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Very few of us learn anything about the financial aspects of running a business while we are in school. Perhaps the educational institutions don't feel that it is their job – after all, there is so much technical and clinical information to learn, along with the requirements of the various regulatory bodies that needs to be conveyed to the student. With this in mind, if I were designing an audiology educational program at a university, I would probably not have anything about finances either. Yet, many a clinic has had difficulty establishing itself simply because of cost overruns and lack of awareness of the elements of a balance sheet. This issue of the *Canadian Hearing Report* focuses on this issue as well as some of the financial trends in this industry.

The industry is changing, but is this a new thing? I believe that industry watchers of the 1970s would have said the same things about industry trends. Amazingly though, there are very few differences in our industry between the 1970s and today. In the 1970s, large retail networks were owned by hearing aid manufacturers; the same can be said of today. In the 1970s, hearing aids were often sold door to door, bypassing the hearing health care professional; the same can be said today with Internet sales.

While most jurisdictions have laws limiting hearing aid sales through the Internet, it is really only a matter of marketing. Personal Sound Amplification Products (PSAP) is the phrase used for devices that are offered as a "one size fits all" approach for personal hearing. Nowhere does it mention anything about hearing loss. PSAPs can help you hear people in the next room or help you hear the crackling of leaves while hunting in a forest. The latest incarnation of this is from United Health Care, but I suspect that this will be the first of many. The same product, if sold by a hearing aid manufacturer would be subject to the limitations of Internet sales, yet it is the "same product."

However, door to door salesmen of the 1970s went the way of the dinosaur because gradually professional services and assessment became more widely available. It was the lack of professionals in the 1970s and earlier that fostered this behaviour. Will the Internet sales approach blow over? Probably not, but then again, we can do what we did in the 1980s and onwards – enhance professional services with proper assessment, counselling, and follow-up.

And this brings me to "bundling." Bundling of our services and the products being dispensed has some advantages: "one bottom-line dollar value for everything" included (devices, fitting, any follow-up, batteries, …). The downside is that there is "one bottom-line dollar value for everything." What if someone purchases a hearing aid… sorry,… I meant a PSAP from the Internet and wants to pay extra to have it set up by an audiologist. Some will say no, but others may be more amenable to providing the services. Unbundling the package means that an exact price can be established to program, adjust, and do follow-up for these people. Just something to think about. Actually, quite a bit to think about!

Turning our attention back to finances, when I was still quite young, for a bed time story, my father would always tell me four things – the law of 72; don't go short if you can't afford to lose your money; remember the benefits of compound interest; and borrow to invest. These were great bedtime stories and I use each of these four rules in everyday life. They are common sense and give structure to the seemingly amorphous field of finances. The theme of this issue is the intersection between finances and audiology.

This issue has several articles – two of which have been previously reprinted in the Canadian Hearing Report. When the authors (Traynor and Glaser) graciously agreed to have them reprinted they wondered if they needed updating, but after examination they found that the articles had material that was timeless. Ian Po and Prashant Patel are from the financial sector and have written a beautifully clear and concise overview of estate planning issues and how best to protect your investment for your later years and how to make sure that your children all drive Porches (hybrid ones of course)…

I'm sure that the articles in this issue will stimulate some interesting discussion. We do have a Letters to the Editor section, and as always, we welcome your comments.

Marshall Chasin, AuD,
Editor-in-Chief

Canadian Hearing Report 2011;6(6):3.

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PEOPLE FIRST

Rares parmi nous sont ceux qui avons appris les aspects financiers d'administrer une affaire au cours de nos études. Peut-être les institutions d'éducation estiment que ce n'était pas leur responsabilité, la priorité est donnée aux informations techniques et cliniques à apprendre, aux exigences des divers corps de règlementation qui doivent toutes être acheminées à l'étudiant. Maintenant, si je suis en train de concevoir un programme de formation en audiologie à l'université, je n'aurai probablement rien sur les finances non plus. Mais plusieurs cliniques ont eu de la difficulté à s'établir simplement pour des raisons de dépassements de couts et par manque de connaissance des éléments d'un bilan. Ce numéro de *la revue canadienne d'audition* est centré sur cet enjeu et aussi autour de quelques tendances financières dans cette industrie.

Cette industrie est en changement, mais est-ce nouveau? Je crois que les observateurs de l'industrie des années 70 auraient dit la même chose sur les tendances de l'industrie. Tout aussi extraordinaire, notre industrie aujourd'hui est peu différente de celle des années 70. Dans les années 70, les grands réseaux de détaillants étaient la propriété des fabricants des appareils auditifs; on peut dire la même chose pour aujourd`hui. Durant les années 70, les appareils auditifs étaient souvent vendus porte à porte, contournant les professionnels des soins de santé auditifs; pareil aujourd`hui avec les ventes sur internet.

Tandis que la plupart des juridictions ont des lois limitant la vente des appareils auditifs sur internet, c'est vraiment seulement une question de marketing. Les produits personnels d'amplification des sons est la phrase utilisée pour les outils qui sont offerts sous forme uniformisée pour les appareils auditifs. Nulle part n'est-il mention de la perte auditive. Les produits personnels d'amplification des sons peuvent vous aider à entendre les conversations dans la salle d'à-côté ou à entendre les craquements des branches pendant que vous chassez en forêt. La dernière incarnation de ceci nous vient des United Health Care, mais je soupçonne que ce sera le début de plusieurs. Le même produit, si vendu par un fabricant des appareils auditifs serait sujet aux limitations des ventes sur internet, et c'est le " même produit."

Toutefois, le vendeur porte à porte des années 70 a effectué la marche des dinosaures car graduellement, les services et évaluations professionnels sont devenus largement disponibles. C`est le manque de professionnels dans les années 70 et avant qui a nourrit ce comportement. Est-ce que l'approche vente sur internet va exploser? Probablement non, mais alors encore, on peut faire ce que nous avons fait dans les années 80 et plus tard, rehausser les services professionnels avec une évaluation adéquate, du counseling et le suivi.

Ce qui m'amène au " groupage". Le groupage de nos services et des produits offerts a certains avantages: "un bénéfice net en dollars pour tout" y compris (appareils, ajustements, tout suivi, batteries,…). Le risque est " tout a un bénéfice net en dollars." Et si quelqu'un achète un appareil auditif …désolé,…je voulais dire un produit personnel d'amplification des sons sur internet et veuille payer un extra pour que ça soit monté par un audiologiste. Certains diront non, mais autres peuvent être plus aptes à fournir les services. Dégrouper le paquet veut dire qu`un prix exact peut être établi pour programmer, ajuster et faire des suivis pour ces gens. Matière à réflexion. En fait, beaucoup de réflexion!

Revenons aux finances, quand j'étais plus jeune, pour histoire de chevet, mon père me disait toujours 4 choses, La règle de 72; ne vend pas à découvert si tu ne peux pas te permettre de perdre ton argent; rappelle-toi les avantages des intérêts composés; et emprunte pour investir. Ce sont de superbes histoires de chevet et j'utilise chacune de ces quatres règles au quotidien. Elles sont le bon sens et donne une structure au domaine apparemment amorphe des finances. Le thème de ce numéro est l'intersection entre les finances et l'audiologie.

Ce numéro a plusieurs articles, dont deux qui ont été déjà réimprimés dans la revue canadienne d'audition. Quand les auteurs (Traynor and Glaser) ont bien voulu nous permettre la réimpression des articles, ils ont pensé qu'ils avaient peut-être besoin d'une mise à jour, mais après examen, ils ont décidé que les articles ont du matériel qui est à l'épreuve du temps. Ian Po et Prashant Patel du secteur des services financiers ont rédigé une vue d'ensemble, bien claire et concise sur les enjeux de la planification successorale et les façons de mieux protéger votre investissement pour les années à venir et de s'assurer que tous vos enfants conduisent des porches (des hybrides bien sûr)…

Je suis sûr que les articles de ce numéro vont stimuler certaines discussions intéressantes. Nous avons la section Lettres à l'éditeur, et comme toujours, vos commentaires sont les bienvenus.

Marshall Chasin, AuD,
Éditeur en chef

Canadian Hearing Report 2011;6(6):3

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The Diminishing of ADA by the Courts

By Fred Cohen

This was from a recent blog by Fred Cohen, LLB, LLM, JD, an American lawyer. This appeared in www.hearinghealthmatters.org which is regularly reviewed in the *Canadian Hearing Report* by Calvin Staples (see page 16). Although this blog is about the American disability act, it has relevance for how these acts may be implemented and re-interpreted in Canada.

–Editor

Chai Feldblum was one of the original lawyers involved in drafting and negotiating the ADA. In a recent article she and two colleagues express their grave disappointment with the judicial limits imposed on the ADA.[1] Professor Feldblum provides some compelling examples of real-life impacts flowing from the Supreme Court's ruling on mitigating measures. The analogical relevance to http://hearinghealthmatters.org/lawandhearing/2011/hearing-aids-police-ada/ our NYC police should be apparent.

- Stephen Orr, a pharmacist in Nebraska, was fired from his job at Wal-Mart because he needed to take a half-hour uninterrupted lunch break to manage his diabetes. When Mr. Orr challenged his firing under the ADA, Wal-Mart argued that since Mr. Orr did so well managing his diabetes with insulin and diet, he was not "disabled" under the ADA. The courts agreed. Although Wal-Mart considered Mr. Orr "too disabled" to work for Wal-Mart, he was not disabled "enough" to challenge his firing under the ADA.

- James Todd, a shelf-stocking clerk at a sporting goods store in Texas, was fired from his job a few months after experiencing a seizure at work. Mr. Todd challenged his firing under the ADA, but the district court (i.e., trial court) never reached the question of whether Mr. Todd had been fired because of his epilepsy. Instead, the court concluded that since Mr. Todd's epilepsy was otherwise well-managed with anti-seizure medication, he was not disabled "enough" to challenge his firing under the ADA.

- Allen Epstein, the CEO of an insurance brokerage firm, was demoted from his job after being hospitalized because of heart disease. He was later fired shortly after telling his employer he had diabetes. Mr. Epstein brought a claim under the ADA, alleging that his employer had discriminated against him because of disability. The court held that because his heart disease and diabetes were well-managed with medication, he was not disabled "enough" to challenge his firing under the ADA.

- Michael Schriner, a salesperson who developed major depression and PTSD after discovering that his minor children had been abused, was fired from his job for failing to attend a training session. Believing he was fired because of his depression and PTSD, Mr. Schriner brought a claim under the ADA. The court never addressed whether his disability was the reason he was fired. Instead, that court concluded that because Mr. Schriner did so well managing his condition with medication, he was not disabled "enough" to be protected by the ADA.

- Michael McMullin, a career law enforcement officer from Wyoming, was fired from his job as a court security officer because an examining physician determined that his clinical depression and use of medication disqualified him from his job. When Mr. McMullin challenged his firing under the ADA, his employer argued that Mr. McMullin was not "disabled" under the ADA because he had successfully managed his condition with medication for over 15 years.

The court agreed. Even though Mr. McMullin's employer had fired him because of his use of medication, the court ruled that he was not disabled "enough" to challenge the discrimination under the ADA. According to the court, "[t]his is one of the rare, but not unheard of, cases in which many of the plaintiff's claims are favoured by equity, but foreclosed by the law."

- Ruth Eckhaus, a railroad employee who uses a hearing aid, was fired by her employer who told her that he "could not hire someone with a hearing aid because [the employer] had no way of knowing if she would remember to bring her hearing aid to work." Ms. Eckhaus brought a claim under the ADA, alleging that she was discriminated against based on her hearing impairment. The court concluded that since her hearing aid helped correct her hearing impairment, Ms. Eckhaus was not disabled "enough" to challenge discrimination based on that impairment.[2]

Should Congress accept this as the governing law today? Since these are not constitutionally-based rulings, Congress is free to change the language of ADA to reflect its intent and, in effect, reverse both the Supreme Court and the lower federal court's interpretation of ADA.

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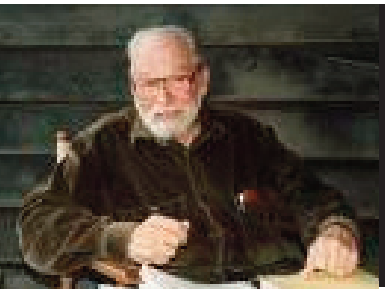
Canadian Hearing Report 2011;6(6):9-10.



Edgar Villchur, 1917–2011

Following in Ed Villchur's Footsteps: A Reminiscence

By James M. Kates, GN ReSound A/S and University of Colorado, Department of Speech Language and Hearing Sciences, Boulder, CO, USA

Ed Villchur died on 17 October 2011. The obituary in the *New York Times* spent many paragraphs on his achievements in loud-speaker design and the success of the audio company he founded, Acoustic Research (AR). Also mentioned, but given much less attention, was his work in developing multi-channel dynamic-range compression for hearing aids.

I didn't know Ed (Eddie to his close friends) very well, but he had an important influence on my life just the same. One of my first jobs was at AR. By the time I joined AR in the mid 70s, Ed had sold the company to Teledyne and had retired to upstate New York. AR was still a force in audio equipment, however, with a product line that included loudspeakers, the AR turntable, and a stereo receiver.

My first assignment at AR was to redesign the turntable. The turntable used an ingenious inverted pendulum design, invented by Ed. The tonearm and platter were mounted to a T-shaped bar which was suspended from the deck by three springs. The relative positions of the tonearm and platter were fixed by the T-bar, and the whole assembly was isolated from external vibrations by the springs.

The old advertisements for the turntable showed someone hitting its deck with a hammer, and the system was very well isolated from such vertical shocks. But imagine placing the turntable in a stereo equipment cabinet along one wall of the room. If you walk in the middle of the room your footfalls will cause the middle of the floor to sag, and the turntable will experience both vertical and horizontal displacements. So my challenge was to engineer resistance to horizontal displacements that matched the resistance to vertical displacements that Ed had designed. But the digital revolution had already begun, and the redesigned turntable was never put into production.

The early success of AR was based on the acoustic suspension loudspeaker. Ed Villchur is credited with inventing the concept of acoustic suspension,[1] although the idea is clearly described in an earlier patent issued to another important acoustics innovator, Harry F. Olson.[2] Ed's patent, however, provides a clear explanation of the physics involved and provides all of the relevant equations.

In an acoustic suspension design, the loudspeaker is mounted in a small sealed box. The loudspeaker cone is displaced by an electrical current applied to the voice coil, and the restoring force is provided by the change in pressure of the air trapped in the box. Before acoustic suspension, many loudspeakers were mounted in open cabinets; good low-frequency response required a large box and the mechanical spring used for the restoring force on the loudspeaker displacement could introduce a large amount of nonlinear distortion.

The basic approach to loudspeaker design when I was at AR was very

similar to that developed by Ed. The drivers (woofer, dome midrange, and soft dome tweeter) were all based on Ed's original designs, improved over time. The loudspeakers in production were all based on the acoustic suspension principle. Design involved measurements of the loudspeaker response in an anechoic chamber and in a listening room, with the objective of providing a flat on-axis frequency response. I worked on the crossover for the AR-9 (the original loudspeaker – the model designation was later reused for a different loudspeaker). I also developed a computer system for the digital measurement of loudspeaker response – work that I felt was very much in the spirit of Ed's curiosity and innovation.

I left the audio industry to work more directly in digital signal processing, and I then developed an interest in hearing aids. Of course, Ed Villchur got there ahead of me. His 1973 paper has influenced the course of the entire hearing-aid industry.[3] That paper is the first that I am aware of to describe multi-channel dynamic-range compression. The technology used in his compression system was, of course, analog, based on modified audio compressors. He implemented syllabic compression, with an attack time less than 1 ms and a release time less than 20 ms. The results in the paper show substantial improvements in speech intelligibility for the compressed signal, although the unprocessed control condition was an amplified flat or high-pass filtered frequency response rather than one shaped to match the listener's hearing loss.

Ed also had the clever idea of turning the compression system around to provide a simulation of hearing loss[4,5] for normal-hearing listeners. Instead of compressing the signal to compensate for recruitment in the impaired ear, he expanded the signal to introduce the equivalent of recruitment for a normal ear. He also looked at simulating the loss of frequency resolution in the impaired ear by using a noise vocoder, in which bands of noise are modulated by the speech envelope within each frequency band. The loss of frequency resolution was simulated by increasing the width of the noise bands so that the modulated signal bands overlapped by greater amounts than normal.[5]

Over the years, I ran into Ed at technical conferences. We would generally end up discussing dynamic-range compression. I tried several times to introduce recent research results that challenged the effectiveness of syllabic compression, but Ed was adamant that his syllabic compression system was the best. Ed Villchur brought intelligence, creativity, and energy to everything he did. He changed the course of two industries, audio and hearing aids, and had a direct influence on my career and that of everyone involved in engineering better sound systems.

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Canadian Hearing Report 2011;6(6):11-12.

Hearing Loss Association of America Speaks Out on the Latest UnitedHealthcare Initiative

By Brenda Battat

The UnitedHealthcare *hi Health-Innovations* announcement of its direct hearing services to consumers has caused quite a stir. The audiology professional organizations and the hearing aid specialist organizations and some hearing aid companies have already staked out positions against it reiterating that the only approach to effective hearing health care is through an audiologist or hearing aid specialist. Certainly best practices set forth by the entire key hearing aid dispensing industry promote selection, fitting verification and validation via real ear measurement as the gold standard of care. HLAA likewise has always encouraged consumers to work closely with a hearing health care professional they trust as the best way to become a successful hearing aid user.

But let's take a step back and ask ourselves if this traditional approach is reaching most people who could benefit from hearing aids? We all know the answer is no. With 75 percent of people who could benefit from hearing aids not taking steps to treat their hearing loss we are failing a large percentage of people who could improve their quality of life, remain independent into old age and stay on the job without retiring early.

Theapproach is new and untried. A lot hinges on the accuracy of the test they plan to use to triage the best candidates for open-fit amplification, how easily people adjust to using the devices and whether or not first-time users can be successful hearing aid users without face-to-face care. Is it going to work? Only time will tell. But let's give it a chance and not sabotage it from the outset so that consumers can be the ultimate judges.

What consumers need are more options – more ways to enter the system to treat their hearing loss that suits their style of managing their health and will get them to do something about their hearing loss sooner. United's entry point is the self-administered hearing screening that triages those who can and cannot be fitted without face-to-face care. They further expand options by making the purchase feasible.

There are already self administered tests that we know consumers are using in the privacy of their homes to confirm what they suspect – that they have a hearing loss. But the next step to follow up with a more thorough hearing evaluation is often skipped or, if pursued, is stymied when they learn what a pair of hearing aids is going to cost them. Best intentions are shot down. The number one inquiry into the HLAA office is how to afford hearing aids. UnitedHealthcare is making it feasible for consumers to go all the way and actually get aids for free or at reasonable co-pays or cost.

HLAA's concern is consumer protection. If the market is to be opened up then it should be done in a responsible way. From what we know about UnitedHealthcare's plan there are positive aspects: providing primary care physicians with hearing screening tools; their robust hearing health care network of ENTs, audiologists and hearing aid dispensers; the large pool of 10 million UnitedHealthcare subscribers that translate to many people with hearing loss that can be helped; their intent to collaborate with the hearing health care providers outside of their system to refer those who need face-to-face care; and the captioned support videos and materials to guide new hearing aid users during the 45-day trial period on their website.

The program has been designed as a responsible alternative that in no way replaces the existing system but has the potential to reach those who wouldn't otherwise do anything or could not afford to do anything to treat their hearing loss. I think we should give it a chance and applaud UnitedHealthcare for identifying a pressing health need among America's seniors and being bold enough to tackle it.

Brenda Battat is executive director of the Hearing Loss Association of America

http://www.hearingloss.org/content/hlaa-speaksout-on-UnitedHealth

Canadian Hearing Report 2011;6(6):14.

The Passing of a Pioneer and the End of an Era

By Alan Moore, Earmold and Accessories Operations Manager, Bernafon Canada Ltd

Kenneth Dahlberg

October 4th, 2011 was a sad day for many in the hearing aid industry. Kenneth H. Dahlberg passed away at the age of 94.

He was born in St Paul Minnesota and grew up on a farm in Wisconsin. After completing high school, he worked in the hotel business. He started out as a dish washer and worked his way up to food and beverage manger.

After being drafted into the army, with the intention of being a cook, he joined the USAAF as a cadet. One of his instructors was Barry Goldwater who eventually became a senator. He had quite an illustrious military career which included being shot down three times and spending three months in a prisoner of war camp, and being awarded the Distinguished Service Cross.

When he returned from the war, he took a job at a hearing aid company called Telex. In 1948, he started Dahlberg Electronics manufacturing, among other things, a line of hearing aids called Miracle Ear. In the early 50s, Dahlberg was credited with the first use of the newly developed transistors in a consumer product. The company also developed and patented paging patient monitoring devices and pillow speakers for private listening for hospitalized patients. In 1978, he started a Canadian division called Dahlberg Sciences, and hired an eager sales man to run the new Canadian division. The offer of employment was written on the back of the menu from the restaurant where we had dinner. Dahlberg Sciences became the first company to manufacture custom hearing aids in Canada.

He was definitely a colourful boss to work for. Any time someone would ask him how many people worked for him, his favourite retort was "about half of them." He also had a warm side which wasn't always evident, when the Canadian sales manger showed up at a conference and was pregnant at the time with her first child, he took her aside and told her "make sure that your family comes before the job. "He was a true salesman at heart. "A sale is not a good sale until the invoice is paid and an order is not an order until the ink is dry."

Probably the event that brought the most attention to Ken was Watergate. It was his political contribution that ended up in the hands of the burglars that lead to the full investigation that eventually exposed the entire scandal. Ken was never charged with any wrongdoing, as he was unaware of any illegal activities surrounding the contribution.

He once told me in Phoenix how practical he was to buy a station wagon as it could haul things around. When it was time to go to dinner he asked me to join him in his new station wagon. We got to the parking lot to find his brand new very deluxe Mercedes diesel station wagon, which he was a little upset with and too impatient to wait for the Glow plugs to warm up making it hard to start. He once ordered a new Porsche two-seater convertible during a visit at the Porsche factory and had it shipped to Minneapolis because it was the new corporate colour. Unfortunately it was a standard shift, and I don't believe it ever got past second gear.

Ken was an early member in an organization called YPO which stood for Young Presidents organization. This was a networking group to discuss issues and solutions to the everyday problems encountered in business and how fellow members dealt with these as well as a social club. The hard and fast rule of YPO was that at the age of 50, members "graduated." Several of the graduates, decided that they would like to continue with the same concept so the CEO club was formed. When asked what the new club did in comparison to YPO, Ken's answer was "we do exactly the same things; it just takes us much longer to do them".

In 2010, Ken was living with his wife Betty, in Carefree Arizona and still had his own plane. He had a pilot to do all takeoffs and landings, but still enjoyed taking over in the sky from the right hand seat.

At the outset of the Watergate scandal, Richard Nixon asked "who the hell is Ken Dahlberg?" Had he asked anyone in the hearing aid industry they would have been told he was a pioneer, a super salesman, and certainly a colourful character.

Canadian Hearing Report 2011;6(6):13.

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By Calvin Staples, MSc

As I sit here at 6:30am in the dark with no sign of sunlight I start to wonder about the future of hearing health care. The darkness makes it impossible to see too far into the distance. I imagine this is similar to those who are trying to predict the future of our industry. We continue to hear that our industry is essentially immune to the growing global recession concerns and that the growing number of baby boomers will rely on our services for the next 20–30 years; but none of this is certain. The recent changes in policy, major financial players, and the potential new drugs to alter the impact or management of hearing loss will keep us all guessing about the future. The following blogs from hearinghealthmatters.org will highlight the changing financial landscape of hearing healthcare.

LIFE IN THE FAST LANE: UNRAVELING HEARUSA, PART 1

By Holly Hosford-Dunn

"The Company's strategy includes immediate public differentiation from all existing hearing centers."[1]

Thus began one man's corporate vision to revolutionize hearing care in the US and Canada, and also make a bunch of money. Based on current headlines, it seems the vision has been achieved. The corporation – currently known as HearUSA for a few more months at least – has very publicly differentiated itself from anything else ever seen in the field of hearing health care. If one ascribes to the adage that there is no such thing as bad publicity, then HearUSA has hit it out of the park. Adding to the lustre, the corporation in its various guises has managed to make tons of money every year of its existence while never showing a positive profit.[2]

And so begins this post, the first in a series that may drag on for some time as we muddle through the beginnings, middle, and possible end of the HearUSA vision. Had the corporation failed to distinguish itself so thoroughly, there would be minimal interest in its decline, restructuring, or likely demise. Instead, the story of HearUSA is a fascinating cautionary tale of money, intrigue, backroom dealing, international finance, cronyism, bad marriages, divorces, sugar daddies, contested settlements, and yeah, there's probably sex too (but we're not covering that angle unless we get a really interesting comment that's printable).

Traditionally, the business of hearing healthcare has conducted itself in a fairly courtly and discrete manner. It's been a gentleman's game for players who hold their cards close. Not so these past months with HearUSA and Siemens. You can almost see HearUSA swaggering into the saloon, throwing money around, raising a ruckus, and ending up in a main street shootout with its main supplier and banker. As one blogger commented:

The hardball tactics are unusual in the hearing-aid industry where conflicts are more often resolved out of the public eye.[3]

In a nutshell, HearUSA couldn't meet its debt payment to Siemens last December. Siemens called the loan, which prompted a slew of legal petitions and counter-petitions between the companies throughout the spring. HearUSA found a temporary safe haven in bankruptcy, negotiated a big loan from a rival suitor (William Demant Holding), and sent out scary notices to its employees and network affiliates. At the moment, HearUSA is spending the summer grooming itself to be auctioned off to the highest bidder, an effort that includes talking about its rosy future with AARP in "45 states and counting."[4]

As previous writings in this section indicate, I am not a fan of poorly managed companies that fail in their fiduciary duty to their stockholders, or in their societal duty to other stakeholders, such as employees and customers.[5] Having got that off my chest, I will make an effort to report in an unbiased manner on all that I've been able to unearth on the times and travails of Hear USA. Most of it is in the public record, some is from inside sources that prefer anonymity. This post wraps up the first in a series by introducing the future bride and groom in the doomed marriage that produced HearUSA:

1. HEARx was founded by Paul Brown, MD in 1986 in Florida. Dr Brown's vision was to improve the hearing profession by achieving

"professional" branding via hospital accreditation, with the financial goal of capturing large insurers to cover hearing services and products. The model called for starting offices from scratch and using a central office to ensure quality control.

2. Helix Hearing Care was founded in 1996 in Canada and quickly became the chief competitor to Sonus. The MO for both was to acquire existing offices via a "sales liquidating debt" approach in which office acquisitions were assigned sales thresholds to recapture expenditures for the office purchases. The business model was to carry a lot of debt but offset it by showing a lot of equity on the books.

If opposites attract, Helix and HEARx appeared to be made for each other. Stay tuned for future posts that go into these companies in more detail, then look at the HearUSA merger and bring us up to modern times.

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http://hearinghealthmatters.org/hearingeconomics/2011/life-in-the-fast-lane-unraveling-hearusa-part-1/

WHO YA GONNA SERVE: SHAREHOLDERS OR STAKEHOLDERS?

By Holly Hosford-Dunn

If any investors believe that the SEC's enforcement actions drove insider trading out of the markets, they are beyond mere legal help.[1]

Back in April, we reported on possible insider trading in the hearing aid industry and promised some educational discussion of fiduciary duty and the stakeholder paradox in a follow-up post.[2] It's not stuff we get in graduate school, but it's a good idea to at least know the terms now that many dispensers and audiologists are employed by multi-national corporations that trade in hearing aids and the rest of us sell the products of those corporations. The following is a primer on terms, followed by a brief discussion of the stakeholder paradox.

1. Illegal insider trading occurs when someone big inside a publicly traded company buys or sells his/her shares in the company's stock, based on "material non-public information." "Big" means anyone who is a large shareholder (>10% of the stock), board member, in top management, or a key employee. Another kind of insider trading has to do with outright theft of company information ("misappropriation") by an employee who then trades in any stock–not just the company's–in hopes of profiting.

Insider trading is illegal in the US and some other countries because the insiders violate their fiduciary duty to the company's shareholders by taking advantage of non-public information to try to make personal profits. For instance, the CEO of Little Hearing Aids knows the company is going to be purchased next week by Big Hearing Aids. The CEO buys a lot of Little Hearing Aid stock before the acquisition is announced. After the announcement, the stock of Little Hearing Aids soars and he makes a tidy profit at the expense of the company's shareholders.

2. A fiduciary duty is the legal and ethical commitment the company has to its investors to act in their best interest when it comes to

handling money and property. Note that "property" includes information. It's a bit like the physician's Hippocratic oath to "do no harm" to patients, but more stringent: "do everything you can to benefit the shareholders financially."

It's easy to understand fiduciary duty from our own small business experiences: say Little Hearing Aids takes on a partner who agrees to put all professional efforts toward building the company. But, you come in on Saturday and find the new partner selling hearing aids out the back door and pocketing the revenues. That partner is self-dealing and not observing his/her fiduciary duty to Little Hearing Aids. Solution: get rid of the partner and pursue legal action if Little Hearing Aids has been materially harmed. The same goes for big corporations and their shareholders, as the current situation at Sonova illustrates.

3. All terms above hinge on what's called the *economic theory of the firm*. The idea is that companies owe a *special fiduciary relationship* to shareholders, without regard to the effects on others. All company activities must be aimed at benefiting the shareholders, so long as the activities are legal. Truly, it is a dog-eat-dog world according to this theory, but at least your dogs are on your side and friendly, unlike the insider trading dogs, who are on your side but want to bite you.

4. Economists never seem to agree, so naturally there is a flip side to consider: what about the "stakeholders" who are not shareholders such as suppliers, employees, patients, and next-door neighbors? What about societal needs in general? This is the *stakeholder paradox*.[3] Corporate decisions that take stakeholder needs (say for instance, the patients of a practice) into account are likely to violate the special fiduciary relationship owed to shareholders to maximize profitability. It may be the right and moral thing to do – especially if you are an audiologist adhering to ethical practice guidelines – but it is also "illegitimate" and perhaps legally indefensible for a corporate point of view. Paradox indeed!

Here's a hypothetical example: Big Hearing Aid Co. has a duty to its stockholders to achieve stated corporate financial goals, one of which is to increase profitability. R&D advances enable Big Hearing Aid Co. to produce instruments for a fraction of former production costs. Simultaneously, society's view of US hearing health care expands to include good hearing as an individual right. Here is the paradox: Big Hearing Aid Co. can decide to pass on the savings by selling its products for less. If it goes that direction, it can maintain its former profit margins but forego increased profitability. This approach satisfies the company's patients and friends (stakeholders) by making hearing healthcare more affordable to more in society, but it fails to satisfy the fiduciary duty of the company to its shareholders to increase profitability. The approach is morally right, but illegitimate. Alternatively, Big Hearing Aids, Co. can take a price premium increase on its breakthrough in hearing aid technology, thus satisfying its shareholders but ignoring the hearing needs of all but a few well-heeled consumers. This approach demon-strates no regard for societal needs. It is legitimate, but morally wrong or at least subject to intense societal scrutiny.

In enlightened circles, the Stakeholder Paradox can be solved by using a dual management approach that acknowledges a special, but "partial," fiduciary relationship owed to shareholders according to corporate law. At the same time, management also acknowledges certain impartial moral obligations to society in its decision making, insofar as societal economic and general well being are affected by the company's pursuit of stated goals.

Applying this approach to our example, Big Hearing Aids Co. pursues higher profits to satisfy shareholders while investing some of the profits in provision of hearing aids to those in society without access to hearing health care. As one of many solutions, this approach also enables what is known as "consonance" in individual managers' personal and corporate ethics – that is, the manager or audiologist can fit his/her mother-in-law with hearing aids at the company discount rate without facing the ethical dilemma that his/her employer is denying aids at reduced cost to other people's mothers-in-law. *(Just out of curiosity – has this ethical dilemma ever dawned on any of you out there that have fit a family member with hearing aids? I have to admit that it didn't dawn on me, nor does it particularly bother me. I probably need more enlightenment.)*

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VULNERABILITY AND BECOMING BETTER: THANK YOU STEVE JOBS

By Judy Hutch

This past week has been a struggle – in my office, at home, and in the news. Along with all of these events I learned that United HealthCare and Best Buy are going direct to consumers and my favourite great innovator, Steve Jobs passed away. There is so much information from the first events that they will consume a few weeks of blogs.

When I first heard about UHC and Best Buy I was hurt and angry. I started in this career to go on a journey with people to help with communication and relationships. I do get frustrated when some in the industry or start ups make it all about a product. The product in these marketing ideas, in my opinion, makes it all about the end result. I have always made it my philosophy to make the hearing device part of the journey. The journey includes friends, family, tools, counseling and better developing relationships. I do not agree that an end product can accomplish this.

This thought brought me to Steve Jobs. He wanted his products to be more of an experience, not just a machine. There has been numerous links to his past speeches and ideas in the past week that I have reread. In reading his quotes about living and how he saw life I became inspired all over again. I was reading many other HYPERLINK "http://pixelbits.wordpress.com/2011/10/05/the-power-of-vulnerability-thankyoustevejobs/" blogs and one that caught my attention was by Mona Nomura, in which she talked about how Steve helped her grow through being vulnerable. I often feel vulnerable when trying something new whether it is a marketing strategy or new product, but most of the time the payoff is worth it.

Steve Jobs liked to borrow a quote from Wayne Gretzky:

"A good hockey player plays where the puck is. A great hockey player plays where the puck is going to be."

I need to look at the future and work at figuring out how to make my own offices better. The introduction from UHC and Best Buy will only affect me in a negative way if I let it. Alternatively, I can use the adages of Steve Jobs to focus my practice toward success in a time of technological challenges.

If I lose business from to UHC or Best Buy, I cannot blame those companies. I can use that threat to force myself to look at where my practice is vulnerable: is my practice failing to educate consumers as to the importance of quality service? Do we need to reinforce the importance of patient-practice relationships that grow out of successful hearing healthcare services? We have had these things come up before. I was in private practice when Songbird came and then went direct retail. We must always work on keeping ourselves strong. Yes sometimes the chances we take make us vulnerable, but we must learn and grow through these changes.

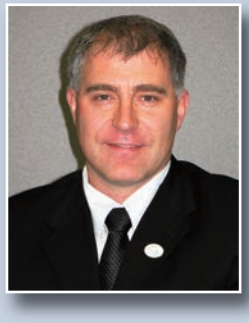
Next week my thoughts on how the instruments from UHC and BB are being marketed and sold.

http://webmail.nas.net/Redirect/hearinghealthmatters.org/hearinprivatepractice

Canadian Hearing Report 2011;6(6):15-18.

Auditory Processing Disorders and Associated Costs: Where Do We Start?

By Greg Noel



About the Author

After graduating from Dalhousie, Greg moved back to Newfoundland and Labrador and began work as a clinical audiologist in Gander. Greg completed a neuroaudiology fellowship with Dr. Musiek in 1995. In 2000, Greg moved to Nova Scotia to become director of audiology for Nova Scotia Hearing and Speech Centres and adjunct professor at the School of Human Communication Disorders, Dalhousie University, Halifax.

Auditory processing can be described as the complex processing of acoustical information that occurs beyond the peripheral hearing mechanism. Professional guidelines suggest that, if there are concerns, an audiologist test for the disorder on children 7 years of age or older. Auditory processing disorders (APDs) span a range of ages and can affect children, younger adults, and older adults. While the exact causes of APDs are not known, Musiek et al. suggest that APDs can be developmental, acquired, or neuro-logical.[1] APDs can arise from disorders such as head trauma, stroke, multiple sclerosis, tumours, and epilepsy, to name but a few. It is therefore the audiologists' mandate to describe the hearing difficulties encountered by their clients and to provide a rehabilitative pathway. This begins with comprehensive audio-logical testing for both the peripheral and central auditory pathways.

The availability of and payment for audiological services are, for the most part, determined by provincial health departments. As a result, audiological services vary from province to province and, not surprisingly, payment for specialty audiological services, such as auditory processing testing, also varies. Thus, whether clients receive certain services can depend upon where they live and whether they are willing to pay for these services.

An informal survey of professionals across the country revealed that some audiologists do offer APD testing (i.e., behavioural and evoked potential testing), and these evaluations are covered by the provincial health care model. However, there are regions in which audiologists do not provide this service; families in these regions are thus forced to seek out audiologists in other geographical areas and pay a fee for this service, ranging from $200 to $500. This fee usually covers the case history taking, the performance of peripheral and APD testing, and the production of a written report. A few audiologists also offer to visit with other professionals, the school, and the family as needed. Travel and lodgings are extra costs that the families must bear. I could not find any information about payment for audiology rehabilitation within the private sector. Some private-practice speech-language pathologists (SLPs) and university programs offering human comm-unication degrees offer rehabilitation for APDs, but fees are not listed and this service is largely research based. Chermak et al. suggest that the training of audiologists in this field has improved over recent years but that we must continue to do more.[2]

It would appear that it while APDs are receiving much attention in research arenas, families have difficulty finding professionals who offer clinical testing and services. To complicate matters further, audiologists struggle to offer these services due to their already-demanding caseloads, limited access to continuing education funding, difficulty obtaining test materials and normative data, and a lack of agreement about the definition of APD. It is no wonder that finding an audiologist with such a specialty is increasingly a challenge. A recent survey supported by both the Canadian Association of Speech-Language Pathologists and Audiologists (CASLPA) and the Canadian Academy of Audiology (CAA) on APDs revealed that Canadian audiologists and SLPs require direction on how to screen, diagnose, and manage

APDs. As of the writing of this article, documents are being developed by our national associations. Audiologists need to embrace the call for APD testing within our profession; if we do not take ownership of this arena, other health care professionals will accept the task.

Typically, when we hear of APDs, we think of children. Most often, audiological testing for APDs is generated within in the educational setting as APDs have been shown to impact children's ability to learn. Interestingly, the majority of audiologists who offer this service are employed by health organizations; a few are in private practice. This uneven distribution of resources places a burden on the health care sector – the resources really should be allocated through the provincial departments of education. While a small percentage of children may have an APD resulting from neurological disorders (a rare occurrence), many more likely have an APD due to developmental issues.[3] For the most part, pediatric APD evaluations are brought about because of concern by a parent, teacher, or SLP for a child's hearing. Educational-based audiological assessments should be handled within the mandate of the provincial departments of education.

Audiologists working within the health care system need to consider screening and testing for APDs. Adult clients often report difficulties hearing due to a host of reasons, some impacting the peripheral mechanism, others impacting the central auditory system. Collaboration with the medical community is a necessity in such cases. However, physicians do not have the time or training to perform APD testing, whereas audiologists are uniquely qualified to provide auditory processing evaluations. Advanced audiological testing provides functional hearing outcomes that may supply answers for the clients' hearing-related issues that other structural tests cannot provide.[4] Aging clients and veterans returning from conflicts overseas also require care from audiologists who have experience with advanced testing protocols and treatment options.[5,6]

FUTURE TRENDS

While today's Canadian audiologists graduate with a better understanding of the entire audiology system and how to assess its complex processes, there still is much work to be done:

- Audiologists need to offer comprehensive evaluations, including testing of the central hearing mechanisms. Recent research suggests that adding two tests that take only minutes to administer can help differentiate those clients in need of further testing from those who do not.[3]
- There is a need to develop an infrastructure to support and foster educational audiology within Canada. Providing a professional home for educational audiologists could improve collaboration and support for children with APDs.
- Support and guidance should be provided by our national associations about appropriate billing guidelines for testing and rehabilitation within APDs.
- National associations should increase the documentation of APDs for professionals and public on their websites.
- A public relations campaign is needed by our national associations about the importance of hearing. We hear with our ears *and brains*. Audiologists are uniquely qualified professionals to provide APD services.
- Increased collaboration should occur with our SLP colleagues and other health care professionals working with clients with stroke, epilepsy, multiple sclerosis, etc.

Audiologists need to embrace and cultivate the diagnostic nature of our profession and keep pace with the current and ever-expanding knowledge about the complex process that is hearing. The audiogram is really just a starting point – not the destination! Forgoing the comprehensive audiological evaluation and treatment of our clients is a cost our profession cannot afford.

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Canadian Hearing Report 2011;6(6):19-20.

How Much Does My Hearing Loss Cost?

By Gael Hannan

I am not an economist or accountant, but it doesn't take a degree to figure out that hearing loss has cost me and my family a mighty chunk of change through the years.

Without a thorough economic impact study, it's difficult to attach a figure to the true cost of hearing loss on individuals. It's a moving target involving many variables – income of self and family, personality, upbringing, type and degree of hearing loss, home province, and willingness to embrace hearing loss and adopt technology.

The dictum that no two snowflakes are identical can be applied to those of us who have hearing loss. On paper, my audiogram may look the same as that of a dental technician in Petawawa, but how she and I function, the impact of our shared audiological profile, including the financial one, may be completely different. But both of us are affected, deeply..

For fun, I did a quick exercise to tally the out-of-pocket costs of my own severe-to-profound hearing loss, for which I use ITCs, over the past two to three years. As I added it up, however, two things arose – the hair on the back of my neck and the bile in my throat.

But wait! There's more! The above figure doesn't take into account the time and effort – the *in-kind* costs, if you will – that are associated with having hearing loss. If time is money, let's attach a cost of $1 to every 1 minute of time spent, by me, on activities related to my personal hearing loss.

Hearing Aids:	$ 4,000.00
Extended Service Warranty:	$175.00
Batteries:	$80.00
Neckloop:	$150.00
Mileage to/from Audiologist:	$50.00
Dry-Aid:	$30.00
Door Knocker:	$75.00
Alerting System:	$300.00
Shake-a-Wake:	$40.00
Hearing aid compatible phone:	$200.00
Hearing aid compatible cellphone:	$200.00
New TV for better captioning:	$500.00
Consumer Group Memberships:	$50.00
Hearing Loss Information Books:	$100.00
Add in the available credits (I am very lucky to live in Ontario)	
Ontario Assistive Devices Program	($1,000.00)
Private Medical Coverage	($500.00)
Federal Disability Tax Credit	(0.00) I don't qualify
Total Cold, Hard Cash:	**$ 4, 380.00!**

Whoa, who knew? And this little exercise does *not* take into account the time and effort that my family, friends, clients and colleagues expend in order to communicate effectively with me.

I consider myself a high-functioning, well-adjusted person with hearing loss, and I'm fortunate to have the means to pay for my hearing loss. Communicating is important to me; I demand quality technology and I'm willing to spend the necessary time to ensure optimal communication.

But what is the cost, the true impact, on someone who struggles emotionally with their hearing loss? The price of hearing aids and other technology are deal-breakers for many people who have families, who have low income or who live on fixed pensions. If a senior with hearing loss decides against buying a hearing aid even though he needs one – what devastating cost does this impose on his personal safety, human engagement, and emotional well-being?

We need to work together – governments, industry, and consumers –

TIME SPENT ON:	MINUTES PER DAY	COST PER YEAR
Speechreading	100	$ 36,500.00
Asking for something to be repeated	5	$1,825.00
Hearing healthcare appointments, including filling out forms to apply for applicable refunds		$300.00
Explaining my communication needs to others (general)	5	$1,825.00
Explaining why it's unfair to have to pay $2 more than anyone else just because I need an ALD in live theatre		$50.00
Explaining and pursuing effective communication in a work environment	2	$730.00
Daily hearing aid care (changing batteries and wax guards)	3	$1,095.00
Punching hearing aid to activate/deactivate t-switch	.5	$183.00
Turning captioning back on (after family has turned off when I leave the room)		$365.00
Listening to bad hearing jokes when I identify as hard of hearing		$50.00
Stressing about hearing loss (worrying that I have missed something important, appeared stupid, didn't stand up for myself, etc.)	1	$365.00
Sub-Total In-Kind Costs		$43,228.00
Sub-Total Hard, Cold Cash		$4,380.00
WHOPPING TOTAL		**$47,668.00**

to help reduce the financial and emotional burden on Canadians with hearing loss. Let's do a *Canadian* study on the economic impact of hearing loss. Let's revise the restrictive wording on the Disability Tax Credit to make it accessible to those who need it, and clearer to the hearing health professionals who must sign the forms. Let's make hearing aids and assistive technology more affordable. Let's make aural rehabilitation a standard component of hearing health care. If we don't, the cost of poorly managed national hearing loss will rise to the point where it is incalculable.

Hearing loss is one of the country's most common disabilities, yet one that is still largely ignored by our governments. Its financial wallop is not limited to individuals; there is a powerful ripple effect pending because the number of Canadians with hearing loss is rising, fast. And most of them cannot afford it.

Canadian Hearing Report 2011;6(6):21-22.

Which is the Best Musical Instrument for a Child with Hearing Loss?

By Marshall Chasin, AuD

From time to time, I receive telephone calls and e-mails from the parents of children with hearing loss asking about which musical instrument their children should play. Actually I receive this type of communication almost weekly!

Let's assume that the child has a "typical" bilateral high frequency hearing loss commonly found with many forms of congenital and acquired hearing loss. The choice then is a musical instrument that has most, if not all, of its sound energy below 1000 Hz. This is roughly half way between the middle of the piano keyboard and the piano's top note. Many children (and adults) with hearing loss generally have better hearing in this region so it makes sense to build on what they have.

Music, like speech, is made up of sound energy that is spread over a large pitch range. However some instruments inherently squish more sound closer together to make the sound more dense and presumably easier to hear and play. These additional sounds are called harmonics and are not random. When I play a note on the piano or violin, the first harmonic is exactly an octave above the note being played. For example, I can play middle C on the piano and it is made up of middle C but also another C that is 8 white notes above it, and then the G above that. It sounds complicated, but that's what makes music sound like music.

Instruments that squish a whole bunch of harmonics close together are piano, guitar, all stringed instruments, oboe, and saxophone, to name but a few. For those who like science, these are called half wavelength resonator instruments. Unfortunately even if you do not like science, they are still called half wavelength resonators!

There are other instruments that create additional harmonic energy that is spaced much further apart. For example, if I played middle C on a trumpet, the first bit of additional harmonic energy would be the G an octave and a half higher. The C which is only an octave above middle C wouldn't even be there. These instruments that miss every other harmonic (so that the music is not as densely packed) are called quarter wavelength resonator instruments and examples include the trumpet and clarinet.

The clarinet is a rather odd instrument – it is a quarter wavelength

instrument for the lower pitched notes, but a half wavelength instrument for the higher pitched notes. This means that where there is a greater hearing loss, the clarinet can help make up for it by having more closely packed harmonics yielding more musical cues.

If a trumpet and a violin both play middle C then the trumpet essentially generates only 1/2 to 1/3 of the harmonic energy that the violin does. Or stated a different way, the one half wavelength resonator violin would generate up to three times the harmonic cues which are more tightly packed into the hard of hearing child's near normal auditory range.

Question: What is the best instrument for a child with hearing loss?

Answer: An instrument that generates sufficient bass music and which is a one-half wavelength generator. This includes the cello and bass stringed instruments, the saxophone and bassoon woodwind instruments, and believe it or not, the clarinet.

I must admit to a bit of bias since I am a clarinet player, but it does share the two important properties – tightly packed harmonics where it counts (higher register) and its highest note (high C) is around 1000 Hz. And perhaps of greatest importance, it's easy to carry home!

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Drug Screening to Protect Against Hearing Loss

By Lendra Friesen, PhD

I would suggest you read the interesting article by Ou and colleagues on screening for drugs that cause hearing loss using the zebrafish model.[1] Although hearing loss is a rising problem, there are no current drugs to cure this impairment. Methods to find drugs for treating hearing loss at the cell and molecular level have largely focused on the hair cells in the cochlea. While in many animals such as birds, reptiles, and frogs, hair cells can regenerate, in the mammalian inner ear, this doesn't occur. Current research has focused on either stimulating regeneration of mammalian hair cells or preventing existing hair cells from dying.

The zebrafish offers several advantages that make it a powerful animal model for studying hair cells in general, as well as for performing drug screens and genetic screens for molecular mechanisms that can protect hair cells. The zebrafish, has hair cells on the outside of its body in a sensory system called the lateral line. This system is used for detecting small differences in water currents on different parts of the body. The hair cells are organized into small groups called neuromasts. Physiologically, their behaviour is very similar to that of inner ear hair cells with depolarization occurring in response to deflection of stereocilia towards a single kinocilium. At the electron microscopic level, the intracellular structure of the lateral line hair cell is also very similar to that of inner ear hair cells, particularly those of the vestibular epithelium.[2,3]

The utility of the zebrafish for studying hair cells comes from: (1) a single mating of adult zebrafish can produce hundreds of offspring, (2) hair cells of the lateral line selectively pick up several fluorescent vital dyes, (3) at five days post-fertilization, the zebrafish body is clear, enabling in *vivo* imaging of fluorescently labelled hair cells, and (4) zebrafish mutagenesis protocols, or the process by which changes and alterations in their chromosomes occur are well established.

In a screening protocol, a five days post-fertilization zebrafish is labelled with a fluorescent dye for 30 minutes, which selectively labels hair cell nuclei. One fish is then placed into each well of a 96-well plate. Owing to their small size, as many as two or three zebrafish larvae can be placed in each well if necessary. Fish can then be exposed to a series of drugs depending on the exact screening protocol. For protective drug screening in the Ou et al. laboratory, fish are first treated to label the lateral line hair cells, then exposed to libraries of potential protective drugs, followed by treatment with known ototoxic drugs such as aminoglycosides or cisplatin. The 96-well plate is then examined with fluorescent microscopy to image hair cells of the lateral line in the fish in each well to evaluate whether hair cells have been protected from exposure to the ototoxic drug; this would be considered a "hit." Typically, a single plate with 80 potential protectants requires 30 minutes for evaluation. All hits from the initial screen are then confirmed with repeat testing followed by thorough quantitative studies.

Using this drug screening protocol, a small molecule library of more than 10,000 compounds was screened for small molecules that inhibited neomycin-induced hair cell death.From this library, two small molecules were identified as protective (named PROTO-1 and PROTO-2). Additional testing showed that both drugs demonstrated dose-dependent pro-tection against neomycin and were protective against a wide range of neomycin doses. The protective effects were then confirmed in organotypic mouse utricle cultures, demonstrating that these drugs found to have protective effects in the fish had similar effects in mammalian tissue; however, it may be years before safety testing and enough about their pharmacokinetics (concentration-time relationship) is known to obtain FDA approval.

Several libraries of FDA-approved drugs have been developed that are composed of compounds that have already b screened, using the same rapid screening protocol described above.[5] One of these drugs, Tacrine, is now being tested in vivo mammalian trials and, if successful, might be a candidate for use in humans.

It is important to note that all findings in zebrafish must be confirmed in mammalian tissue. There are differences of fluids in the lateral line, and the hair cell apices and stereocilia extend out into the surrounding water. There are no inner and outer hair cells within a neuromast. Furthermore, hair cells of the lateral line regenerate, with new hair cells detected within 24 hours of hair cell injury.[6]

In conclusion, the zebrafish lateral line provides a powerful preparation to identify genes, drugs and drug candidates that have potential for protecting hearing, and which can then be evaluated more thoroughly in other animal models. This tool can be applied to drugs that are currently in therapeutic use and at an early stage of testing for drugs under development and improve the safety of care for patients.

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Five Wealth Planning Strategies to Consider For 2012

By Ian Po and Prashant Patel

About the Authors

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A New Year is upon us and many of us are going through the annual ritual of setting New Year's resolutions. Improving health is usually high on many people's lists – lose weight, exercise, and eat healthier. However, in addition to improving your physical health, resolve to make 2012 your healthiest financial year ever for your business and your personal finances. This article will provide you with a list of five business and personal financial strategies to consider for 2012 with your professional advisors to help minimize tax secure your retirement income, and efficiently transfer wealth to the next generation.

1. REVIEW AND UPDATE YOUR INVESTMENT ASSET ALLOCATION

The continued market volatility has potentially taken your asset allocation off-track. Now is a good time to review the asset allocation of your investments (cash, fixed income and equities) as well as their currency and geographic split (Canada, U.S., international). Is your asset allocation appropriate based on your risk tolerance, and your financial and retirement goals? Studies have shown that asset allocation is a key factor in determining your investment performance and variability of returns. Speak to a qualified investment advisor about getting a risk tolerance and asset allocation analysis to see where you stand today and if any changes need to be made. In addition to reviewing your asset allocation, consider the tax efficiency of your investments. Remember the saying, "It's not what you make. It's what you keep." To maximize your after-tax returns, here are some general investments guidelines that you may want to incorporate into your overall asset allocation strategy:

- Emphasize interest-bearing investments in your RSP/RIF;
- Hold capital gain and Canadian dividend paying investments primarily outside your RRSP/RRIF to take advantage of their preferential tax treatment;
- Incorporate whole life or universal life insurance into your overall financial plan to take advantage of earning tax-free investment income while also protecting your family in the event of your death;
- Contribute to your Tax-Free Savings Account (TFSA) and earn tax-free income and capital gains. Since the TFSA is flexible and can be used for many different purposes, the asset allocation decision for your TFSA will really depend on your goal for the TFSA (e.g., short-term savings, supplement to retirement savings, speculative, etc.).

2. FAMILY INCOME SPLITTING

You can split income and save taxes by paying reasonable salaries for work performed in your business by lower-income family members. If your family is not involved in your business, then you can still income split with them by

paying them dividends from your corporation to adult family members. However, in order to receive dividends the adult family member must be a shareholder of the business either directly or as a beneficiary of a family trust that owns the shares of the business. By restructuring the ownership of the business today, you can still maintain control, but now you have set up your affairs to save taxes by paying dividends to lower-income adult family members and potentially multiplying the $750,000 capital gains exemption if you are able to sell the shares of your business in the future.

If you have a personal investment portfolio (outside RSPs) then ensure you are maximizing TFSAs for all adult family members. You can also shift investment income (interest, dividends and capital gains) that would normally be taxed in your name at high tax rates to a low-income spouse or low income children (of any age) by loaning them cash at the current CRA prescribed rate of 1%. Charging the prescribed rate is required to avoid income attribution. In this case, all investment income earned over 1% can be taxed in the hands of the low income family members (possibly all tax-free). If you have minor children then establishing a family trust will be required. The tax-free income earned by the minor child through the trust can then be used to help fund expenses for them that otherwise would be paid with after-tax dollars such as private school fees, lessons, gifts, etc.

This is an opportune time to set up a prescribed rate income splitting loan with a low income spouse or minor children since the 1% loan rate is a historic low and once the loan is established, the 1% rate is locked in indefinitely regardless of future CRA interest rate increases. The following example compares investing $500,000 of excess personal cash in your own name versus making a prescribed rate loan to a family trust with two minor children as beneficiaries. A 6% return is assumed.

Option A: Invest $500,000 in personal name

Personal investment income	$30,000
Tax (*)	$9,820 (A)

(*) $10,000 interest income taxed at 46.4%, $10,000 Canadian dividend income taxed at 28.2% and $10,000 of capital gains taxed at 23.2%.

Option B: Loan $500,000 at 1% to family trust

Trust's income	$30,000
Less loan interest paid to you	($5,000) [1% × $500,000]
Trust's income	$25,000
Income allocated to each child	$12,500 [can be used to fund expenses for child]
Tax per child	NIL (B)
Your loan interest	$5,000
Tax	$2,320 (C)

Total family tax with family trust strategy = (B) + (C) = $2,320 (D)
Annual tax savings with family trust strategy = (A) – (D) = $7,500

The annual tax savings will vary depending on the amount of the loan and the annual investment return. The above example ignores the tax deductibility of any investment management fees as well as trust tax return and other costs of setting up and maintaining a family trust. You can call back the $500,000 loan capital anytime and collapse the family trust.

3. INDIVIDUAL PENSION PLAN

As an alternative to RSPs, incorporated business owners can set up an Individual Pension Plan (IPP) to maximize retirement savings in a tax-deferred plan. IPPs offer the business owner an ability to accumulate retirement savings through their own defined benefit pension plan. IPP contributions (made by your company) are higher than RSP limits for business owner over age 40. In some case, large initial past service IPP contributions can be made by the company for business owners that have been earning T4 income from their corporation for many years.

A couple other interesting features of the IPP not offered by RSPs are that

- all IPP expenses including investment fees are fully tax-deductible; and
- the investment growth rate for IPP assets is 7.5%; so if the IPP earns less than 7.5% then the company can top up the IPP with further tax-deductible contributions to bring the plan back up to "tracking" 7.5% per year.

Some taxes specialists argue that with

lower corporate tax rates it may be better to not pay a salary (hence not contribute to an RSP or an IPP and not earn CPP benefits). As a result, they argue it's better to pay the corporate tax today on monies that otherwise would be put into an IPP or RSP, invest funds in the corporation (taxable account) and pay dividends in retirement for income. That is still up for debate and all depends on the assumptions used to crunch the numbers. However, an IPP offers a creditor protected pool of retirement capital that has a predictable 7.5% growth rate (tax-deferred) and this structured IPP program can provide some peace of mind and retirement income diversification to the business owner.

	Corporate Investment 6.0%		$1MM Corporate Life Insurance (*) 2.5%	
Age	Annual Deposit ($)	Net Estate Value ($)	Annual Deposit ($)	Net Estate Value ($)
56	50,000	35,566	50,000	1,024,442
60	50,000	197,920	50,000	1,136,658
65	50,000	452,034	50,000	1,325,604
70	0	575,743	0	1,387,122
75	0	724,380	0	1,489,812
80	0	902,971	0	1,613,734
85	0	1,117,548	0	1,699,861
90	0	1,375,366	0	1,806,014

(*) Life insurance provided by Manulife Financial, Universal Life joint-last-to-die Oct 24, 2011

4. TAX-EXEMPT LIFE INSURANCE

You should ensure that you have adequate life insurance and disability insurance so your family has adequate income to meet their expenses if you died or became disabled. Consult a licensed insurance specialist and financial planner to determine the appropriate amounts. But what if you are at a stage in your life where you have accumulated large savings or your children are not financial dependant on you so your need of life insurance to meet survivor income needs is less? In this case, you still may want to consider life insurance for other tax and estate planning benefits such as tax-exempt investing, to fund taxes at death, to provide legacies to children or charities, or the ability for your estate to withdraw cash from your corporation tax free.

That is, if you have business profits in excess of your lifestyle expenses, there is a tax deferral benefit of leaving the profits in a corporation since active business corporate tax rates are lower than top personal tax rates. For example, the first $500,000 of active business profits are taxed at 15.5% and the excess is taxed at 28.5% (decreasing over next few years).

Excess profits retained in the company could then be moved up tax-free to a holding company for creditor protection. That is the good. The bad is that investment income earned in the holding company is taxed at a flat corporate investment tax rate which is slightly higher than the top personal tax rates. Furthermore, there could be a large tax bill upon death related to the deemed disposition or wind up of the holding company shares. These facts result in a more compelling argument to reallocate some of the surplus corporate investments (particularly lower yielding fixed income investments) that may not be needed for lifestyle expenses into corporate owned tax-exempt life insurance. The results are tax-sheltered growth, a tax-free death benefit paid into the company and an ability to distribute the insurance proceeds from the company to the estate tax-free via the Capital Dividend Account. This latter feature is a significant tax benefit of corporate owned life insurance.

The following table illustrates net after-tax estate values if $50,000 is deposited for the next 10 years into corporate investments earning 6.0% in a balanced portfolio compared to the same $50,000 being deposited for the next 10 years to a $1MM joint last to die life insurance policy (both spouse's are age 56) where the investment account within the policy earns 2.5% per year. The illustration assumes a dividend tax rate of 32.6% on the corporate assets at death; however it may be possible to reduce this tax at death to a lower capital gains rate.

As the table indicates reallocating $50,000 over 10 years from the corporation to the life insurance policy results in a much higher estate value after tax ever year and even after 35 years. The annual rate of return required in the corporation to break even to the life insurance scenario is about 4.3% after tax for 35 years or 8.0% pre-tax on an interest equivalent basis. So the insurance asset provides an excellent long term guaranteed return for a portion of one's surplus

corporate assets. Clients should consult with a licensed insurance specialist for further information and advice on tax-exempt life insurance.

5. WILLS AND POWER OF ATTORNEY

Although it is not pleasant to think about it, it is important to ask yourself, "What would happen to my family and my business if I had died or became disabled yesterday?" Developing a contingency plan to ensure that your family and business are taken care of under worst case scenarios is an important and fundamental step in your financial planning. One important piece of your contingency plan is your will. Many Canadians do not have a will and for some of those that have prepared a will, it is out of date and not consistent with your estate transfer objectives. The following are some key pointers when it comes to your estate plan.

- Don't leave preparing your will and power of attorney (POA) until the last minute, such as when you are going away on holiday or for surgery. It is important to do the planning when a person has the requisite capacity to do so.
- Regularly review your will and POA, particularly when you have gone through a major life event.
- Make sure the ownership of your investments and beneficiary designations are consistent with your estate plan.
- Consider family dynamics when implementing your estate plan. That is, it may not be wise to appoint children who do not get along as co-executors or co-trustees. Try to design a plan that will reduce the potential for conflict among family members.
- Although probate is an important consideration, a person can compromise their wishes or unduly complicate their planning in an effort to save this relatively modest tax.
- People fail to appreciate the importance of POAs, or mistakenly believe that it is included as part of the will. In reality, they are different documents.
- People do not consider the implications of appointing an executor who lives in another country, which can create problems as simple as whether this person can afford the time to travel to settle your estate.
- Consider the tax and control benefits of testamentary trusts as opposed to direct bequests.

Proper will and estate planning entails more than just preparing a will. A lawyer will review a person's financial situation, their ownership of and value of assets, and thoroughly discuss possible income tax and estate administration tax issues to ensure your expectations will be met.

You should seek formal tax and legal advice to ensure that all the T's are crossed and I's are dotted when employing any of the above strategies.

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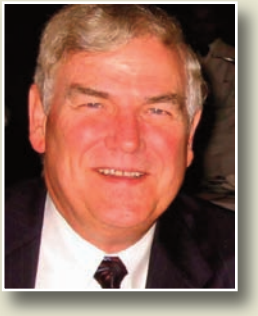
Part I: The State of Statements – Balance Sheets, Income Statements, and Statements of Cash Flow

By Robert M. Traynor EdD, MBA and Robert G. Glaser, PhD

About the Authors



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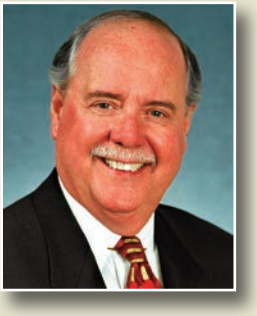

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For most audiologists the patient is foremost as we provide hearing care services. Successful practitioners know that when their practice is centred on their patient's welfare, success will usually follow. Probably the greatest responsibility of the patient-centric practitioner is to be in business next year when the patient needs things that are warranty items, or other services that may be of benefit to them. There are many stories of highly successful patient-centric practices that did not survive for one reason or another caused by difficulties on the business management of the practice, not patient care.

Generally, educational programs that prepare audiologists for the clinical world do not adequately prepare clinicians for survival within the business community as there is much information that must be assimilated in the clinical treatment of our patients, thus, minimal or no time to prepare perspective clinicians in business management. When entering into private practice, audiologists must realize that they become part of the cold hard business world and survival depends upon making a profit. Although suppliers, creditors, employees, and others care about the patients we serve, the business of audiology is like any other business requiring much attention and monitoring to succeed. Thus, to be a good manager, clinicians must have the capability to digest information about the financial performance of the practice and develop the background to translate that information into decisions that move the practice toward profitability. Although it is not necessary to obtain an MBA to know how to run your practice or an audiology profit center within a hospital, educational, or other institutional setting, courses in accounting and finance are substantially beneficial and readily available at most local community colleges. These courses offer the practitioner greater insight into the management their practice and give them the power to interpret the relevant business variables. The following discussion is an attempt to orient clinicians to the basics of the Balance Sheet, Income Statement and, probably most important, the Statement of Cash Flows.

FINANCIAL STATEMENTS

Most of us use the services of an accountant to prepare reports and assist us in the interpretation of the information they contain. Traynor suggests that practitioners should have knowledge of the vocabulary and

language of accounting to effectively communicate with the accounting (and bookkeeping) professionals who manage their practice and protect their assets.[1] Although it is the bookkeepers that enter the day-to-day data, it is the accountant that prepares reports that assist practitioners in making evidence-based decisions regarding the success or failure of daily operations, conducting a specific clinical procedure, or a new market offering. These reports are fundamental to understanding the reasons for positive or negative changes in the bottom-line performance of the practice. Such accounting reports are prepared according to internationally accepted accounting rules called the Generally Accepted Accounting Principles (GAAP), a universal method of valuing profit and measuring assets and liabilities. Although they vary slightly from one country to another, GAAP rules are used to conduct accounting in all businesses. GAAP describes how transactions for costs, profit, inventory, sales, and other business specifics are recorded and facilitates the comparison of one business to another since businesses all use these same procedures for accounting. While the role of an accountant in the practice will vary from one practice to another, the professional assistance of these practitioners is essential to success.

There are two primary objectives of every business, including audiology practices; profitability and solvency. Unless a practice can produce satisfactory earnings and pay its obligations in a timely manner, all other objectives will never be realized because the practice will not survive. Financial statements that reflect a practice's solvency (the Balance Sheet), its profitability (the Income Statement) and a view of its financial health (the Statement of Cash Flows) provide the practitioner substantive information upon which to make well informed decisions about the operations of the practice. These financial statements are so important that bankers and other lenders depend on them to support their decisions to grant credit opportunities. Bankers and lenders know that financial statements are the basis of the calculations for business ratios that offer important, informative metrics about activity, liquidity, and leverage (debt) of the practice.

Table I

Audiology Associates, Inc.
Balance Sheet
December 31, 2006

Assets		Liabilities & Owners' Equity	
Current Assets:		Current Liabilities:	
Cash	34,000	Short Term Debt	20,000
Accounts Receivable	80,000	Accounts Payable	35,000
Merchandise Inventory	170,000	Other Accrued Liabilities	12,000
Total Current Assets	284,000	Total Current Liabilities	67,000
Property, Plant and Equipment (Fixed Assets):		Long Term Debt	50,000
Equipment	40,000	Total Liabilities	117,000
Less Accumulated Depreciation	(4,000)	Owners' Equity	203,000
Total Assets	320,000	Total liabilities and Owners' Equity	320,000

BALANCE SHEET

The Balance Sheet contains the elemental fiscal components of the practice; information about assets, liabilities and owner's equity. It presents a snapshot of the financial condition of the practice at a specific moment in time, usually at the close of an accounting period such as the end of the month, quarter, or year.[2] Businesstown.com indicates that the purpose of the balance sheet is to quickly review view the financial strength and capabilities of the business as well as answer important questions such as[3]:

- Is the business in a position to expand?
- Can the business easily withstand the normal financial ebbs and flows of revenues and expenses?
- Or should the business take immediate steps to strengthen cash reserves?

The balance sheet gets its name from the fact that the two sides of the statement must numerically balance, as presented in the classic formula presented below:
Assets = (Liabilities + Owner's Equity) + (Revenue – Expenses)

Assets are recorded on left side of the Balance Sheet and Liabilities and Owner's (stockholders) Equity are recorded on the right side of the Balance Sheet, as presented in Table 1. On many

balance sheets, Total Assets are set to equal 100%, with all other assets listed as a percentage of the total assets. On the right side of the Balance

Sheet, Total Liabilities and Equity may also set equal to 100%. Entries of all liabilities and owner's (stockholders) equity accounts are represented as the appropriate percent of the Total Liabilities and Owner's (stockholders) Equity. The Balance Sheet must contain all of the practice's financial accounts and should be generated at least once a month. Monthly review of the balance sheet provides a comprehensive overview of the practice's overall financial position at that specific point in time.

Assets listed on the Balance Sheet are items of value that represent the financial resources of the practice. Accounts listed on the Balance Sheet are placed in order of their relative degree of liquidity (ease of convertibility to cash) therefore; Cash is always listed first since it does not require an action or an agent to convert cash into cash. Accounts Receivable is listed second since it represents Cash but must be "converted" into cash by collection. Assets are commonly differentiated into two classes; Current Assets and Fixed or Long-term Assets (see Table 1). Current Assets are short-lived and are expected to be converted into cash or to be used up in the operations of the practice within a short period of time, usually within a fiscal year. Current Assets include cash, accounts receivable, product inventory (hearing instrument and assistive listening device inventory, batteries, etc.) and prepaid expenses, such as insurance.

Next are the Long-term or Fixed Assets that will not be turned into cash within the practice's fiscal year. Examples of Long-term or Fixed Assets may include (but are not limited to) audiometric and other equipment used in the practice, office equipment and computers, purchased vehicles, purchased buildings, leasehold or tenant improvements, telephone systems. These assets are found in the balance sheet (Table 1) listed as "Property, Plant and Equipment" or as "Fixed Assets." To best conceptualize Long-term or Fixed Assets, consider that most fixed assets are purchased over time and must be in place over a long period of time to foster the day-to-day clinical and business operations of the practice. As equipment ages, it is said to depreciate. This depreciation of the equipment is an expense and can be claimed as a tax deduction. The accountant for the practice will evaluate the appropriate method for calculation and the extent of deductions available for every fixed asset listed on the balance sheet.

Liabilities include all obligations the practice has acquired through daily operations of the practice. Liabilities include Accounts Payable (ex. hearing instrument and ALD acquisition costs), Accrued Business Expenses, Interest Owed on Loans, and other obligations incurred from daily operations. Owner's or shareholder's equity includes financial investment by the owner or shareholders and the earned profits that are retained in the business. Current liabilities are listed as amounts owed to lenders and suppliers and are usually separated by those that are due in the short term and long term. As with the asset categories, current liabilities are delineated into subcategories such as short term debt, accounts payable and accrued liabilities. These are referred to as current liabilities since they are due to be paid in a short period of time, usually within the fiscal year. A separate category is retained for long term debt, such as bank or other loans payable over a much longer period, usually longer than the fiscal year. All current and long term liability amounts are then totalled collectively to reflect the total liability of the practice (see Table 1). Owner's (shareholder) Equity represents funds that were initially invested by the owner as well as the profit that was earned and retained in the practice. If the practice were to liquidate, the owners (stockholders) would be an expense requiring payment, thus it is listed on the liability side of the balance sheet as a financial obligation that must be repaid at some point in time.

INCOME STATEMENT

The Income Statement is sometimes called a profit and loss statement or "P and L" statements and depicts the status of overall profit within the business. McNamara indicates that income statements simply include how much money has been earned (revenue), subtracts how much money has been spent (expenses) that results in how much money has been made (profits) or lost (deficits).[4] Basically, the statement includes total sales minus total expenses. It presents the nature of the practice's overall profit and loss over a specified period of time. Therefore, the Income Statement gives a practitioner a sense for how efficiently the business is operating. In accounting, the practice's profitability is measured by comparing the revenues generated in a given period with the expenses incurred to produce those revenues. The difference between the revenue generated and the expenses created during the generation of the revenue is the profit (or loss) of the practice. In an audiology practice, revenues are defined as the inflow of revenue from providing patient care or the dispensing of products. Expenses can be considered the sacrifices made or the costs incurred to produce these

revenues. If revenues exceed expenses, net earnings result while if expenses exceed net revenue, a loss is recorded.

As with other financial statements, the Income Statement, presented in Table 2, may be prepared for any financial reporting period and is used to track revenues and expenses for the evaluation of the operating performance of the practice. Businesstown.com suggests that managers can use income statements to find areas of the practice that are over budget or under budget and identify those areas that cause unexpected expenditures.[5] Additionally, the Income Statement tracks the increase or decrease in product returns; cost of goods sold as a percentage of sales and presents some indication of the extent of the practices' income tax liability. Since it is very important to format an Income Statement appropriate to the type of business being conducted, the structure of income statements may vary from one business or practice to another. In audiology the format may depend upon the mix of business conducted in diagnostics, hearing products, and rehabilitative services.

Table 2

Audiology Associates, INC.
Income Statement
Year the Ended December 31, 2006

Net sales	1,200,000.
Costs of goods Sold	850,000.
Net profit	350,000.
Selling, general and administrative expenses	311,000.
Income from operations (EBIT)	39,000.
Interest expense	9,000.
Income before taxes (EBT)	30,000.
Income taxes	12,000.
Net Income	18,000.

Net Sales on the Income Statement consist of sales figures representing the actual revenue generated by the business. Marshall states that the Net Sales entry on the Income Statement represents the total amount of all sales less product returns and sales discounts.[6] Directly below the Net Sales in Table 2, is the Cost of Goods Sold (COGS). COGS are costs directly associated with making and/or acquiring the products that are sold by the practice. These costs include the acquisition of products, such as hearing aids or assistive devices provided by outside suppliers. If hearing instruments are repaired or manufactured by the practice, COGS could also be materials, parts, and internal expenses related to the manufacturing or repair process, such as faceplates, shells, microphones, receivers, and components. Net Profit, sometimes called Gross Profit, is derived by subtracting the Cost of Goods Sold from Net Sales. This Net Profit, however, does not include any operating, interest, or income tax expenses. Just below the Net Profit entry in Table 2 is a category for Selling and General Administrative Expenses. This subcategory is described by Tracy and Marshall as a broad "catch-all" category for all expenses except those reported elsewhere in the Income Statement.[6,7] Examples of Selling and General Administrative Expenses that may be recorded here are legal expenses, the owner's salary, advertising, travel and entertainment, and other similar costs. The actual income from operations, sometimes called Earnings before Interest and Taxes (EBIT) and is the result of deducting the Selling and General Administrative Expenses from the Net Profit. The Earnings before Interest and Taxes (EBIT) is the net revenue generated by the practice but there are still interest expenses and taxes that must be recorded. At this point, the Interest Expense is deducted and then the tax amounts are subtracted to arrive at the Net Income (or Loss).

STATEMENT OF CASH FLOWS

Successful practitioners know that profit and cash flow can be two totally different things, but they are intimately related. A practice can be highly profitable yet on the verge of bankruptcy if the profits are sequestered, for example in the Accounts Receivable – *high profit, low cash flow*. This situation results in limited cash to pay the practitioner, employees, taxes, and/or to service the accounts payable. Conversely, if there is substantial cash inflow to a practice but excessive overhead costs that are strangling profitability, financial difficulties will ensue – *low profit, high*

Table 3

Audiology Associates, INC.
Statement of Cash Flows
Year the Ended December 31, 2006

Cash Flows from Operating Activities:	
Net income	$ 18,000.
Add (deduct) items not affecting cash:	
Depreciation expense	4,000.
Increase in accounts receivable	(80,000.)
Increase in merchandise inventory	(170,000.)
Increase in current liabilities	67,000
Net cash used by operating activities	$(161,000.)
Cash Flows from Investment Activities:	
Cash paid for equipment	$ (40,000.)
Cash Flows from Financing Activities:	
Cash received from issues of long term debt	$ 50,000.
Cash received from sale of common stock	190,000.
Net cash provided by financing activities	$ 240,000.
Net cash increase for the year	$ 39,000.

cash flow. This is a situation where in the practice owner has overextended available resources with ill-conceived equipment purchases, exceptional leasehold costs, or extraneous staff salaries and other questionable business decisions.

The Statement of Cash Flows reflects the cash position of the practice as well as the sources and uses of cash in the practice during a specified business cycle. It presents how cash flows in and out of the practice. While, monthly cash flow statements are useful, quarterly cash statements of cash flow are essential to provide a look at trends that might be developing in the overall cash flow picture of the business. To illustrate how cash flows in and out of the practice, Marshall indicates that the Statement of Cash Flows is used to identify the sources and uses of cash over time and can be compared to the current period for analysis.6 In Table 3, the Statement of Cash Flows is divided into three general sections, Cash Flow from Operating Activities, Cash Flow

From Investment Activities and Cash Flow From Financing Activities. The Operating Activity section begins with the Net Income (taken from the Income Statement, Table 2) and includes all transactions and events that are normally entered to determine the operating income. These entries include cash receipts from selling goods or providing services, as well as income earned as interest and dividends, if the practice has investments. Cash Flow from Operating Activities also includes additions or deductions of items that affect cash such as depreciation, increase (or decrease) in accounts receivable, merchandise inventory and liabilities, resulting in the Net Cash used by Operating Activities. The Net Amount of Cash Provided (or used) by practice operating activities is the key figure on a Statement of Cash Flows. The Operations Section is of the most interest since it presents the specific areas of the practice where cash was consumed by the running of the practice.

The second section of a Statement of Cash Flows reviews Income generated from investing activities. This section includes transactions and events involving the purchase and sale of equipment, securities, land, buildings, and other assets not generally held in the practice for resale. This area of the statement also covers the making and collecting of loans, if the practice internally finances products and services these loans to consumers internally. Investing Activities are not classified as operating activities since they have an indirect relationship to the central, ongoing operation of the practice. Transactions within the third section record Cash Flows from Financing Activities and deals with the flow of cash between the practice, the owners (stockholders), and creditors as well as the cash proceeds from issuing capital stock or bonds if applicable. For example, if there was a need to transfer profit from the practice to the owners or from the owners (or creditors) into the

practice, it would be reflected in the Cash Flows from Financing Activities section. Careful review of the Statement of Cash Flows can offer valuable information to the practitioner as to where the cash generated actually goes and presents an invaluable opportunity to make adjustments in practice operations for management purposes.

EPILOGUE

Although these statements are extremely useful, Freeman indicates that these data are a record of practice performance. Until the data is calculated into the various ratios that unlock the valuable information within the Balance Sheet, Income Statement, and the Statement of Cash Flows the totals are just numbers.[8] The real information in these statements are the calculations that determine the practice's liquidity, activity and leverage (debt) ratio simple calculations. Although calculations can be conducted on all of the statements, the ratios of primary importance are conducted on the balance sheet and income statement data. These financial accounting ratios can give the practitioner information as to if there are enough funds to pay the bills, how long it takes to turn the accounts receivable, or inventory and even give information as to the debt of the practice. The next part of this series will discuss the calculation of some important ratios that can influence the management of the practice as they are tracked from month to month, quarter to quarter, and year to year.

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Practice Management: Part II: Analyzing the Practice for Success

By Robert M. Traynor EdD, MBA and Robert G. Glaser, PhD

Freeman et al describe two forms of financial analysis ratio comparisons, cross sectional and a time series analysis.[1] A cross sectional analysis, refers to the comparison of the practice's performance to that of an industry standard for similar practices in size, scope and geographical area. Though probably more appropriate recent years, is still difficult to determine an industry standard as there are not good data reported by private audiology practices as to their performance. Since performance comparisons between practices or to an industry standard are difficult to conduct, it is the time series analysis that becomes the most important. The time series comparison looks at the practice performance to itself, or over periods of time, usually month to month or year to year. Data, such as financial statements are compared from one period to another to determine if the practice's performance is better or worse. These time-series comparisons of financial statements and the data they contain are essential to making informed, data based management decisions about the practice and its operations.

WHERE IS THE DATA?

Financial statements are full of numbers that, by themselves, simply present how the practice performed at a particular point in time and do not have too much significance in isolation. Since the financial statements alone do not provide information on the efficiency or profitability of the practice, they require analysis and a time series comparison to generate real information. When these numbers in the current statements are compared to financial statements conducted at other times (monthly or yearly) they come alive with informative data that paints a true picture of how success or failure has developed. Financial statements with the correct calculations and comparisons can reveal a wealth of information to the stockholders (or the practice owner) about earnings over time, soaring or stagnated sales, and even the practice's capability to pay back a loan to the bank. Within the same practice comparing financial statement totals to others taken at the some point in time is very helpful, for example, comparing the first quarter 2004 with the first quarter or 2005 or the whole year of 2004 with 2005, or last year at this time to this year at this time. Marshall et al. indicate that these calculations assist in the determination of a practice's financial position and the result of their operations by reporting on liquidity, activity, and debt and profitability analysis of income statements.[2] It is the calculation of various ratios for balance sheets and income statements that facilitate the comparison of one practice with another, no matter what the size of the operation. Although there are many of these and a wise practice manager should consult with their accountant as to those that are the most beneficial for the practice, these relatively simple measures can be calculated and tracked. The data can then be transferred to a spreadsheet and reviewed over time to demonstrate the health of practice, for obtaining loans or supplier credit, reviewing success and failure for management decisions, to set budgets, or simply general information.

THE CALCULATIONS

Financial statements provide information regarding the capability of the practice to meet obligations to suppliers, employee salaries, product returns, loans, leases, and other expenses. Managers use liquidity, activity, and leverage ratios to analyze the balance sheet to demonstrate the strengths and weaknesses of the practice. Liquidity ratios are used to measure the short-term ability of practice to generate cash to pay currently maturing obligations while activity ratios measure how effectively the organization is using its assets, analyzing how quickly some assets can be turned into cash. Debt or leverage ratios reflect the long term solvency or overall liquidity of the practice and are of interest to the investors and/or the bankers that have loaned money.

LIQUIDITY RATIOS

A common liquidity ratio is the Current Ratio (CR). The CR is sometimes called a Working Capital Ratio as it is a calculation of how many times the

practice's current assets cover its current liabilities and specifically looks at if the practice has sufficient resources to meet current liabilities. Put another way, the Current Ratio asks the questions, can the practice pay its bills or not? The Current Ratio is figured on the Balance Sheet as follows:

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

If the result of a CR calculation is less than 1, the practice will not be able to meet its current liabilities and if the CR is 2 or more, the practice can pay its bills and have money left over. Usually bankers and practice managers like to see this ratio at least between 1 and 2. Since the CR calculation includes prepaid expenses (such as insurance, etc.) and the inventory, in some situations it may offer a cloudy view of the real picture. Particularly these days when audiology practices may have a stock of open fit or RITE hearing instruments, many audiology practices now have some inventory. Thus, a very common modification of the CR is the Quick Ratio (QR), commonly known as the Acid Test Ratio (ATR). The ATR evaluates the practice's liquidity without considering the inventory and prepaid expenses and, in doing so, often presents a more accurate indication of the liquidity of an audiology practice. The ATR is figured from the information on the balance sheet as follows:

$$\text{Acid Test Ratio} = \frac{\text{Cash + Marketable Securities + Accounts Receivable}}{\text{Current Liabilities}}$$

As with the CR, Acid Test Ratio values less than 1 demonstrate that the practice has serious difficulty meeting everyday expenses.

Just as plans are made to meet personal obligations in tough times, wise practice managers keep an emergency fund in the case that business drops off or ceases. These can be from natural disasters, major construction projects proximal to the clinic, or simply a downturn in the economy. In accounting, emergency funds are called Defensive Assets (DA) or those assets that can be turned into cash within three months or less, such as cash (savings), marketable securities, or accounts receivable. A calculation that determines the amount of Defensive Assets (RA) necessary to ward off disaster is the Defensive Interval Measure (DIM). To figure the DIM, it is first necessary to know the Projected Daily Operating Expenses (PDOE) or how much it costs to keep the practice open each day. To find the PDOE, simply look at the income statement and determine the cost of goods sold in a year (listed as the selling and administrative expenses) in a year and other ordinary cash expenses for the year then divide by 365:

$$\text{Projected Daily Operating Expenses} = \frac{\text{Total Yearly Expenses}}{365}$$

Once the daily operating expenses (PDOE) are known, the DIM is found by dividing the DA by the PDOE:

$$\text{Defensive Interval Measure} = \frac{\text{Defensive Assets}}{\text{Projected Daily Operating Expenses}}$$

The DIM calculation gives the manager of the practice knowledge of the length of time the business could survive if revenue was substantially reduced or absent as present.

ACTIVITY RATIOS

Activity Ratios are calculations that allow the practice manager to review how efficiently the practice uses its assets to generate cash. Although there are a number of Activity Ratios that can present the efficiency of the practice, the Accounts Receivable Turnover Ratio (ART), The Inventory Turnover Ratio (ITR), and the Total Assets Turnover Ratio (TAT) are useful to managers.

It is a good policy for all patients to pay when products and/or services are delivered and most practices have a sign to that effect in the waiting room, collecting as much revenue as possible on the date of delivery. Reality is, however, that insurance companies pay slowly; sometimes 60-120 days after the services are rendered and may often not even pay the first time the claim is submitted. Some patients need time to pay for goods and services require credit to facilitate the sales of hearing aids, batteries, and other goods or services. Although credit given to patients is another topic, the receivable account should be closely monitored to determine how much is due to the practice and how long, on the average, it takes to collect for these credit sales. The Accounts Receivable Turnover Ratio (ART) looks at how many times the receivable account is turned into cash each year. To obtain the ART ratio it is necessary to first find the average amount that is due the practice from the receivable account at any one time or the Average Accounts Receivable (AAR) balance. This is obtained by adding the accounts receivable balance at the end of last year and balance of the accounts receivable at the end of the current year and dividing it by 2:

$$\text{Average Accounts Receivable} = \frac{\text{Ar (Year 1)} + \text{Ar (Year 2)}}{2}$$

Once the AAR is computed, the time it takes to convert this account into cash or the ART ratio is conducted by taking the Net Sales (Income Statement) and dividing by the average accounts receivable balance:

$$\text{Accounts Receivable Turnover Ratio} = \frac{\text{Net Sales}}{\text{Average Accounts Receivable}}$$

Once known, the ART present the manager with how long it takes, on the average, to collect the amounts that in the accounts receivable, thus, the higher the ratio the better. For example, if the ART ratio is = 5.3, the practice turns over the accounts receivable 5.3 times per year or every 2.26 months. To obtain more detail, the calculation of the number of days it takes to turn the accounts receivable can be obtained by simply dividing the average accounts receivable into 365.

As indicated earlier, audiology practices are now stocking more inventory than ever before and it is beneficial to understand how fast the inventory sold so that stock can be ordered routinely. The Inventory Turnover Ratio (ITR) is the calculation that measures how fast the inventory is sold, or "turned." To arrive at the ITR it is necessary to obtain the average value of the inventory in the practice. The Average Inventory (AI) is found by reviewing the balance sheet and taking the beginning inventory for the year and the ending inventory of the previous year and dividing by 2.

$$\text{Average Inventory} = \frac{\text{Beginning Inventory} + \text{Ending Inventory}}{2}$$

Once the AI is known, the ITR can be computed by dividing the cost of the goods sold (Income Statement) by the average inventory. If the ITR was 5.9 this indicates that the inventory will turn almost 6 times each year. As with other activity ratios, the turning of the inventory can be further delineated to reflect how long it takes the inventory to sell out in days by simply dividing 365 by the ITR.

$$\text{Inventory Turnover Ratio} = \frac{\text{Cost Of Goods Sold}}{\text{Average Inventory}}$$

In this example, if the inventory turns about 6 times per year then it takes about 61 days for the inventory to sell out. These data assist the manager in taking advantage of discounts for more efficient ordering of products, free demonstration product offers and insures that there is always a sufficient supply of products on hand for sale.

The Total Assets Turnover ratio presents how many times the practice assets turns over per year and is an indication of how efficiently assets are turned into cash. The TAT calculation looks at the sales for goods and services (income statement) and divides by the total assets (balance sheet) to arrive at how many times the practices' assets turnover per year.

$$\text{Total Asset Turnover Ratio} = \frac{\text{Sales}}{\text{Total Assets}}$$

Of course, the higher the ratio the better as this is an indication that the assets turn over more times per year, suggestive of an efficient practice that uses it assets efficiently to generate cash.

LEVERAGE OR DEBT RATIOS

There are two beneficial ratios that provide the practice manager with information as to the debt of the practice. The Debt to Assets Ratio (DAR) and the Times Interest Earned (TIE) ratio present the capability of the practice to support debt for the addition of equipment, to open another location, or other activities.

The DAR presents how much liability the practice has for every dollar of assets and offers creditors information about the ability of the practice to withstand losses. Specifically, the creditors are interested in how much of a loss the practice can sustain without impairing its capability to repay loans with interest. The DAR is simply the Total Liabilities divided by the Total Assets (balance sheet):

$$\text{Debt To Assets Ratio} = \frac{\text{Total Liabilities}}{\text{Total Assets}}$$

A desirable DAR is a low number since the higher the number indicates that the practice is more dependent on borrowed money to sustain itself. If the DAR is high it suggests that small changes in cash flow may cause serious difficulties in the capability to repay their debt.

The Times Interest Earned (TIE) ratio is an indication of how many times the practice earns the amount of interest that it is charged on the money that it has borrowed. The TIE is computed by taking the practices' earnings before interest and taxes and dividing it by the interest charged (income statement).

$$\text{Times Interest Earned Ratio} = \frac{\text{Earning Before Interest And Taxes}}{\text{Interest Charges}}$$

In an audiology practice the TIE should be somewhere between three and five as it indicates that the earnings are at least three to five times greater than the interest payments. A TIE ratio that is less than 1 indicates that the practice cannot pay its interest commitments.

Sometimes the ratios that often tell the most about a practice are the profitability ratios that are conducted on the income statement. These profitability ratios are clues to how well the company performed and looks at if the company's net income is adequate, the rate of return achieved and profit margin as a percentage of sales. Useful ratios that reflect performance of the practice considered are the Profit Margin on Sales (PMOS) and the Asset Turnover Ratio (ATR) calculated from information presented in both the income statement and the balance sheet.

The Profit Margin on Sales (PMOS) presents the profit margin achieved after

all expenses are subtracted and presents how much of every dollar of sales are profit. To compute the PMOS, net profit (income statement) is divided by sales (income statement).

$$\text{Profit Margin On Sales} = \frac{\text{Net Profit}}{\text{Sales}}$$

PMOS results are presented in a percentage that reflects the amount of each dollar that is profit. For example, if the calculation yields 20% then $0.20 cents of every dollar collected is profit. These values can be tracked to determine if there are changes in profitability that require attention.

SUMMARY

Although ratios can be very helpful in the evaluation of a practice, Glaser and Traynor offer some cautions on the use of ratio analysis.[3] They indicate that the best information about a company's health is determined from comparison and analysis of a group of ratios, not a single ratio and that these comparisons need to be made from like times of the year to arrive at accurate data on the practice's performance. Additionally, they also indicate that these ratios may be distorted somewhat due to the reimbursement policies of insurance companies.

This has been a basic orientation to the use of ratio analysis to evaluate the audiology practice. There are many other ratios that can unlock specific performance information that are not presented in this discussion. The development of a set ratio assessment calculations to track various components of your particular practice should be developed with the help of a certified public accountant or other trained business professional. Once set up these calculations can be tracked over time using a spreadsheet to facilitate a basis for decisions based actual practice performance.

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