concepts and astutely articulated the role of continuous improvement, learning, and skill development in professional local government management. After the Voluntary Credentialing Program began accepting applications in 2001, Newell engaged in many thoughtful policy discussions to improve the program, and she tirelessly reviewed applications and annual reports for 13 years along with her local government colleagues on the Credentialing Advisory Board. Friends described her as "a force of nature" and a "great contributor with a lovely sense of humor."

Newell graduated with bachelor's and master's degrees from the University of North Texas and received a Ph.D. in government from the University of Texas at Austin in 1968. In addition to working for the University of North Texas for 37 years until her retirement in 2002, Newell coauthored four books, wrote many journal articles and chapters in anthologies, served as chair of the standards committee for the Network of Schools of

Public Policy, Affairs, and Administration (NASPAA), and as an elected member of the National Academy of Public Administration (NAPA).

A memorial service was held in Denton, Texas on Saturday, December 6, 2014. Donations in honor of Charldean can be made to one of her favorite charities (Denton Humane Society, Our Daily Bread, or the Denton Christian Preschool); any charity that helps people or animals; or St. Barnabs Episcopal Church.

"Charldean, as a charter member of the Credentialing Advisory Board, helped bring instant credibility to the Voluntary Credentialing Program. She always labored for the betterment of the profession, was widely respected, and was tough minded in the application of the highest standards. She will be sorely missed, both as a friend and a colleague."

G. Curtis Branscome, ICMA  
Credentialing Advisory Board Chair  
and former ICMA President

"Our dear, exemplary friend and leading professional, Charldean Newell, was my brilliantly and high performing student in the 1960s, and she has been a treasured colleague ever since. Like beloved children, students should outlive their old teachers."

Dr. Chester A. Newland, ICMA  
Credentialing Advisory Board Member  
and Duggan Distinguished Professor  
Emeritus of Public Administration,  
University of Southern California. ■



## NACA Events at 2015 NACo Legislative Conference

Once again, NACA will host several events during the upcoming NACo Legislative Conference in Washington, D.C. The NACA Executive Board will meet on Saturday, February 21, and the General Membership and Idea Exchange will be held on Sunday,

February 22. NACA will once again cosponsor [educational sessions](#) during the conference.

On Sunday evening, February 22, all are invited to the NACA reception sponsored by ICMA-RC. ■



### Schedule Of NACA Events At The 2015 NACo Legislative Conference

EVENT	DATE	TIME	LOCATION
<b>Executive Board Meeting</b>	Saturday, February 21	3:00pm to 5:00pm	Marriott Wardman Park: Tyler Room / Mezzanine Level
<b>Mobile Workshop to Loudoun County</b>	Sunday, February 22	8:30am to 3:00pm	By advance reservation.
<b>General Membership Meeting &amp; Idea Exchange</b>	Sunday, February 22	3:30pm to 5:00pm	Marriott Wardman Park: Lincoln 2 (Exhibition Level)
<b>Reception sponsored by ICMA-RC</b>	Sunday, February 22	5:30pm to 6:30pm	Marriott Wardman Park: Coolidge Room / Mezzanine Level
<b>No Host Dinner</b>	Sunday, February 22	7pm	Washington D.C. TBD—Cleveland Park / Woodley Park area
<b>Past Presidents' Breakfast</b>	Monday, February 23	7:30am (tentative)	Marriott Wardman Park: Location TBD by President Reece

### WITH SINCERE APPRECIATION TO THE FRIENDS OF NACA



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