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"A KNOWLEDGE COMMUNITY FOR THE SOCIETY OF ACTUARIES"

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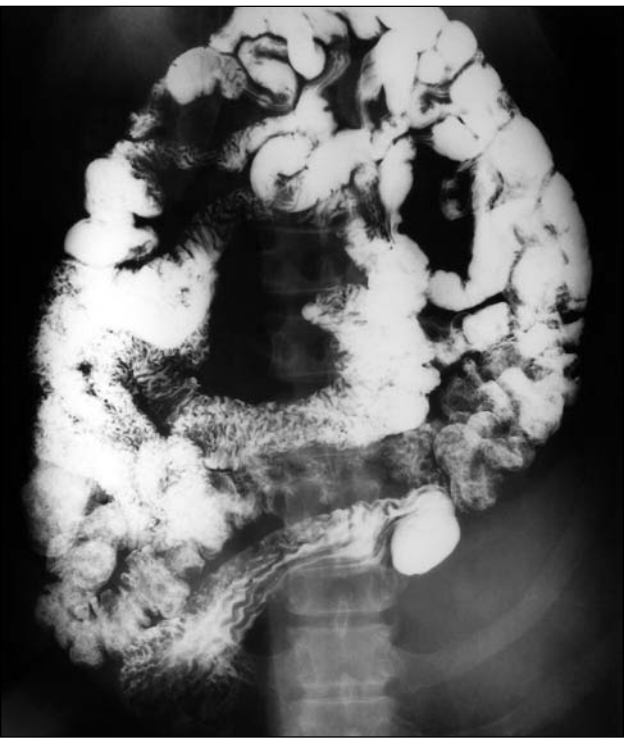
Long-Term Care News

2006 SOA LTC Conference Talk: White Matter Lesions

by Robert Watson, M.D.



The abnormalities we now call white matter lesions (WML) were initially identified in people's brains approximately 25 years ago with the advent of CT scanning. At the time they were called "leukoaraiosis," which means low density of white matter, because that was their appearance on a CT scan. When MRIs became the dominant mode of brain scanning, several new descriptive terms for them emerged, including "white matter hyperintensities" and "unidentified bright objects" (UBOs), both of which refer to the fact that the T2 spin portion of the scan makes the lesions look whiter than normally myelinated tissue, despite the fact that the areas themselves are actually demyelinated on direct pathological inspection.

The major reason for our interest in WML from an LTC perspective is that their presence is associated with an increased risk of stroke and dementia.

What WML Are

The natural starting point for a discussion of white matter lesions is the white matter, which lies beneath the gray matter of the cortex or outer layer of brain tissue. It is white because it is made up largely of neurons covered with myelin that are transmitting signals from the cells of the gray matter.

If you look at a white matter lesion under the microscope, you see loss of myelin and glial rarefaction, or a decrease in the supporting structure cells in that part of the brain.

It appears less white than surrounding tissue to the naked eye, even though it looks whiter on the T2 spin images of a brain MRI. WML look different from strokes on an MRI and also look different under the microscope, in that strokes appear as

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Fax: 847-706-3599
Web: *www.soa.org*

This newsletter is free to section members. To join the section, SOA members and non-members can locate a membership form on the LTCI Web page at *www.soaltci.org*. Back issues of section newsletters have been placed in the SOA library and on the SOA Web site (*www.soa.org*).

Brad S. Linder, Co-Editor
A&H Valuation Actuary
GE
41 Woodford Avenue
Building 5-2
Plainville, CT 06062
Phone: (860) 793-5931
Fax: (860) 793-5918
E-mail: *Brad.Linder@GE.com*

Bruce Stahl, Co-Editor
146 Lakeview Drive • Suite 203
Gibbsboro, N.J. 08026
Phone: (856) 566-1002
Fax: (856) 566-5165
E-mail: *BASActuary@cs.com*

Joe Adduci, DTP Coordinator
Phone: (847) 706-3548
Fax: (847) 706-3599
E-mail: *jadduci@soa.org*

O'Shea Gamble, Project Support Specialist
E-mail: *ogamble@soa.org*

Meg Weber, Director, Section Services
E-mail: *mweber@soa.org*

A Word from the Editor

Autumn is Almost Here!

by Bruce Stahl

Co-editor
Bruce Stahl

The time of year has arrived when many of us try to complete our objectives for the current year. The autumn harvest is almost in, and we are already planning new objectives for the next year. Therefore, it may be helpful to consider the trends in LTC insurance in 2006, with eager anticipation of 2007. To this end, we included a summary of the 2006 Tillinghast LTCI Survey, and we provided a reminder of what we heard at the 2006 SOA LTC Section conference. The SOA LTC Section Counsel asked individuals representing five of the session tracks to summarize what they covered in the 2006 conference. In case you are looking for something to exercise the brain cells, we included the details of Dr. Robert Watson's presentation on White Matter Lesions and how their presence in various degrees relates to cognitive health and cognitive decline. The counsel hopes these brief articles will remind you to enroll in the 2007 conference. ❋

LTC Newsletter Publication Schedule

Publication Month	Articles Due
December 2006	October 1, 2006
March 2007	January 2, 2007
August 2007	June 1, 2007

2006 Tillinghast Long-Term Care Insurance Survey Results

by Steve Pummer, Dan Cathcart and Claude Thau

Results of the 2006 Tillinghast Individual Long Term Care Insurance Survey were recently published in the July issue of *Broker World* magazine. We found that many characteristics of LTCI sales are experiencing a shift. On average, issue ages are becoming younger, benefit periods are becoming shorter, elimination periods are becoming longer and inflation protection is becoming less common.

For instance, in 2005 the average age for new sales was 58.6. This is a significant decrease from 2004 when it was 61.3. We also found that the distribution of sales increased from 2004 to 2005 for each five-year age band below age 65, while it decreased for each five-year age band 65 and above.

Digging deeper, we found that the youngest age group had the largest percentage increase in sales and that the percentage change steadily decreased for each higher age group. Despite younger purchasers experiencing large price increases, the distribution of sales shifted significantly toward the younger ages.

As for inflation protection, we found that the prevalence of level premium 5 percent compound benefit increases dropped from 46.9 percent of new policies issued in 2004 to 42.2 percent in 2005. As might be expected, this resulted in a shift towards policies with no benefit increase feature (up from 17.5 percent of sales to 18.9 percent of sales) and to future purchase options (up from 12.2 percent of sales to 14.4 percent of sales).

It is interesting that although in the past strong benefit increase features were more likely to be purchased by younger people than by seniors, these features have become less common even though the age distribution has become younger. We believe that the drop in the propensity to purchase benefit increases is due to the additional premium (as a percentage of the base premium) required for benefit increase features rising more at younger issue ages.

For more details regarding the survey results and a complimentary reprint of our *Broker World* article, we encourage members of the LTCI Section to contact any of the three survey authors listed in the sidebar to the left. ❋

Steven J. Pummer, FSA, MAAA, is a consulting actuary with Tillinghast Towers Perrin in St. Louis, Mo. He can be reached at *steve.pummer@towersperrin.com* or at (314) 719-5974.

Daniel B. Cathart, ASA, MAAA, is a consulting actuary with Tillinghast Towers Perrin in Hartford, Conn. He can be reached at *dan. cathcart@towersperrin.com* or at (860) 843-7069.

Claude Thau, FSA, MAAA, is president of Thau, Inc. in Overland Park, Kan. He can be reached at *cthau@targetins.com* or at (913) 403-5824.

scar tissue or, in some cases, an actual hole in white or gray matter.

What Causes Them

The generally accepted cause of the demyelination is ischemia due to decreased blood flow in the small arterioles, which, in turn, is caused by hyaline thickening of the walls of the arterioles. The larger question is why this damage occurs in some people's brains but not in others.

All studies done on WML causation have found two major correlates: hypertension and aging. Both the likelihood & severity of WML correlate not only with whether hypertension is present, but how long it has been present and how well it is controlled. For example, the Atherosclerosis Risk in Communities (ARIC) study, which is one of the few high quality studies that has been done on WML, has found that people aged 55-72 with well-controlled hypertension have about twice the incidence of severe WML as people without hypertension. Meanwhile, people with uncontrolled hypertension have about triple the incidence.

Age is an even stronger correlate than hypertension with regard to both the presence and severity of WML.

Age is an even stronger correlate than hypertension with regard to both the presence and severity of WML. For people with no hypertension, the prevalence of severe WML increases with each decade, such that after the age of 80, nearly half of all people have severe WML. Meanwhile, about half of all normotensives have at least mild WML on their MRIs, which is basically the same as for people with well-controlled hypertension.

Simply saying that age is the dominant cause of WML is not a completely satisfying explanation, given that people develop different degrees of them at different ages. There are other lesser factors that show some correlation such as APOE4 status, and chronic hypoxemia, but there are other factors yet to be worked out and these almost certainly include genetic susceptibility factors.

Curiously, unlike the case with atherosclerotic cerebrovascular disease, the role of the other recognized cardiovascular risk in WML development is surprisingly limited. Diabetes and hyperlipidemia play no part. The role of smoking is a bit controversial: findings vary from one study to another, and depending on the study, it either does cause WML, but only in African Americans; it doesn't cause, but just worsens WML once it is already present; or no, smoking has no effect.

The Importance of WML Severity and Location

For gauging WML severity, the most commonly used grading system is a system that starts at zero for no white matter lesions and then grades up to 9, the most severe level. Each successive grade is oriented to the severity of the lesions in both the subcortical and periventricular areas. Thus, grade 1 WML means there is no continuous lesion rim around the ventricles AND the subcortical lesions are dots. Grade 2 is the next step up with a continuous periventricular rim plus patches of WML as opposed to dots. The grades increase until by grade 8, in which the lesions come pretty close to involving pretty much the entire white matter of the brain, then grade 9 is even worse than that.

The Rotterdam variation of this system recognizes the fact that periventricular lesions have special risk implications independent from subcortical WML severity and therefore grades the periventricular and subcortical lesion severity separately.

For underwriting risk assessment purposes, it is more practical to think in terms of mild, moderate and severe WML, in part because that is how a radiologist would normally present the grade in a report. In such a system, grade 1 with its subcortical dots translates as mild; grade 2 with its subcortical patches and a thin rim translates a moderate; and everything else is severe.

WML and Stroke Risk

The Cardiovascular Health study examined the relation of WML grade with annual clinical stroke risk in the elderly. It found that severe WML—defined as anything grade 3 and up—predicts a 2.4 to 3.7- fold risk of stroke compared to mild or no WML, independent of other factors.

The Rotterdam Scan Study took their analysis a step further and discovered that it is the severity of the periventricular lesions that is the main correlate of stroke risk. You can actually have a heavy burden of subcortical dots and patches with a less than a 50-percent increase in stroke risk if you don't have periventricular lesions.

It is also important to note that presence of both severe WML and a silent stroke on an MRI are strong predictors that present basically additive risks for a future stroke.

WML & Dementia Risk

WML is a manifestation of small vessel disease of the brain, and small vessel disease is both implicated in vascular dementia and known to amplify the pathologic changes of Alzheimer's disease. It makes sense that presence of severe WML would represent an increased risk of dementia. The most interesting thing about that though is that it is mainly the presence of severe periventricular WML that is the big risk.

The Rotterdam study did demonstrate a two-fold risk for severe subcortical lesions—the dots and patches—as well, but this did not reach statistical significance. In contrast, in people with severe periventricular lesions, not only is cognitive decline much more likely, but it also progresses faster.

Not just the presence of WML also evidence of its worsening on successive MRIs correlates with a greater likelihood of cognitive decline.

The presence of both WML and cortical atrophy predict a higher likelihood of cognitive decline following a stroke. In fact both seem to be more predictive than the size of the stroke.

WML & Migraines

Definitive studies have yet to be done to help sort out the true association of migraine as a risk for WML. One of the problems is that mild WML are so common in people both with and without migraines that it is hard to tease out a true relationship with regard to severe WML. One reasonably well-done study has found that severe subcortical WML were somewhat more frequent in women with migraines but not men. And they were somewhat more frequent in women with high-frequency migraines.

In any event, to the extent WML may be caused or exacerbated by a migraine hx, there is no good evidence that they increase stroke or cognitive impairment risk We need better studies to sort this all out.

It is also noteworthy to mention that small, silent posterior strokes are more common with migraines, especially in people who have auras.

Underwriting WML

An optimal rating system for LTC risk considers all of the following: overall severity periventricular lesion severity, associated symptomatology, age, hypertension presence and control, coexistent lacunar or other infarct(s), cerebral atrophy presence and severity, and WML stability.

In general, the finding of mild WML is not a concern.

Moderate WML are not a concern if an isolated problem at older ages, especially if it's just some subcortical patches. However, it is more of a rating concern in younger ages, especially if there's moderate periventricular rim involvement, and/or progressive or combined with hypertension not well controlled and/or if combined with moderate or worse cerebral atrophy and/or lacunar or other infracts.

Severe WML is a major risk concern at younger ages and can also be a major concern at older ages, especially if it is periventricular and/or progressive or combined with hypertension not under excellent control and/or combined with moderate to severe cerebral atrophy or with stroke(s). ❋

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Long-Term Care Insurance Section Tracks

Actuarial Track: LTC Section August 2006 Newsletter

by James Berger

The Actuarial Track hosted six informative sessions, focusing on valuation issues, futuristic scenarios, LTCI value and compensation. Attendees of the first three track sessions learned from industry leaders about reserving for LTCI claims, GAAP topics and sources of earnings analyses for LTCI.

These sessions were followed by consideration of what might happen to the LTCI marketplace under scenarios of government policy change, economic environment, etc. The next session involved a marketing perspective in determining the value of LTCI to a prospective client. The final session was aimed at the field force and their interest in calculating the value of their future compensation and how they might sell this future earnings stream.

The varied topics added to the actuarial literature for LTCI and gave an actuarial slant to topics that are not standard actuarial fare.

James Berger can be reached at *James.Berger@ge.com.*

Compliance Track

by Karen Smyth

This session focused on using the LIMRA CAP process and the IMSA Assessment process in the long-term care insurance industry to measure the effectiveness of compliance efforts. CAP is now an industry standard to benchmark customer satisfaction and understanding after the time of purchase. The main areas of concentration of an IMSA Assessment are suitability, training, licensing, replacements and customer complaints. These tools can allow your company to establish the trust and confidence with consumers as more and more people begin to explore the LTCI market.

The legislative and regulatory happenings session covered proposed NAIC model updates, progress on the interstate compact and partnership expansion. The most likely issues to be addressed by the NAIC are enhanced producer training and continuing education requirements; notification to policyholders about the availability of new services and providers; notification to policyholders about the ability to downgrade coverage; and the issue of accessing benefits across state lines. Twenty states have adopted the interstate compact; it is projected the compact is one to two years from becoming operational. Regarding partnership expansion, states who wish to participate need to file a Medicaid plan amendment with HHS, make a decision about reciprocity and do reporting to HHS on an ongoing basis. HHS needs to approve the Medicaid plan amendments; develop reporting requirements and reciprocity standards; establish the LTC clearinghouse and annually report to Congress.

The class actions vaccination session offered carriers valuable advice to prevent class action lawsuits. This spanned the fundamentals of executing the basics right, acting in a timely manner and effective communications both within your organization and with your policyholders—to tackling small problems sooner and keeping up-to-date with the changing regulatory landscape—to conducting periodic class actions audits of your own organization.

The final session set out to explore how we arrived at our present position, the positives and negatives of our current product offerings and what we can do to take this product to the next level. Panelists explored early product development and the effects of the regulatory mandates imposed by the NAIC models and HIPAA. From there, the discussion turned to the agents' perspective and also focused on

what the consumer is looking for in an LTCI product. The focus then shifted to the pros and cons of current product pricing and design. The session concluded with a lively and informative interactive discussion of a "pie in the sky" product, with attendees sharing their thoughts and ideas on how to move our industry forward.

Karen Smyth can be reached at *karen.smyth@prudential.com.*

Operations Track

by Loretta Jacobs

At this year's conference, the Operations Track had four sessions geared specifically to issues facing long-term care insurance operations professionals. One session discussed the pros and cons of outsourcing operations to a third party and addressed the business issues involved in an outsourcing arrangement from both the insurance carrier's and third party administrator's perspective. Another session discussed the benefits of quality improvement and audit programs to an operations organization as well as covering the current state of the industry's operational capabilities as demonstrated by the responses to the 2nd Annual SOA Operations Survey. A third session discussed new developments in technology for long-term care operations, including Web and call center capabilities as well as claimant support tools. The final session discussed the Universal Accord application and its place in a fully efficient LTC insurance operation. There has been a long-term care forms working group established, and the group is reviewing all forms utilized in the LTCI industry. Anyone interested in contributing to this effort is welcome.

Loretta Jacobs can be reached at *loretta.jacobs@cna.com.*

Policy and Providers Track

by Steven Chies

Medicaid Commission Panel:

The panel participants engaged in a lively discussion on the recommendations of the Congressionally mandated Medicaid Commission. Several of the recommendations of the Commission have made it into law in the recently passed Deficit Reduction Act of 2005 (DRA), including a five-year transaction look back. As the DRA has been litigated by at least three separate lawsuits since passage in February 2006, it is uncertain if the provisions will be enacted. The Medicaid Commission is expected to meet again in May 2006 to review specific recommendations regarding long-term care services, which may have an impact on long-term care insurance.

Alternatives to Institutional Care Settings:
The panel participants reviewed the emerging changes to long-term care services around the country. From changes in technology in caring to home and community based care settings, the group agreed the traditional institutional care will remain a significant part of the care delivery

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system, but non-institutional care settings will be in a growth mode for the next several years. Margaret Wylde of Promatura presented an extensive review of current consumer expectations, based on extensive research. Gregg Gurik of Northwestern Mutual Life, discussed how carriers might consider pricing and managing non-traditional care settings. David Kyllo of the National Center for Assisted Living reviewed current trends in assisted living providers. Carol Wright of CHCS Services detailed how clients are being served and the demands they are placing on policy language.

Steven Chies can be reached at *steve.chies@bhshealth.org*.

Group Track Sessions

by Roger Gagne

The five group track sessions at the 2006 Intercompany LTCI Conference Group Track covered a wide range of topics.

In one session, a panel of experts considered how group and multilife products can co-exist. Often in today's marketplace, true group products find themselves competing head-to-head with group-like products, going by a number of names. During their discussion, the panel sorted out what products are out there, and suggested how these products can co-exist in ways that make sense for insurers and their customers.

Group LTCI is affected in unique ways by the ever-changing legislative environment. At the Federal level, there are Congressional employment and retirement proposals, as well as proposals to expand Medicare. In a second group track session, the audience was brought up-to-date on what is happening, what proposals are now on the table that could affect GLTCI, and how group carriers can adapt if they are enacted.

A unique aspect of group insurance is the opportunity to grow the size of the group in the years following issue. During a third session, we examined how to achieve profitable growth while building a successful, long-term relationship with our clients. Real case studies were used to demonstrate what strategies have been successful, and how to avoid failure.

Rate increases on in-force business have been made by several individual LTCI carriers, but we have seen little or no such increases in group LTCI. At this fourth session, an interactive forum was used to engage the audience in a discussion of why this is so. Among the questions considered were: Are there differences in the group product itself, or in the type of group benefits typically sold, that can explain the lack of increases? Will we be seeing GLTCI rate increases in the future?

One reason sometimes offered to explain the relatively low participation rates seen in the GLTCI marketplace is that the product is too complex, and does not fully meet the needs of employers and employees. In this fifth session, we considered suggestions on how GLTCI products can evolve to better meet these needs. Both the panel and the audience were challenged to create innovative new designs for the future.

Roger Gagne can be reached at *rgagne@jhancock.com.* ❋